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code of federal regulations

Telecommunication

47

PART 80 TO END

Revised as of October 1, 1996

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OF GENERAL APPLICABILITY
AND FUTURE EFFECT

AS OF OCTOBER 1, 1996

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Cite this Code: CFR

To cite the regulations in this volume use title, part and section number. Thus, 47 CFR 80.1 *refers to title 47, part 80, section 1.*

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Each volume of the Code is revised at least once each calendar year and issued on a quarterly basis approximately as follows:

Title 1 through Title 16.....as of January 1
Title 17 through Title 27.....as of April 1
Title 28 through Title 41.....as of July 1
Title 42 through Title 50.....as of October 1

The appropriate revision date is printed on the cover of each volume.

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(a) The incorporation will substantially reduce the volume of material published in the Federal Register.

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RICHARD L. CLAYPOOLE,
Director,
Office of the Federal Register.

October 1, 1996.

THIS TITLE

Title 47—TELECOMMUNICATION is composed of five volumes. The parts in these volumes are arranged in the following order: Parts 0–19, parts 20–39, parts 40–69, parts 70–79, and part 80 to end, chapter I—Federal Communications Commission. The last volume, part 80 to end, also includes chapter II—Office of Science and Technology Policy and National Security Council, and chapter III—National Telecommunications and Information Administration, Department of Commerce. The contents of these volumes represent all current regulations codified under this title of the CFR as of October 1, 1996.

Part 73 contains a numerical designation of FM broadcast channels (§ 73.201) and a table of FM allotments designated for use in communities in the United States, its territories, and possessions (§ 73.202). Part 73 also contains a numerical designation of television channels (§ 73.603) and a table of allotments which contain channels designated for the listed communities in the United States, its territories, and possessions (§ 73.606).

The OMB control numbers for the Federal Communications Commission, appear in § 0.408 of chapter I. For the convenience of the user § 0.408 is reprinted in the Finding Aids section of the second through fifth volumes.

A redesignation table appears in the Finding Aids section of the volume containing part 80 to end.

For this volume, Cheryl E. Sirofchuck was Chief Editor. The Code of Federal Regulations publication program is under the direction of Frances D. McDonald, assisted by Alomha S. Morris.

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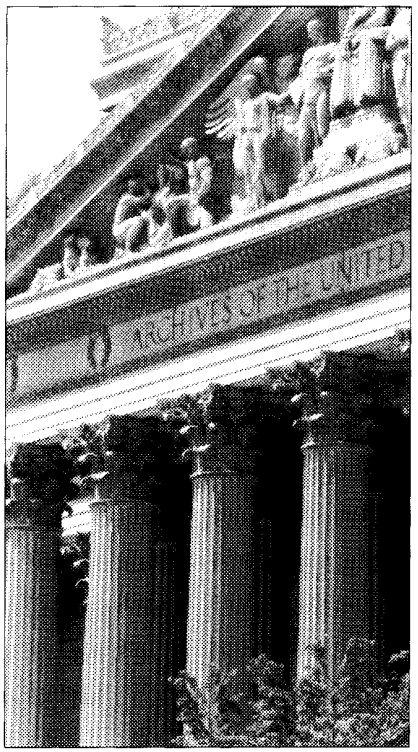

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SUPPLEMENTAL PUBLICATIONS:

Annual Reports of the Federal Communications Commission to Congress.
Federal Communications Commission Reports of Orders and Decisions.
Communications Act of 1934 (with amendments and index thereto), Recap. Version, May 1989.
Study Guide and Reference Material for Commercial Radio Operator Examinations, May 1987 edition.

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AUTHORITY: Secs. 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, unless otherwise noted. Interpret or apply 48 Stat. 1064-1068, 1081–1105, as amended; 47 U.S.C. 151–155, 301–609; 3 UST 3450, 3 UST 4726, 12 UST 2377.

SOURCE: 51 FR 31213, Sept. 2, 1986, unless otherwise noted.

GENERAL

Subpart A—General Information

§ 80.1 Basis and purpose.

This section contains the statutory basis for this part of the rules and provides the purpose for which this part is issued.

(a) *Basis.* The rules for the maritime services in this part are promulgated under the provisions of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate radio transmission and to issue licenses for radio stations. The rules in this part are in accordance wtih applicable statutes, international treaties, agreements and recommendations to which the United States is a party. The most significant of these documents are listed below with the short title appearing in parenthesis:

Communications Act of 1934, as amended—(Communications Act).

Communications Satellite Act of 1962, as amended—(Communications Satellite Act).

International Telecommunication Union Radio Regulations, in force for the United States—(Radio Regulations).

Agreement Between the United States of America and Canada for the Promotion of Safety on the Great Lakes by Means of Radio, as amended, and the Technical Regulations annexed thereto—(Great Lakes Radio Agreement).

International Convention for Safety of Life at Sea, 1974, as amended, and the Annex thereto—(Safety Convention).

Vessel Bridge-to-Bridge Radiotelephone Act—(Bridge-to-Bridge Act).

(b) *Purpose.* This part states the conditions under which radio may be licensed and used in the maritime services. These rules do not govern radio stations operated by agencies of the U.S. Government.

§ 80.2 Other regulations that apply.

The Commandant, U.S. Coast Guard has promulgated regulations which affect radiotelecommunication equipment carriage and power source installation requirements for certain ships. Inquiries concerning applicable U.S. Coast Guard regulations are to addressed to the Commandant, U.S. Coast Guard, Washington, DC 20593, or to the nearest District Headquarters Office of the U.S. Coast Guard.

§ 80.3 Other applicable rule parts of this chapter.

Other FCC rule parts applicable to licensees in the maritime services include the following:

(a) *Part 0.* This part describes the Commission's organization and delegations of authority. Part 0 also lists available Commission publications, standards and procedures for access to Commission records and location on Commission monitoring stations.

(b) *Part 1.* This part includes rules of practice and procedure for license applications, adjudicatory proceedings, procedures for reconsideration and review of the Commission actions; provisions concerning violation notices and forfeiture proceedings; and the environmental processing requirements that, if applicable, must be complied with prior to the initiation of construction.

(c) *Part 2.* This part contains the Table of Frequency Allocations and special requirements in international regulations, recommendations, agreements, and treaties. This part also contain standards and procedures concerning marketing of radio frequency devices, and for obtaining equipment authorization.

(d) *Part 13.* This part contains information and rules for the licensing of commercial radio operators.

(e) *Part 17.* This part contains requirements for construction, marking and lighting of antenna towers.

(f) Part 20 of this chapter which governs commercial mobile radio services which include subpart J of this part (public coast stations).

(g) *Part 21.* This part contains rules concerning point-to-point microwave service authority relating to communication common carriers.

(h) *Part 64.* This part contains miscellaneous rules relating to communication common carriers.

(i) *Part 68.* This part contains technical standards for connection of terminal equipment to the telephone network.

(j) *Part 87.* This part contains rules for the aviation services. Some maritime frequencies are authorized for use by aircraft stations for safety and distress, public correpondence and for operational communications.

(k) *Part 94.* This part contains rules concerning the private microwave service relating to point-to-point communication requirements.

[51 FR 31213, Sept. 2, 1986, as amended at 55 FR 20398, May 16, 1990; 59 FR 18499, Apr. 19, 1994]

§ 80.5 Definitions.

Alaska—public fixed station. A fixed station in Alaska which is open to public correspondence and is licensed by the Commission for radio communication with Alaska-Private fixed stations on paired channels.

Alaska—private fixed station. A fixed station in Alaska which is licensed by the Commission for radio communication within Alaska and with associated ship stations, on single frequency channels. Alaska-private fixed stations are also eligible to communicate with Alaska-public fixed stations on paired channels.

Associated ship unit. A portable VHF transmitter for use in the vicinity of the ship station with which it is associated.

Automated maritime telecommunications system (AMTS). An automatic, integrated and interconnected maritime communications system.

Automated mutual-assistance vessel rescue system (AMVER). An international system, operated by the U.S. Coast Guard, which provides aid to the development and coordination of search and rescue (SAR) efforts. Data is made available to recognized SAR agencies or vessels of any nation for reasons related to marine safety.

Bridge-to-bridge station. A radio station located on a ship's navigational bridge or main control station operating on a specified frequency which is used only for navigational communications, in the 156–162 MHz band.

Cargo ship safety radiotelegraphy certificate. A certificate issued after an inspection of a cargo ship radiotelegraph station which complies with the applicable Safety Convention radio requirements.

Cargo ship safety radiotelephony certificate. A certificate issued after inspection of a cargo ship radiotelephone station which complies with the applicable Safety Convention radio requirements.

Categories of ships. (1) When referenced in Part II of Title III of the Communications Act or the radio provisions of the Safety Convention, a ship is a *passenger ship* if it carries or is licensed or certificated to carry more than twelve passengers. A *cargo ship* is any ship not a passenger ship.

(2) A *commercial transport vessel* is any ship which is used primarily in commerce (i) for transporting persons or goods to or from any harbor(s) or port(s) or between places within a harbor or port area, or (ii) in connection with the construction, change in construction, servicing, maintenance, repair, loading, unloading, movement, piloting, or salvaging of any other ship or vessel.

(3) The term *passenger carrying vessel*, when used in reference to Part III, Title III of the Communications Act of the Great Lakes Radio Agreement, means any ship transporting more than six passengers for hire.

(4) *Power-driven vessel.* Any ship propelled by machinery.

(5) *Towing vessel.* Any commercial ship engaged in towing another ship astern, alongside or by pushing ahead.

(6) *Compulsory ship.* Any ship which is required to be equipped with radiotelecommunication equipment in order to comply with the radio or radio-navigation provisions of a treaty or statute to which the vessel is subject.

(7) *Voluntary ship.* Any ship which is not required by treaty or statute to be equipped with radiotelecommunication equipment.

Coast station. A land station in the maritime mobile service.

Commercial communications. Communications between coast stations and ship stations aboard commercial transport vessels, or between ship stations aboard commercial transport vessels, which relate directly to the purposes for which the ship is used including the piloting of vessels, movements of vessels, obtaining vessel supplies, and scheduling of repairs.

Day. (1) Where the word *day* is applied to the use of a specific frequency assignment or to a specific authorized transmitter power, its use means transmission on the frequency assignment or with the authorized transmitter power during that period of time included between one hour after local sunrise and one hour before local sunset.

(2) Where the word *day* occurs in reference to watch requirements, or to equipment testing, its use means the calendar day, from midnight to midnight, local time.

Digital selective calling (DSC). A synchronous system developed by the International Radio Consultative Committee (CCIR), used to establish contact with a station or group of stations automatically by means of radio. The operational and technical characteristics of this system are contained in CCIR Recommendation 493.

Direction finder (radio compass). Apparatus capable of receiving radio signals and taking bearings on these signals

from which the true bearing and direction of the point of origin may be determined.

Distress signal. The distress signal is an internationally recognized radiotelegraph or radiotelephone transmission which indicates that a ship, aircraft, or other vehicle is threatened by grave and imminent danger and requests immediate assistance.

(1) In radiotelegraphy, the international distress signal consists of the group ''three dots, three dashes, three dots'', transmitted as a single signal in which the dashes are emphasized so as to be distinguished clearly from the dots.

(2) In radiotelephony, the international distress signal consists of the enunciation of the word ''Mayday'', pronounced as the French expression ''m'aider''. In case of distress, transmission of this particular signal is intended to ensure recognition of a radiotelephone distress call by stations of any nationality.

Distress traffic. All messages relative to the immediate assistance required by a ship, aircraft, or other vehicle in distress.

Emergency position indicating radiobeacon (EPIRB) station. A station in the maritime mobile service the emissions of which are intended to facilitate search and rescue operations.

Environmental communications. Broadcasts of information about the environmental conditions in which vessels operate, i.e., weather, sea conditions, time signals adequate for practical navigation, notices to mariners, and hazards to navigation.

Fleet radio station license. An authorization issued by the Commission for two or more ships having a common owner or operator.

Global maritime distress and safety system (GMDSS). An International Maritime Organization (IMO) worldwide coordinated maritime distress system designed to provide the rapid transfer of distress messages from vessels in distress to units best suited for giving or coordinating assistance. The system includes standardized equipment and operational procedures, unique identifers for each station, and the integrated use of frequency bands and radio systems to ensure the transmission and reception of distress and safety calls and messages at short, medium and long ranges.

Great Lakes. This term, used in this part in reference to the Great Lakes Radio Agreement, means all of Lakes Ontario, Erie, Huron (including Georgian Bay), Michigan, Superior, their connecting and tributary waters and the St. Lawrence River as far east as the lower exit of the St. Lambert Lock as Montreal in the Province of Quebec, Canada, but does not include any connecting and tributary waters other than: the St. Marys River, the St. Clair River, Lake St. Clair, the Detroit River and the Welland Canal.

Harbor or port. Any place to which ships may resort for shelter, or to load or unload passengers or goods, or to obtain fuel, water, or supplies. This term applies to such places whether proclaimed public or not and whether natural or artifical.

Inland waters. This term, as used in reference to waters of the United States, its territories and possessions, means waters that lie landward of the boundary lines of inland waters as contained in 33 CFR part 82, as well as waters within its land territory, such as rivers and lakes, over which the United States exercises sovereignty.

Marine utility station. A station in the maritime mobile service consisting of one or more handheld radiotelephone units licensed under a single authorization. Each unit is capable of operation while being hand-carried by an individual. The station operates under the rules applicable to ship stations when the unit is aboard a vessel, and under the rules applicable to private coast stations when the unit is on land.

Maritime control communications. Communications between private coast and ship stations or between ship stations licensed to a state or local governmental entity, which relate directly to the control of boating activities or assistance to ships.

Maritime mobile repeater station. A land station at a fixed location established for the automatic retransmission of signals to extend the range of communication of ship and coast stations.

Maritime mobile-satellite service. A mobile-satellite service in which mobile

earth stations are located on board ships. Survival craft stations and EPIRB stations may also participate in this service.

Maritime mobile service. A mobile service between coast stations and ship stations, or between ship stations, or between associated on-board communication stations. Survival craft stations and EPIRB stations also participate in this service.

Maritime mobile service identities. An international system for the identification of radio stations in the maritime mobile service. The system is comprised of a series of nine digits which are transmitted over the radio path to uniquely identify ship stations, ship earth stations, coast stations, coast earth stations and groups of stations.

Maritime radiodetermination service. A maritime radiocommunication service for determining the position, velocity, and/or other characteristics of an object, or the obtaining of information relating to these parameters, by the propagation properties of radio waves.

Maritime support station. A station on land used in support of the maritime services to train personnel and to demonstrate, test and maintain equipment.

Navigable waters. This term, as used in reference to waters of the United States, its territories and possessions, means the waters shoreward of the baseline of its territorial sea and internal waters as contained in 33 CFR 2.05–25.

Navigational communications. Safety communications pertaining to the maneuvering of vessels or the directing of vessel movements. Such communications are primarily for the exchange of information between ship stations and secondarily between ship stations and coast stations.

Noncommercial communications. Communication between coast stations and ship stations other than commercial transport ships, or between ship stations aboard other than commercial transport ships which pertain to the needs of the ship.

Non-selectable transponder. A transponder whose coded response is displayed on any conventional radar operating in the appropriate band.

On-board communication station. A low-powered mobile station in the maritime mobile service intended for use for internal communications on board a ship, or between a ship and its lifeboats and liferafts during lifeboat drills or operations, or for communication within a group of vessels being towed or pushed, as well as for line handling and mooring instructions.

On-board repeater. A radio station that receives and automatically retransmits signals between on-board communication stations.

Open sea. The water area of the open coast seaward of the ordinary low-water mark, or seaward of inland waters.

Operational fixed station. A fixed station, not open to public correspondence, operated by entities that provide their own radiocommunication facilities in the private land mobile, maritime or aviation services.

Passenger ship safety certificate. A certificate issued by the Commandant of the Coast Guard after inspection of a passenger ship which complies with the requirements of the Safety Convention.

Pilot. Pilot means a Federal pilot required by 46 U.S.C. 764, a state pilot required under the authority of 46 U.S.C. 211, or a registered pilot required by 46 U.S.C. 216.

Port operations communications. Communications in or near a port, in locks or in waterways between coast stations and ship stations or between ship stations, which relate to the operational handling, movement and safety of ships and in emergency to the safety of persons.

Portable ship station. A ship station which includes a single transmitter intended for use upon two or more ships.

Private coast station. A coast station, not open to public correspondence, which serves the operational, maritime control and business needs of ships.

Public coast station. A coast station that offers radio communication common carrier services to ship radio stations.

Public correspondence. Any telecommunication which the offices and stations must, by reason of their being at the disposal of the public, accept for transmission.

Radar beacon (RACON). A receiver-transmitter which, when triggered by a

radar, automatically returns a distinctive signal which can appear on the display of the triggering radar, providing range, bearing and identification information.

Radioprinter operations. Communications by means of a direct printing radiotelegraphy system using any alphanumeric code, within specified bandwidth limitations, which is authorized for use between private coast stations and their associated ship stations on vessels of less than 1600 gross tons.

Safety communication. The transmission or reception of distress, alarm, urgency, or safety signals, or any communication preceded by one of these signals, or any form of radiocommunication which, if delayed in transmission or reception, may adversely affect the safety of life or property.

Safety signal. (1) The safety signal is the international radiotelegraph or radiotelephone signal which indicates that the station sending this signal is preparing to transmit a message concerning the safety of navigation or giving important meteorological warnings.

(2) In radiotelegraphy, the international safety signals consists of three repetitions of the group ''TTT'', sent before the call, with the letters of each group and the successive groups clearly separated from each other.

(3) In radiotelephony, the international safety signal consists of three oral repetitions of ''Security'', pronounced as the French word ''Securite'', sent before the call.

Selectable transponder. A transponder whose coded response may be inhibited or displayed on a radar on demand by the operator of that radar.

Selective calling. A means of calling in which signals are transmitted in accordance with a prearranged code to operate a particular automatic attention device at the station whose attention is sought.

Ship earth station. A mobile earth station in the maritime mobile-satellite service located on board ship.

Ship or vessel. Ship or *vessel* includes every description of watercraft or other artificial contrivance, except aircraft, capable of being used as a means of transportation on water whether or not it is actually afloat.

Ship radio station license. An authorization issued by the Commission to operate a radio station onboard a vessel.

Ship station. A mobile station in the maritime mobile service located onboard a vessel which is not permanently moored, other than a survival craft station.

Station. One or more transmitters or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on radiocommunication services.

Survival craft station. A mobile station in the maritime or aeronautical mobile service intended solely for survival purposes and located on any lifeboat, liferaft or other survival equipment.

Underway. A vessel is underway when it is not at anchor, made fast to the shore, or aground.

Urgency signal. (1) The urgency signal is the international radiotelegraph or radiotelephone signal which indicates that the calling station has a very urgent message to transmit concerning the safety of a ship, aircraft, or other vehicle, or of some person on board or within sight.

(2) In radiotelegraphy, the international urgency signal consists of three repetitions of the group ''XXX'', sent before the call, with the letters of each group and the successive groups clearly separated from each other.

(3) In radiotelephony, the international urgency signal consists of three oral repetitions of the group of words ''PAN PAN'', each word of the group pronounced as the French word ''PANNE'' and sent before the call.

Vessel traffic service (VTS). A U.S. Coast Guard traffic control service for ships in designated water areas to prevent collisions, groundings and environmental harm.

Watch. The act of listening on a designated frequency.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 7417, Mar. 11, 1987; 52 FR 35244, Sept. 18, 1987; 56 FR 3783, Jan. 31, 1991; 57 FR 26778, June 16, 1992; 58 FR 16504, Mar. 29, 1993; 60 FR 35510, July 10, 1995]

Subpart B—Applications and Licenses

§ 80.11 Scope.

This subpart contains the procedures and requirements for the filing of applications for licenses to operate radio facilities in the maritime services. Part 1 of the Commission's rules contains the general rules of practice and procedure applicable to proceedings before the FCC.

§ 80.13 Station license required.

(a) Except for those excluded in paragraph (c) of this section, stations in the maritime service must be licensed by the FCC either individually or by fleet.

(b) One ship station license will be granted for operation of all maritime services transmitting equipment on board a vessel.

(c) A ship station is licensed by rule and does not need an individual license issued by the FCC if the ship station is not subject to the radio equipment carriage requirements of the Communications Act or any other treaty or agreement to which the United States is signatory, the ship station does not travel to foreign ports, and the ship station does not make international communications. A ship station licensed by rule is authorized to transmit radio signals using a marine radio operating in the 156–162 MHz band, any type of EPIRB, and any type of radar installation. All other transmissions must be authorized under a ship station license. Even though an individual license is not required, a ship station licensed by rule must be operated in accordance with all applicable operating requirements, procedures, and technical specifications found in this Part 80.

[61 FR 18226, Apr. 24, 1996]

§ 80.15 Eligibility for station license.

(a) *General.* A station license cannot be granted to or held by a foreign government or its representative.

(b) *Public coast stations and Alaska-public fixed stations.* A station license for a public coast station or an Alaska-public fixed station cannot be granted to or held by:

(1) Any alien or the representative of any alien;

(2) Any foreign government or its representative;

(3) Any corporation organized under the laws of any foreign government;

(4) Any corporation of which any officer or director is an alien;

(5) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or its representative, or by a corporation organized under the laws of a foreign country;

(6) Any corporation directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens, if the Commission finds that the public interest will be served by the refusal or revocation of such license; or

(7) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or its representatives, or by any corporation organized under the laws of a foreign country, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

(c) *Private coast and marine utility stations.* The supplemental eligibility requirements for private coast and marine utility stations are contained in § 80.501(a).

(d) *Ship stations.* A ship station license may only be granted to:

(1) The owner or operator of the vessel;

(2) A subsidiary communications corporation of the owner or operator of the vessel;

(3) A State or local government subdivision; or

(4) Any agency of the U.S. Government subject to section 301 of the Communications Act.

(e) *EPIRB stations.* (1) New class C EPIRB stations will not be authorized after February 1, 1995. Class C EPIRB stations installed and licensed before February 1, 1995, will be authorized until February 1, 1999:

(i) For use on board vessels operating within 32 kilometers (approximately 20 miles) of shore and in the Great Lakes, or

(ii) On passenger and cargo vessels with survival craft as required or recommended by the U.S. Coast Guard.

(2) Class A or B EPIRB stations will be authorized for use on board the following types of vessels:

(i) Vessels authorized to carry survival craft; or

(ii) Vessels expected to travel in waters beyond the range of marine VHF distress coverage which is generally considered to be more than 32 kilometers (approximately 20 miles) offshore; or

(iii) Vessels required to be fitted with EPIRB's to comply with U.S. Coast Guard regulations.

(3) A 406.025 MHz EPIRBs may be used by any ship required by U.S. Coast Guard regulations to carry an EPIRB or by any ship that is equipped with a VHF ship radio station.

[51 FR 31213, Sept. 2, 1986, as amended at 53 FR 37308, Sept. 26, 1988; 58 FR 33344, June 17, 1993]

§80.17 Administrative classes of stations.

(a) Stations in the Maritime Mobile Service are licensed according to class of station as follows:

(1) Public coast stations.

(2) Private coast stations.

(3) Maritime support stations.

(4) *Ship stations.* The ship station license may include authority to operate other radio station classes aboard ship such as; radionavigation, on-board, satellite, EPIRB, radiotelephone, radiotelegraph and survival craft.

(5) Marine utility stations.

(b) Stations on land in the Maritime Radiodetermination Service are licensed according to class of station as follows:

(1) Shore radiolocation stations.

(2) Shore radionavigation stations.

(c) Fixed stations in the Fixed Service associated with the maritime services are licensed as follows:

(1) Operational fixed stations.

(2) Alaska-public fixed stations.

(3) Alaska-private fixed stations.

§80.19 Standard forms to be used.

The following table indicates the correct standard form or other means to be used when submitting an application. Forms may be obtained from the Commission at Gettysburg, PA 17325, Washington, DC 20554 or any of its District Offices.

Class of station(s)	Application for	Use
Ship	New license	FCC Form 506.
	Renewal of license without modification	FCC Form 405–B.
	Renewal of license with modification	FCC Form 506.
	Modification of license	FCC Form 506.
	Temporary operating authority in conjunction with application for a new license or modification of license.	FCC Form 506–A.
	Radio inspection and certification	FCC Form 801.[1]
	Exemption	FCC Form 820.
	Special temporary authority	Letter/Telegram.
	Transfer of control of corporation	FCC Form 703.
Public coast	New license	FCC Form 503.
Private coast	Modification of license	FCC Form 503.
Operational fixed	Renewal of license with modification	FCC Form 503.
Shore radionavigation	Assignment of authorization	FCC Forms 1046 and 503.
Shore radiolocation	Transfer of Control of Corporation	FCC Form 703.
Maritime support	Renewal of license without modification	FCC Form 452–R
Alaska-public fixed	Special temporary authority	Letter/Telegram.
Alaska-private fixed		
Marine utility		

[1] FCC Form 808 also required when inspection is to be conducted during other than normal business hours.

[51 FR 31213, Sept. 2,1986, as amended at 56 FR 64715, Dec. 12, 1991]

§ 80.21 Supplemental information required.

Applications for radio stations to be located within designated radio protection areas, radio stations with a proposed antenna structure which will require antenna markings, a new public coast stations proposing operations in the 156–162 MHz band and new ship stations on vessels not located in the United States must contain supplementary information as indicated in this section. Other supplemental information may be required by other rule sections of this part concerning particular maritime services.

(a) To minimize harmful interference at the National Radio Astronomy Observatory site at Green Bank, Pocahontas County, WV, and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, WV, an applicant for a new station authorization (other than mobile or temporary fixed), or for modification of an existing license to change the frequency, power, antenna location, height or directivity within the area bounded by 39°15′N. on the north, 78°30′W. on the east, 37°30′N. on the south and 80°30′W. on the west, must, at the time of filing such application with the Commission, notify the Director, National Radio Astronomy Observatory, Attn: Interference Office, Post Office Box No. 2, Green Bank, WV 24944, in writing, of the geographical coordinates of the antenna, antenna height, antenna directivity if any, proposed frequency, type of emission, and power. The application must show the date notification was made to the Observatory. The Commission will allow twenty (20) days after receipt of the notification for comments or objections. If a timely objection is received, the Commission will consider the comments or objections and act appropriately.

(b) Protection for Federal Communications Commission monitoring stations:

(1) Geographical coordinates of FCC facilities which require protection are listed in § 0.121(c) of this chapter. Applications for stations (except mobile stations) which will be located within 80 km (50 miles) of the referenced coordinates are examined to determine extent of possible interference. A clause protecting the monitoring station may be added to the station license.

(2) Prospective applicants of stations for which the calculated value of expected field strength exceeds 10 mV/m (-65.8 dBW/m^2) at the referenced coordinates, should consult with the FCC to determine if any protection is necessary. Write:

Chief, Compliance and Information Bureau, Federal Communications Commission, Washington, DC 20554.

(c) Each application for a new public coast station operating on frequencies in the band 156–162 MHz must include as supplementary information a chart, with supporting data, showing the service area contour computed in accordance with subpart P of this part.

(d) Each application for a new public coast station operating on frequencies in the band 156–162 MHz to be located within the coordination boundaries of ''Arrangement ''A'' of the Canada/U.S.A. Frequency Coordination Agreement above 30 MHz'', must comply with the provisions of the ''Canada/U.S.A. Channeling Agreement for VHF Maritime, Public Correspondence'' as contained in § 80.57.

(e) An application for a new station on a vessel not located in the United States must include:

(1) A statement that the vessel is not documented or otherwise registered by any foreign authority; and

(2) A statement that the foreign authorities where the vessel is located will not or cannot license the vessel radio equipment, or that they do not object to the licensing of the equipment by the United States.

[51 FR 31213, Sept. 2, 1986, as amended at 60 FR 50122, Sept. 28, 1995]

§ 80.23 Filing of applications.

Rules about the filing of applications for radio station licenses are contained in this section. Applications requiring fees as set forth in part 1, subpart G of this chapter must be filed with the Federal Communications Commission in accordance with § 1.1102 of the Rules.

(a) Each application must specify an address in the United States to be used by the Commission in serving documents or directing correspondence to the licensee.

(b) An original of each application must be filed.

(c) One application for two or more new maritime utility stations may be submitted when the applicant and proposed area of operation for each station is the same.

(d) One application for transfer of control may be submitted for two or more stations subject to this part when the individual stations are clearly identified and the following elements are the same for all existing or requested station authorizations involved:

(1) Applicant;

(2) Specific details of basic request.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 10231, Mar. 31, 1987; 57 FR 26778; June 16, 1992]

§80.25 License term.

(a) Licenses for ship stations in the maritime services will normally be issued for a term of ten years from the date of original issuance, major modification, or renewal.

(b) Licenses other than ship stations in the maritime services will normally be issued for a term of five years from the date of original issuance, major modification, or renewal.

(c) Licenses for stations engaged in developmental operation will be issued for a period not to exceed one year from date of grant.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 68062, Dec. 23, 1993]

§80.29 Changes during license term.

(a) The following table indicates the required action for changes made during the license term:

Type of change	Required action
Mailing address	Written notice to the Commission.
Name of licensee (without change in ownership, control or corporate structure).	Written notice to the Commission.
Transfer of control of a corporation.	Comply with §1.924 of this chapter.
Assignment of a radio station license.	Comply with §1.924 of this chapter.
Name of the vessel	Written notice to the Commission.
Addition of transmitting equipment which operates on a frequency or frequency band not authorized on present license.	Application for modification of license.
Addition or replacement of transmitting equipment on a frequency or frequency band authorized on present license.	None (provided the equipment is properly type accepted and the emission characteristics remain the same).
Increased number of mobiles (AMTS).	Written notice to the Commission.

(b) Written notices must be sent to the Federal Communications Commission, Gettysburg, PA 17325.

[51 FR 31213, Sept. 2, 1986, as amended at 56 FR 3783, Jan. 31, 1991]

§80.31 Cancellation of license.

When a station subject to this part which is not a communication common carrier permanently discontinues operation, the licensee must return the station license to the Commission's office at P.O. Box 1040, Gettysburg, PA 17325, for cancellation. Communication common carrier stations subject to this part must comply with the discontinuance of service provisions of part 63 of this chapter.

§80.33 Developmental license.

This section contains rules about the licensing of developmental operations at stations subject to this part.

(a) *Supplemental eligibility*. An authorization for developmental operation will be issued only to persons eligible to operate such stations on a regular basis.

(b) *Showing required*. Each application for a developmental license must be accompanied by a letter showing that:

(1) The applicant has an organized plan of development leading to an objective;

(2) A point has been reached in the program where actual transmission by radio is essential to progress;

(3) The program will contribute to the use of the radio services subject to this part;

(4) The program will be conducted by qualified personnel;

(5) The applicant is legally qualified and possesses technical facilities for conduct of the program as proposed; and

(6) The public interest, convenience and necessity will be served by the proposed operation.

(c) *Signature and statement of understanding.* The showing must be signed by the applicant and state that the applicant agrees that any developmental license issued will be accepted with the express understanding that it is subject to change in any of its terms or to cancellation in its entirety at any time, upon reasonable notice but without a hearing, if, in the opinion of the Commission, circumstances should so require.

(d) *Assignable frequencies.* Applicants for a developmental license may be authorized to use a frequency or frequencies available for the service and class of station proposed. The number of frequencies assignable to a particular station will depend upon the specific requirements of the developmental program and the number of frequencies available for use in the area where the station is to be operated.

(e) *Developmental program.* (1) The developmental program as described by the applicant in the application for authorization must be substantially followed unless the Commission otherwise directs.

(2) Where some phases of the developmental program are not covered by the general rules of the Commission and the rules in this part, the Commission may specify supplemental or additional requirements or conditions.

(3) The Commission may, from time to time, require a station engaged in developmental work to conduct special tests which are reasonable to the authorized developmental program.

(f) *Use of developmental stations.* (1) Stations authorized to conduct developmental operations must conform to all applicable technical and operating requirements contained in this part, unless a waiver is specifically provided in the station authorization.

(2) Communication with any station of a country other than the United States is prohibited unless specifically provided in the station authorization.

(3) Developmental operations must not cause harmful interference to the operation of stations regularly authorized to use the frequency or frequencies.

(g) *Report of operation required.* A report on the results of the developmental program must be filed within 60 days of the expiration of the license. A report must accompany a request for renewal of the license. Matters which the applicant does not wish to disclose publicly may be so labeled; they will be used solely for the Commission's information. However, public disclosure is governed by § 0.467 of this chapter. The report must include the following:

(1) Results of operation to date.

(2) Analysis of the results obtained.

(3) Copies of any published reports.

(4) Need for continuation of the program.

(5) Number of hours of operation on each authorized frequency during the term of the license to the date of the report.

§ 80.37 One authorization for a plurality of stations.

Marine utility stations. One station license may be issued to authorize a designated maximum number of marine utility stations operating at temporary unspecified locations, normally in multiples of ten stations when:

(a) The licensee of each station is the same; and

(b) The authorized area of operation of each station is the same.

§ 80.39 Authorized station location.

This section describes the circumstances under which a coast station location is classified as permanent or temporary unspecified.

(a) *Permanent.* Whenever a station is to transmit from a single location, the station location is *permanent* and the location must be shown on the application.

(b) *Temporary unspecified.* Whenever a station is to transmit from unspecified locations within a prescribed geographical area, the station location is *temporary unspecified* and the proposed geographical operating area must be shown on the application.

§ 80.41 Control points and dispatch points.

This section applies to coast or fixed stations at permanent locations.

(a) Applicants must provide the address or location of the control point where station records will be kept.

(b) When the address or location of a control point where station records are kept is to be changed, the licensee must request a modification of the station license.

(c) Control points not collocated with station records and dispatch points may be installed and used without obtaining any authorization from the Commission.

§80.43 Equipment acceptable for licensing.

Transmitters listed in §80.203 must be type accepted for a particular use by the Commission based upon technical requirements contained in subparts E and F of this part.

§80.45 Frequencies.

When an application is submitted on FCC Form 503, the applicant must propose frequencies to be used by the station. The applicant must ensure that frequencies requested are consistent with the applicant's eligibility, the proposed class of station operation and the frequencies available for assignment as contained in subpart H of this part.

§80.47 Operation during emergency.

A station may be used for emergency communications when normal communication facilities are disrupted. The Commission may order the discontinuance of any such emergency communication service.

§80.49 Time in which station is placed in operation.

This section applies to public coast and public fixed stations. When a new license has been issued or additional operating frequencies have been authorized, if the station or frequencies authorized have not been placed in operation within eight months from the date of the grant, the authorization becomes invalid and must be returned to the Commission for cancellation.

§80.51 Ship earth station licensing.

(a) In cases where a ship earth station is required to be commissioned before it is certified to use a privately owned satellite system, FCC Form 506 must be submitted to the Commission prior to transmission on any of the satellite frequency bands allocated for maritime satellite communications.

(b) A ship earth station authorized to operate the INMARSAT space segment must display the Commission license in conjunction with the commissioning certificate issued by the INMARSAT Organization. Ship earth stations that were operating in the MARISAT system and are not commissioned by the INMARSAT Organization will continue to be used in the INMARSAT system without a commissioning certificate issued by the INMARSAT Organization. The continued use of such equipment, however, will not be permitted after September 1, 1991, unless a commissioning certificate is obtained from the INMARSAT Organization. Notwithstanding the requirements in this paragraph, ship earth stations can operate in the INMARSAT space segment without an INMARSAT issued commissioning certificate provided an appropriate written approval is obtained from the INMARSAT Organization in addition to the Commission's license.

§80.53 Application for a portable ship station license.

(a) The Commission may grant a license permitting operation of a portable ship station aboard different vessels of the United States. Each application for a portable ship station must include a showing that:

(1) The station will be operated as an established class of station on board ship, and

(2) A station license for portable equipment is necessary to eliminate frequent application to operate a ship station on board different vessels.

§80.54 Automated Maritime Telecommunications System (AMTS)—System Licensing.

AMTS licensees will be issued blanket authority for a system of coast stations and mobile units (subscribers). AMTS applicants will specify the maximum number of mobile units to be placed in operation during the license period.

[56 FR 3783, Jan. 31, 1991]

§ 80.55 Application for a fleet station license.

(a) An applicant may apply for licenses for two or more radiotelephone stations aboard different vessels on the same application. Under these circumstances a fleet station license may be issued for operation of all radio stations aboard the vessels in the fleet.

(b) The fleet station license is issued on the following conditions:

(1) The licensee must keep a current list of vessel names and registration numbers authorized by the fleet license;

(2) The vessels do not engage in voyages to any foreign country;

(3) The vessels are not subject to the radio requirements of the Communications Act or the Safety Convention.

§ 80.56 Transfer of ship station license prohibited.

A ship station license may not be assigned. Whenever the vessel ownership is transferred, the previous authorization must be forwarded to the Commission for cancellation. The new owner must file for a new authorization.

§ 80.57 Canada/U.S.A. channeling arrangement for VHF maritime public correspondence.

(a) *Canada/U.S.A. arrangement.* Pursuant to arrangements between the United States and Canada, assignment of VHF frequencies in the band 156–162 MHz to public coast stations in certain areas of Washington state, the Great Lakes and the east coast of the United States must be made in accordance with the provisions of this section.

(b) *Definitions.* On the west coast, specific terms are defined as follows:

(1) *Inland Waters Public Correspondence Sector.* A distinct geographical area in which one primary and one supplementary channel is allotted. A number of local channels may also be authorized.

(2) *Coastal Waters Public Correspondence Sector.* A distinct geographical area in which one primary and one supplementary channel is allotted. Local channels may also be authorized.

(3) *Inland Waters.* Inland waters of western Washington and British Columbia bounded by 47 degrees latitude on the south, the Canada/U.S.A. Coordination Zone Line B on the north, and to the west by 124 degrees 40 minutes longitude at the west entrance to the Strait of Juan de Fuca.

(4) *Coastal Waters.* Waters along the Pacific Coast of Washington state and Vancouver Island within the Canada/U.S.A. Coordination Zone.

(5) *Inland Waters Primary Channel.* A channel intended to cover the greater portion of an Inland Waters Public Correspondence Sector. It may provide some coverage to an adjacent sector but must not provide coverage beyond the adjacent sector. Harmful interference beyond the adjacent sector must not occur. Only one primary channel will be authorized in any sector.

(6) *Inland Waters Supplementary Channel.* A channel intended to improve coverage within a sector or to relieve traffic congestion on the primary channel. It may provide some coverage of an adjacent sector but must not provide coverage beyond the adjacent sector. Harmful interference beyond the adjacent sector must not occur. Only one supplementary channel will be authorized in any sector.

(7) *Inland Waters Local Channel.* A channel designed to provide local coverage of certain bays, inlets and ports where coverage by primary or supplementary channels is poor or where heavy traffic loading warrants. A local channel must not cause harmful interference to any primary or supplementary channels. Coverage must be confined to the designated sector.

(8) *Coastal Waters Primary Channel.* Same as (5) except for technical characteristics.

(9) *Coastal Waters Supplementary Channel.* Same as (6) except for technical characteristics.

(10) *Coastal Waters Local Channel.* Same as (7) except for technical characteristics.

(c) *Technical characteristics.* On the west coast, technical characteristics of public correspondence stations will be as follows:

(1) *Inland Waters Primary and Supplementary Channels.* The effective radiated power (ERP) must not exceed 60 watts. Antenna height must not exceed 152 meters (500 feet) above mean sea level (AMSL) with the exceptions

noted in paragraph (d)(5) of this section.

(2) *Inland Waters Local Channel.* ERP must not exceed 8 watts with an antenna height of no more than 15 meters (50 feet) AMSL or the ERP must not exceed 2 watts with an antenna height of no more than 30 meters (100 feet) AMSL.

(3) *Coastal Waters Primary and Supplementary Channels.* ERP must not exceed 125 watts with no antenna restrictions.

(4) *Coastal Waters Local Channel.* ERP must not exceed 10 watts with a maximum antenna height of 76 meters (250 feet) AMSL.

(5) Harmful interference will be determined and resolved using the definition and procedures of the ITU Radio Regulations.

(6) To keep the ERP and antenna elevations at a minimum and to limit coverage to the desired areas, an informal application may be filed for special temporary authority in accordance with §§ 1.41 and 1.925 to conduct a field survey to obtain necessary data for informal application. Such data may accompany the application and be used in lieu of theoretical calculations as required in subpart P of this part. The Seattle FCC District Office must be notified in advance of scheduled tests.

(d) *Canada/U.S.A. channeling arrangement for West Coast VHF maritime mobile public correspondence.* (1) The provisions of the Canada/U.S. channeling arrangement apply to waters of the State of Washington and of the Province of British Columbia within the coordination boundaries of ''Arrangement A'' of the Canada/U.S.A. Frequency Coordination Agreement above 30 MHz. In addition, all inland waters as far south as Olympia are to be included. A map of these waters is contained in paragraph (d)(6) of this section, Figure 1.

(2) The channeling arrangement applies to the following VHF public correspondence channels: Channels 24, 84, 25, 85, 26, 86, 27, 87 and 28.

(3) Public correspondence stations may be established by either country in accordance with the provisions of the arrangements. However, there must be an exchange of information prior to the establishment of new stations or a change in technical parameters of existing stations. Any channel except that used as primary or supplementary channel in a given sector is available for use as a local channel in that sector. Local channels are not protected from interference caused by primary or supplementary channels in adjacent sectors if these stations are in compliance with this section.

(4) Preliminary local Canadian/U.S. coordination is required for all applications at variance with this section. This coordination will be in accordance with the provisions of Arrangement ''A'' of the Canada/U.S. Frequency Coordination Agreement over 30 MHz. Stations at variance with the arrangement are not protected from interference and must not cause interference to existing or future stations which are in accordance with the agreement.

(5) Stations in existence at the time of the arrangement must have complied with the provisions of the arrangement within 12 months after it became effective with the following exceptions:

(i) Public coast (VHF) stations:

KOH627 Tacoma, Washington
KOH630 Seattle, Washington
WXY956 Camano, Washington
VAI2 Mount Parke, British Columbia
VAS5 Watts Point, British Columbia
XLK672 Bowen Island, British Columbia

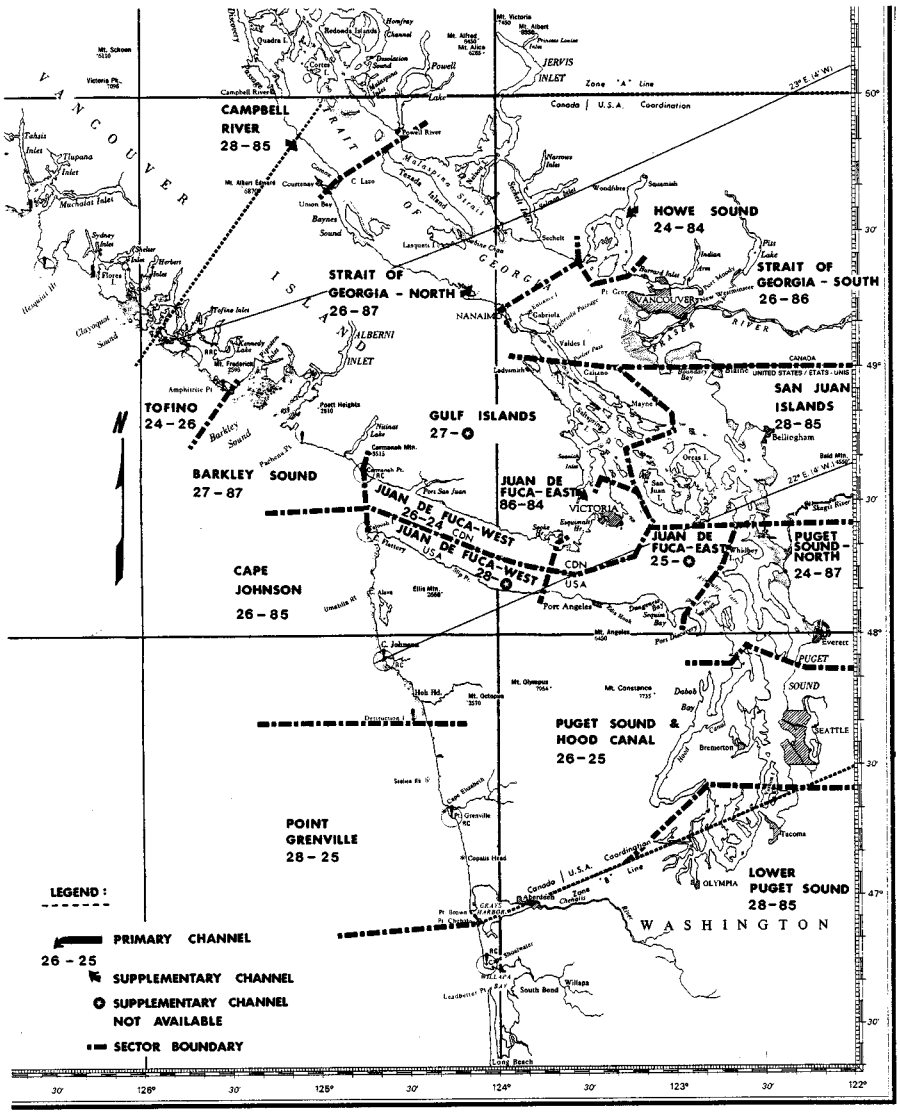
(ii) These stations employing frequencies assigned at the time of the arrangement may be maintained with existing antenna heights in excess of 152 meters (500 feet) unless harmful interference to existing stations is identified and reported directly to the Federal Communications Commission or through the Public Correspondence Committee of the North Pacific Marine Radio Council.

(6) The agreed channeling arrangements for the west coast are as follows:

Public correspondence sector	Primary channel	Supplementary channel
British Columbia (Coastal Waters):		
Tofino	24	26
Barkley Sound	27	87
British Columbia (Inland Waters)		
Juan de Fuca West (Canada)	26	24
Juan de Fuca East (Canada)	86	84
Gulf Islands	27	[1]
Strait of Georgia South	26	86
Howe Sound	24	84
Strait of Georgia North	26	87

Public correspondence sector	Primary channel	Supplementary channel
Campbell River	28	85
Washington (Coastal Waters):		
Cape Johnson	26	85
Point Grenville	28	25
Washington (Inland Waters):		
Juan de Fuca West (U.S.A.)	28	[1]
Juan de Fuca East (U.S.A.)	25	[1]
San Juan Islands	28	85
Puget Sound North	24	87
Puget Sound Hood Canal	26	25
Lower Puget Sound	28	85

[1] Supplementary channel not available.


CAMPBELL RIVER 28-85
HOWE SOUND 24-84
STRAIT OF GEORGIA - NORTH 26-87
STRAIT OF GEORGIA - SOUTH 26-86
TOFINO 24-26
GULF ISLANDS 27-
SAN JUAN ISLANDS 28-85
BARKLEY SOUND 27-87
JUAN DE FUCA-EAST 86-84
JUAN DE FUCA-WEST 26-24
JUAN DE FUCA-WEST 28-
JUAN DE FUCA-EAST 25-
PUGET SOUND-NORTH 24-87
CAPE JOHNSON 26-85
PUGET SOUND & HOOD CANAL 26-25
POINT GRENVILLE 28-25
LOWER PUGET SOUND 28-85
WASHINGTON
LEGEND:
PRIMARY CHANNEL
26 - 25
SUPPLEMENTARY CHANNEL
SUPPLEMENTARY CHANNEL NOT AVAILABLE
SECTOR BOUNDARY

(e) *Canada/U.S.A. VHF channeling arrangement on the Great Lakes and the St. Lawrence Seaway.* Channels on the Great Lakes and the St. Lawrence Seaway will be assigned as follows:

(1) The provisions of the arrangement apply to the waters of the Great Lakes and the St. Lawrence Seaway within the coordination boundaries of ''Arrangement A'' of the Canada/U.S.A. Frequency Coordiantion Agreement above 30 MHz.

(2) The arrangement applies to the following public correspondence channels: Channels 24, 84, 25, 85, 26, 86, 27, 87, 28, and 88.

(3) Canada and the U.S.A. use the following channeling arrangement:

(i) Canadian channels: 24, 85, 27, 88 (Note 1).

(ii) U.S.A. channels: 84, 25, 86, 87, 28 (Note 2).

(iii) Shared channels: 26 (Note 3).

NOTES:

1. Also assignable to U.S. Stations within the frequency coordination zone following successful coordination with Canada.

2. Also assignable to Canadian station within the frequency coordination zone following successful coordination with the United States.

3. Changes to existing assignments and new assignments within the frequency coordination zone of either country are subject to prior coordination with the other Administration.

(f) *Canada/U.S.A. channeling arrangement for East Coast VHF maritime mobile public correspondence.* For purposes of this section, channels on the east coast will be assigned as follows:

(1) The provisions of the arrangement apply to the Canadian and U.S.A. east coast waters including the St. Lawrence Seaway within the coordination boundaries of ''Arrangement A'' of the Canada/U.S.A. Frequency Coordination Agreement above 30 MHz.

(2) The arrangement applies to the following public correspondence channels: Channels 24, 84, 25, 85, 26, 86, 27, 87, 28, and 88.

(3) Canada and the U.S.A. use the following channeling arrangement:

(i) Canadian channels: 24, 85, 27, 88 (Note 1).

(ii) U.S.A. channels: 84, 25, 86, 87, 28 (Note 2).

(iii) Shared channel: 26 (Note 3).

NOTES:

1. Also assignable to U.S. stations within the frequency coordination zone following successful coordination with Canada.

2. Also assignable to Canadian stations within the frequency coordination zone following successful coordination with the United States.

3. Changes to existing assignments and new assignments within the frequency coordination zone of either country are subject to prior coordination with the other Administration.

§ 80.59 Compulsory ship inspections.

(a) Application for inspection of ships subject to the Communications Act or the Safety Convention. FCC Form 801, including documentation that the appropriate inspection fees have been paid, must be used to apply for inspection and certification for ships subject to Part II or Part III of Title III of the Communications Act or the Safety Convention. An inspection of the bridge-to-bridge radio stations on board vessels subject to the Vessel Bridge-to-Bridge Radiotelephone Act will be conducted when the vessels are additionally subject to any of the laws and treaties mentioned in the previous sentence.

(1) Applications for inspections of ships subject to Part II or Part III of Title III or the Safety Convention must be submitted to the Commission in sufficient time to reach the FCC field office serving the port where the ship is to be inspected at least three days prior to the proposed inspection date.

(2) If the inspection described in paragraph (a)(1) of this section is to be scheduled on a Sunday, national holiday or during other than established working hours on any other day, the applicant must additionally submit FCC Form 808 to the FCC field office serving the port where the ship is to be inspected at least three days prior to the inspection.

(b) Inspection and certification of a ship subject to the Great Lakes Agreement. The FCC will not inspect Great Lakes Agreement vessels. An inspection and certification of a ship subject to the Great Lakes Agreement must be made by a technician holding one of the following: an FCC General Radiotelephone Operator License, a GMDSS Radio Maintainer's License, a Second

Class Radiotelegraph Operator's Certificate, or a First Class Radiotelegraph Operator's Certificate. The certification required by § 80.953 must be entered into the ship's log. The technician conducting the inspection and providing the certification must not be the vessel's owner, operator, master, or an employee of any of them. Additionally, the vessel owner, operator, or ship's master must certify that the inspection was satisfactory. There are no FCC prior notice requirements for any inspection pursuant to § 80.59(b).

(c) *Application for exemption.* FCC Form 820 must be used to apply for exemption from the radio provisions of part II or III of title III of the Communications Act, the Safety Convention, or the Great Lakes Radio Agreement, or for modification or renewal of an exemption previously granted. Applications for exemptions must be submitted to Federal Communications Commission, Waiver Requests, P.O. Box 358300, Pittsburgh, Pennsylvania, 15251–5300. Such applications must be accompanied by the appropriate fee amount, as set forth in § 1.1102 of this chapter. Emergency requests must be filed with the Federal Communications Commission, Office of the Secretary, 1919 M Street, NW., room 222, Washington, DC 20554.

(NOTE: With emergency requests, do not send the fee, you will be billed.)

(d) *Temporary waiver of annual inspection.* The Commission may grant a waiver of the annual inspection for a period not to exceed 30 days from the time of first arrival of a ship at a United States port directly from a foreign port for the sole purpose of enabling the vessel to proceed coastwise to another port in the United States where an inspection can be made.

(1) An informal application (such as a letter or telegram, or telephone call to be confirmed by letter) for waiver of inspection must be submitted by either the vessel owner, the vessel's operating agency, the ship station licensee or the master of the vessel. The application must be submitted not earlier than 3 days in advance of the vessel's arrival at the United States port. The application must be submitted to the Commission's Engineer in Charge of the FCC District Office nearest the port of arrival. The application must include:

(i) The ship's name and radio call sign;

(ii) The name of the first United States port of arrival directly from a foreign port;

(iii) The date of arrival;

(iv) The date and port at which annual inspection will be formally requested to be conducted;

(v) Reason for requesting waiver; and

(vi) A statement that the ship's compulsory radio equipment is operable.

(e) *Compensation for overtime services.* Under section 4(f)(3) of the Communications Act, Engineers in Charge and Radio Engineers of the Compliance and Information Bureau of the Federal Communications Commission who may be required to remain on duty to perform services in connection with the inspection of ship radio equipment and apparatus for the purpose of Part II of Title III of the Communications Act or the Great Lakes Radio Agreement at night or on Sundays and holidays must receive extra compensation to be paid by the master, owner, or agent of the vessel under the following regulations:

(1) The rates of extra compensation are payable in cases where the services of such engineers have been duly requested and they have reported for duty, even though no actual service may be performed.

(2) The extra compensation for overtime services is in addition to the regular compensation paid by the government in the cases of engineers whose compensation is fixed on the ordinary per diem basis and those receiving compensation per month or per annum.

(3) Extra compensation for *waiting time* will not be allowed unless and until the engineer actually reports for duty.

(4) For the purpose of computing extra compensation, the word *night* means the time between the established closing hour of one day at the office involved and the established opening hour of the following business day at such office, but will not include any such time within the 24 hours of a Sunday or holiday. Each Sunday and each holiday will comprise the 24 hours between midnight and midnight. For the

purposes of this section, the time between the established closing hour of an office and midnight of the day immediately preceding a Sunday or holiday and the time from midnight until the established opening hour of the day immediately following the Sunday or holiday will be considered as a single night. The term *holiday* includes only government recognized holidays, and such other days as may be designated national holidays by the President or Congress.

(5) For authorized service in excess of 8 hours on any day excluding Sunday and holidays, extra compensation equivalent to one-half day's pay is payable for each 2 hours or fraction thereof of at least 1 hour that the overtime extends beyond the 8 hours when the overtime is not less than 1 hour. The maximum amount which may be paid for authorized overtime services on any day other than on a Sunday or holiday must not exceed 2½ days' pay.

(6) In computing the amount earned for overtime at the rate of ''one-half day's pay for each 2 hours or fraction thereof of at least 1 hour that the overtime extends beyond the established closing hour'', one-half day's pay must be one-half of the gross daily rate of pay; each 2 hours is the time period for the purpose of computation; at least 1 hour means the minimum service in any 2-hour overtime period for which extra pay may be granted, and each additional period in the amount of 2 hours or fraction thereof of at least 1 hour will entitle the engineer to an additional one-half day's pay. Payment of extra compensation for services consisting of at least 1 hour is authorized from the established closing hour, even though such services may not actually begin until later, *Provided,* That the engineer rendering the service remained on duty after the established closing hour, in which case the time between the established closing hour, and the time of beginning the actual services must be computed as waiting time. Where the performance of actual service is preceded by such a waiting time there should be an affirmative statement that the engineer was required to remain on duty between the established closing hour and the time of beginning the actual services.

(7) In computing extra compensation where the services rendered are in broken periods, the time served should be combined with the waiting time and computed as continuous service.

(8) The same considerations must apply when charging for waiting time as govern the charge for services actually rendered. No charge should be made unless after having reported for duty the waiting time amounts to at least 1 hour.

(9) For any authorized services performed on Sundays and holidays, totalling not more than 8 hours, extra compensation is payable equivalent to two day's pay in addition to any regular compensation for such days. For any authorized service in excess of 8 hours (starting either before or after 5 p.m. local time) extra compensation at the rate of one-half days' pay, based on the normal daily rate of pay, for each two hours of service or fraction thereof of not less than 1 hour, is payable in addition to the extra compensation payable for service up to and including 8 hours of service. The maximum extra compensation payable for work on Sundays and holidays is 4½ days' pay.

(10) When engineers are in travel status overtime will apply the same as if they were at an official station. However, compensation for such overtime must not include travel time.

(11) Assessments and collection of fees against steamship companies for overtime services must be made even though the payment to employees for such services may not be made until funds are appropriated for that purpose.

(12) An application on FCC Form 808 must be filed with the office being requested to furnish overtime services before such assignment can be made.

(13) Overtime services must be billed to the steamship companies as soon as possible after the services have been performed and on a collection voucher (FCC Form 907). Remittance shall be by postal money order or certified check payable to the *Collector of Customs, Treasury Department* and forwarded to that officer at the port indicated on the voucher, who shall in turn deposit such remittance on a properly designated receipt account.

(14) Protests against the extraction of extra compensation must be forwarded to the Commission at Washington, DC, and a copy sent to the office which furnished the overtime services.

[51 FR 31213, Sept. 2, 1986, as amended at 56 FR 64715, Dec. 12, 1991; 60 FR 50122, Sept. 28, 1995; 61 FR 8478, Mar. 5, 1996; 61 FR 25805, May 23, 1996]

Subpart C—Operating Requirements and Procedures

STATION REQUIREMENTS—GENERAL

§80.61 Commisson inspection of stations.

All stations and required station records must be made available for inspection by authorized representatives of the Commission.

§80.63 Maintenance of transmitter power.

(a) The power of each radio transmitter must not be more than that necessary to carry on the service for which the station is licensed.

(b) Except for transmitters using single sideband and independent sideband emissions, each radio transmitter rated by the manufacturer for carrier power in excess of 100 watts must contain the instruments necessary to determine the transmitter power during its operation.

STATION REQUIREMENTS—LAND STATIONS

§80.67 General facilities requirements for coast stations.

(a) All coast stations licensed to transmit in the band 156–162 MHz must be able to transmit and receive on 156.800 MHz and at least one working frequency in the band.

(b) All coast stations that operate telephony on frequencies in the 1605–3500 kHz band must be able to transmit and receive using J3E emission on the frequency 2182 kHz and at least one working frequency in the band. In addition, each such public coast station must transmit and receive H3E emission on the frequency 2182 kHz.

§80.68 Facilities requirements for public coast stations using telegraphy.

Public coast station using telegraphy must be provided with the following facilities.

(a) Stations having a frequency assignment below 150 kHz must:

(1) Transmit A1A emission on at least one working frequency within the band 100–150 kHz;

(2) Receive A1A emission on all radio channels authorized for transmission by mobile stations operating in the maritime mobile service for telegraphy within the band 100–150 kHz.

(b) Stations having a frequency assignment within the 405–525 kHz band must transmit and receive on 500 kHz and at least one working frequency in the band.

(c) Stations having frequency assignments above 4000 kHz must be equipped to receive on each of their assigned frequencies and all ship station radiotelegraphy frequencies in the same subband as the assigned frequency of the coast station. See subpart H of this part for the list of frequencies.

§80.69 Facilities requirement for public coast stations using telephony.

Public coast stations using telephony must be provided with the following facilities.

(a) When the station is authorized to use frequencies in the 1605–3500 kHz band, equipment meeting the requirements of §80.67(b) must be installed at each transmitting location.

(b) The transmitter power on the frequency 2182 kHz must not exceed 50 watts carrier power for normal operation. During distress, urgency and safety traffic, operation at maximum power is permitted.

§80.70 Special provisions relative to coast station VHF facilities.

(a) Coast stations which transmit on the same radio channel above 150 MHz must minimize interference by reducing radiated power, by decreasing antenna height or by installing directional antennas. Coast stations at locations separated by less than 241 kilometers (150 miles) which transmit on the same radio channel above 150 MHz must also consider a time-sharing arrangement. The Commission may order

station changes if agreement cannot be reached between the involved licensees.

(b) Coast stations which transmit on a radio channel above 150 MHz and are located within interference range of any station within Canada or Mexico must minimize interference to the involved foreign station(s), and must notify the Commission of any station changes.

§ 80.71 Operating controls for stations on land.

Each coast station, Alaska-public fixed station and Alaska-private fixed station must provide operating controls in accordance with the following:

(a) Each station using telegraphy or telephony must be capable of change-over from transmission to reception and vice versa within two seconds excluding a change in operating radio channel.

(b) During it hours of service, each station must be capable of:

(1) Commencing operation within one minute after the need to do so occurs;

(2) Discontinuing all emission within five seconds after emission is no longer desired. The emission of an unattended station in an automated multistation system at which restoration to standby is automatic on conclusion of a call must be discontinued within three seconds of the disconnect signal or, if a disconnect signal is not received, within twenty seconds after reception of the final carrier transmission from a ship station.

(c) Each station using a multichannel installation for telegraphy must be capable of changing from one telegraphy channel to any other telegraphy channel within the same sub-band below 525 kHz within five seconds. This requirement need not be met by equipment intended for use only in emergencies and not used for normal communication.

(d) Every coast station using a multichannel installation for radiotelephony must be capable of changing from one telephony channel to another telephony channel within:

(1) Five seconds within the frequency band 1605–3500 kHz; or

(2) Three seconds within the band 156–162 MHz. This requirement also applies to marine utility stations.

§ 80.72 Antenna requirements for coast stations.

All emissions of a coast station a marine-utility station operated on shore using telephony within the frequency band 30–200 MHz must be vertically polarized.

§ 80.74 Public coast station facilities for a telephony busy signal.

A ''busy'' signal, when used by a public coast station in accordance with the provisions of § 80.111(d), must consist of the transmission of a single audio frequency regularly interrupted, as follows:

(a) *Audio frequency*: Not less than 100 nor more than 1100 Hertz, provided the frequency used for this purpose will not cause auto alarms or selective-ringing devices to be operated.

(b) *Rate of interruption*: 60 times per minute ± 10%.

(c) *Duration of each interruption*: 0.5 second ± 10%.

§ 80.76 Requirements for land station control points.

Each coast or fixed station subject to this part must have the following facilities:

(a) Except for marine utility stations, a visual indication of antenna current; or a pilot lamp, meter or equivalent device which provides continuous visual indication whenever the transmitter control circuits have been actuated.

(b) Capability to aurally monitor all transmissions originating at dispatch points and to disconnect the dispatch points from the transmitter or to terminate the operation of the transmitter.

(c) Facilities which will permit the responsible operator to turn the carrier of the radio transmitter on and off at will.

STATION REQUIREMENTS—SHIP STATIONS

§ 80.79 Inspection of ship station by a foreign Government.

The Governments or appropriate administrations of countries which a ship visits may require the license of the ship station or ship earth station to be produced for examination. When the license cannot be produced without

delay or when irregularities are observed, Governments or administrations may inspect the radio installations to satisfy themselves that the installation conforms to the conditions imposed by the Radio Regulations.

§80.80 Operating controls for ship stations.

(a) Each control point must be capable of:

(1) Starting and discontinuing operation of the station;

(2) Changing frequencies within the same sub-band;

(3) Changing from transmission to reception and vice versa.

(4) In the case of stations operating in the 156–162 MHz bands, reducing power output to one watt or less in accordance with §80.215(e).[1]

(b) Each ship station using telegraphy must be capable of changing from telegraph transmission to telegraph reception and vice versa without manual switching.

(c) Each ship station using telephony must be capable of changing from transmission to reception and vice versa within two seconds excluding a change in operating radio channel.

(d) During its hours of service, each ship station must be capable of:

(1) Commencing operation within one minute;

(2) Discontinuing all emission within five seconds after emission is no longer desired.

(e) Each ship station using a multichannel installation for telegraphy (except equipment intended for use only in emergencies on frequencies below 515 kHz) must be capable of changing from one radio channel to another within:

(1) Five seconds if the channels are within the same sub-band; or

(2) Fifteen seconds if the channels are not within the same sub-band.

(f) Each ship station and marine-utility station using a multi-channel installation for telephony must be capable of changing from one radio channel to another within:

(1) Five seconds within the band 1605–3500 kHz; or

(2) Three seconds within the band 156–162 MHz.

(g)(1) Any telegraphy transmitter constructed since January 1, 1952, that operates in the band 405–525 kHz with an output power in excess of 250 watts must be capable of reducing the output power to 150 watts or less.

(2) The requirement of paragraph (g)(1) of this section does not apply when there is available in the same station a transmitter capable of operation on the international calling frequency 500 kHz and at least one working frequency within the band 405–525 kHz, capable of being energized by a source of power other than an emergency power source and not capable of an output in excess of 100 watts when operated on such frequencies.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35244, Sept. 18, 1987]

§80.81 Antenna requirements for ship stations.

All telephony emissions of a ship station or a marine utility station on board ship within the frequency band 30–200 MHz must be vertically polarized.

§80.83 Protection from potentially hazardous RF radiation.

Any license or renewal application for a ship earth station that will cause exposure to radiofrequency (RF) radiation in excess of the RF exposure guidelines specified in §1.1307(b) of the Commission's Rules must comply with the environmental processing rules set forth in §§1.1301–1.1319 of this chapter.

[53 FR 28225, July 27, 1988]

[1] Ship station transmitters, except hand-held portable transmitters, manufactured after January 21, 1987 must automatically reduce the carrier power to one watt or less when turned to the frequency 156.375 MHz or 156.650 MHz. All ship station tramsmitters, except hand-held portable transmitters, used after January 21, 1997, must automatically reduce power as described above. A manual override device must be provided which when held by the operator will permit full carrier power operation on channels 13 and 67. Hand-held portable transmitters must be capable of reducing power to one watt, but need not do so automatically.

OPERATING PROCEDURES—GENERAL

§ 80.86 International regulations applicable.

In addition to being regulated by these rules, the use and operation of stations subject to this part are governed by the Radio Regulations and the radio provisions of all other international agreements in force to which the United States is a party.

§ 80.87 Cooperative use of frequency assignments.

Each radio channel is available for use on a shared basis only and is not available for the exclusive use of any one station or station licensee. Station licensees must cooperate in the use of their respective frequency assignments in order to minimize interference and obtain the most effective use of the authorized radio channels.

§ 80.88 Secrecy of communication.

The station licensee, the master of the ship, the responsible radio operators and any person who may have knowledge of the radio communications transmitted or received by a fixed, land, or mobile station subject to this part, or of any radiocommunication service of such station, must observe the secrecy requirements of the Communications Act and the Radio Regulations. See sections 501, 502, and 705 of the Communications Act and Article 23 of the Radio Regulations.

§ 80.89 Unauthorized transmissions.

Stations must not:

(a) Engage in superfluous radiocommunication.

(b) Use telephony on 243 MHz.

(c) Use selective calling on 2182 kHz or 156.800 MHz.

(d) When using telephony, transmit signals or communications not addressed to a particular station or stations. This provision does not apply to the transmission of distress, alarm, urgency, or safety signals or messages, or to test transmissions.

(e) When using telegraphy, transmit signals or communications not addressed to a particular station or stations, unless the transmission is preceded by CQ or CP or by distress, alarm, urgency, safety signals, or test transmissions.

(f) Transmit while on board vessels located on land. Vessels in the following situations are not considered to be on land for the purposes of this paragraph:

(1) Vessels which are aground due to a distress situation;

(2) Vessels in drydock undergoing repairs; and

(3) State or local government vessels which are involved in search and rescue operations including related training exercises.

(g) Transmit on frequencies or frequency bands not authorized on the current station license.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35244, Sept. 18, 1987]

§ 80.90 Suspension of transmission.

Transmission must be suspended immediately upon detection of a transmitter malfunction and must remain suspended until the malfunction is corrected, except for transmission concerning the immediate safety of life or property, in which case transmission must be suspended as soon as the emergency is terminated.

§ 80.91 Order of priority of communications.

(a) The order of priority of radiotelegraph communications is as follows:

(1) Distress calls including the international distress signal for radiotelegraphy, the international radiotelegraph alarm signal, the international radiotelephone alarm signal, distress messages and distress traffic.

(2) Communications preceded by the international radiotelegraph urgency signal.

(3) Communications preceded by the international radiotelegraphy safety signal.

(4) Communications relative to radio direction-finding bearings.

(5) Communications relative to the navigation and safe movement of aircraft.

(6) Communications relative to the navigation, movements, and needs of ships, including weather observation messages destined for an official meteorological service.

(7) Government communications for which priority right has been claimed.

(8) Service communications relating to the working of the radiocommunication service or to communications previously transmitted.

(9) All other communications.

(b) The order of priority of radiotelephone communications is as follows:

(1) Distress calls including the international distress signal for radiotelephony, the international radiotelephone alarm signal, distress messages and distress traffic.

(2) Communications preceded by the international radiotelephone urgency signal, or known to the station operator to consist of one or more urgent messages concerning the safety of a person, aircraft or other mobile unit.

(3) Communications preceded by the international radiotelephone safety signal, or known to the station operator to consist of one or more messages concerning the safety of navigation or important meteorological warnings.

(4) Communications known by the station operator to consist of one or more messages relative to the navigation, movements and needs of ships, including weather observation messages destined for an official meteorological service.

(5) Government communications for which priority right has been claimed.

(6) All other communications.

§80.92 Prevention of interference.

(a) The station operator must determine that the frequency is not in use by monitoring the frequency before transmitting, except for transmission of signals of distress.

(b) When a radiocommunication causes interference to a communication which is already in progress, the interfering station must cease transmitting at the request of either party to the existing communication. As between nondistress traffic seeking to commence use of a frequency, the priority is established under §80.91.

(c) Except in cases of distress, communications between ship stations or between ship and aircraft stations must not interfere with public coast stations. The ship or aircraft stations which cause interference must stop transmitting or change frequency upon the first request of the affected coast station.

§80.93 Hours of service.

(a) *All stations.* All stations whose hours of service are not continuous must not suspend operation before having concluded all communication required in connection with a distress call or distress traffic.

(b) *Public coast stations.* (1) Each public coast station whose hours of service are not continuous must not suspend operation before having concluded all communication involving messages or calls originating in or destined to mobile stations within range and mobile stations which have indicated their presence.

(2) Unless otherwise authorized by the Commission upon adequate showing of need, each public coast station authorized to operate on frequencies in the 3000–23,000 kHz band must maintain continuous hours of service.

(c) *Compulsory ship stations.* Compulsory ship stations whose service is not continous may not suspend operation before concluding all traffic originating in or destined for public coast stations situated within their range and mobile stations which have indicated their presence.

(d) *Other than public coast or compulsory ship stations.* The hours of service of stations other than public coast or compulsory ship stations are determined by the station licensee.

§80.94 Control by coast or Government station.

When communicating with a coast station or any Government station in the maritime mobile service, ship stations must comply with the instruction given by the coast station or Government station relative to the order and time of transmission, the choice of frequency, the suspension of communication and the permissible type of message traffic that may be transmitted. This provision does not apply in the event of distress.

§80.95 Message charges.

(a) Charges must not be made for service of:

(1) Any public coast station unless tariffs for the service are on file with the Commission;

(2) Any station other than a public coast station or an Alaska—public fixed station, except cooperatively shared stations covered by § 80.503;

(3) Distress calls and related traffic; and

(4) Navigation hazard warnings preceded by the SAFETY signal.

(b) The licensee of each ship station is responsible for the payment of all charges accruing to any other station(s) or facilities for the handling or forwarding of messages or communications transmitted by that station.

(c) In order to be included in the ITU List of Coast Stations public coast stations must recognize international Accounting Authority Identification Codes (AAIC) for purposes of billing and accounts settlement in accordance with Article 66 of the Radio Regulations. Stations which elect not to recognize international AAIC's will be removed from the ITU List of Coast Stations.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35244, Sept. 18, 1987]

§ 80.96 Maintenance tests.

Stations are authorized to engage in test transmissions necessary for maintenance of the station. Test transmissions must conform to appropriate test operating procedures.

§ 80.97 Radiotelegraph operating procedures.

This section applies to ships and coast stations authorized to transmit in the band 405–525 kHz.

(a) Except for the transmission of distress or urgency signals, all transmissions must cease within the band 485–515 kHz during each 500 kHz silence period.

(b) Stations transmitting telegraphy must use the service abbreviations (''Q'' code) listed in Appendix 14 to the Radio Regulations.

(c) The call consists of:

(1) The call sign of the station called, not more than twice; the word ''DE'' and the call sign of the calling station, not more than twice; if useful, the frequency on which the called station should reply; and the letter ''K''.

(2) If the call is transmitted twice at an interval of not less than one minute, it must not be repeated until after an interval of three minutes.

(d) The reply to calls consists of: The call sign of the calling station, not more than twice; the word ''DE''; and the call sign of the station called, once only.

§ 80.98 Radiotelegraph testing procedures.

(a) Stations authorized to use telegraphy may conduct tests on any assigned frequency. Emissions must not cause harmful interference. When radiation is necessary the radiotelegraph testing procedure described in this paragraph must be followed:

(1) The operator must not interfere with transmissions in progress.

(2) The operator must transmit ''IE'' (two dots, space, one dot) on the test frequency as a warning that test emissions are about to be made. When the frequency of the test emission is within the frequency band 405–525 kHz, a watch must be maintained on 500 kHz throughout the test period.

(3) If any station transmits ''AS'' (wait), testing must be suspended. When transmission of ''IE'' is resumed and no response is heard, the test may proceed.

(4) Test signals composed of a series of ''VVV'' having a duration of not more than ten seconds, followed by the call sign of the testing station will be transmitted. The call sign must be sent clearly at a speed of approximately 10 words per minute. This test transmission must not be repeated until a period of at least one minute has elapsed. On 500 kHz in a region of heavy traffic, at least five minutes must elapse before the test transmission is repeated.

(b) When testing is conducted on 500 kHz, no tests will be conducted during the 500 kHz silence periods. Care must be exercised not to so prolong and space the dash portion of the ''VVV'' series as to form the alarm signal.

(c) When testing is conducted on any frequency in the band 8362–8366 kHz, tests must not actuate any automatic alarm receiver.

§80.99 Radiotelegraph station identification.

This section applies to coast, ship and survival craft stations authorized to transmit in the band 405–525 kHz.

(a) The station transmitting radiotelegraph emissions must be identified by its call sign. The call sign must be transmitted with the telegraphy emission normally used by the station. The call sign must be transmitted at 20 minute intervals when transmission is sustained for more than 20 minutes. When a ship station is exchanging public correspondence communications, the identification may be deferred until completion of each communication with any other station.

(b) The requirements of this section do not apply to survival craft stations when transmitting distress signals automatically or when operating on 121.500 MHz for radiobeacon purposes.

(c) Emergency position indicating radiobeacon stations do not require identification.

§80.100 Morse code requirement.

The code employed for telegraphy must be the Morse code specified in the Telegraph Regulations annexed to the International Telecommunication Convention. Pertinent extracts from the Telegraph Regulations are contained in the ''Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services'' published by the International Telecommunication Union.

§80.101 Radiotelephone testing procedures.

This section is applicable to all stations using telephony except where otherwise specified.

(a) Station licensees must not cause harmful interference. When radiation is necessary or unavoidable, the testing procedure described below must be followed:

(1) The operator must not interfere with transmissions in progress.

(2) The testing station's call sign, followed by the word ''test'', must be announced on the radio-channel being used for the test.

(3) If any station responds ''wait'', the test must be suspended for a minimum of 30 seconds, then repeat the call sign followed by the word ''test'' and listen again for a response. To continue the test, the operator must use counts or phrases which do not conflict with normal operating signals, and must end with the station's call sign. Test signals must not exceed ten seconds, and must not be repeated until at least one minute has elapsed. On the frequency 2182 kHz or 156.800 MHz, the time between tests must be a minimum of five minutes.

(b) Testing of transmitters must be confined to single frequency channels on working frequencies. However, 2182 kHz and 156.800 MHz may be used to contact ship or coast stations as appropriate when signal reports are necessary. Short tests on 2182 kHz by vessels with DSB (A3) equipment for distress and safety purposes are permitted to evaluate the compatibility of that equipment with an A3J emission system. U.S. Coast Guard stations may be contacted on 2182 kHz or 156.800 MHz for test purposes only when tests are being conducted during inspections by Commission representatives, when qualified radio technicians are installing or repairing the station radiotelephone equipment, or when qualified ship's personnel conduct an operational check requested by the U.S. Coast Guard. In these cases the test must be identified as ''FCC'' or ''technical''.

(c) Survival craft transmitter tests must not be made within actuating range of automatic alarm receivers. Survival craft transmitters must not be tested on the frequency 500 kHz during the silence periods.

§80.102 Radiotelephone station identification.

This section applies to all stations using telephony which are subject to this part.

(a) Except as provided in paragraphs (d) and (e) of this section, stations must give the call sign in English. Identification must be made:

(1) At the beginning and end of each communication with any other station.

(2) At 15 minute intervals when transmission is sustained for more than 15 minutes. When public correspondence is being exchanged with a ship or aircraft station, the identification may be deferred until the completion of the communications.

(b) Private coast stations located at drawbridges and transmitting on the navigation frequency 156.650 MHz may identify by use of the name of the bridge in lieu of the call sign.

(c) Ship stations transmitting on any authorized VHF bridge-to-bridge channel may be identified by the name of the ship in lieu of the call sign.

(d) Ship stations operating in a vessel traffic service system or on a waterway under the control of a U.S. Government agency or a foreign authoriy, when communicating with such an agency or authority may be identified by the name of the ship in lieu of the call sign, or as directed by the agency or foreign authority.

(e) VHF public coast station may identify by means of the approximate geographic location of the station or the area it serves when it is the only VHF public coast station serving the location or there will be no conflict with the identification of any other station.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35244, Sept. 18, 1987]

§ 80.103 Digital selective calling (DSC) operating procedures.

(a) Operating procedures for the use of DSC equipment in the maritime mobile service are as contained in CCIR Recommendation 541 as modified by paragraph (c) of this section.

(b) When using DSC techniques, coast and ship stations must use nine digit maritime mobile service identities.

(c) DSC acknowledgement of DSC distress and safety calls must be made by designated coast stations and such acknowledgement must be in accordance with procedures contained in CCIR Recommendation 541. Nondesignated public and private coast stations must follow the guidance provided for ship stations in CCIR Recommendation 541 with respect to DSC ''Acknowledgement of distress calls'' and ''Distress relays''.

§ 80.104 Identification of radar transmissions not authorized.

This section applies to all maritime radar transmitters except radar beacon stations.

(a) Radar transmitters must not transmit station identification.

(b) [Reserved]

OPERATING PROCEDURES—LAND STATIONS

§ 80.105 General obligations of coast stations.

Each coast station or marine-utility station must acknowledge and receive all calls directed to it by ship or aircraft stations. Such stations are permitted to transmit safety communication to any ship or aircraft station.

§ 80.106 Intercommunication in the mobile service.

(a) Each public coast station must exchange radio communications with any ship or aircraft station at sea; and each station on shipboard or aircraft at sea must exchange radio communications with any other station on shipboard or aircraft at sea or with any public coast station.

(b) Each public coast station must acknowledge and receive all communications from mobile stations directed to it, transmit all communications delivered to it which are directed to mobile stations within range in accordance with their tariffs. Discrimination in service is prohibited.

§ 80.107 Service of private coast stations and marine-utility stations.

A private coast station or a marine-utility station is authorized to transmit messages necessary for the private business and operational needs of ships and the safety of aircraft.

§ 80.108 Transmission of traffic lists by coast stations.

(a) Each coast station is authorized to transmit lists of call signs in alphabetical order of all mobile stations for which they have traffic on hand. These traffic lists will be transmitted on the station's normal working frequencies at intervals of:

(1) In the case of telegraphy, at least two hours and not more than four hours during the working hours of the coast station.

(2) In the case of radiotelephony, at least one hour and not more than four hours during the working hours of the coast station.

(b) The announcement must be as brief as possible and must not be repeated more than twice. Coast stations may announce on a calling frequency that they are about to transmit call lists on a specific working frequency.

§80.109 Transmission to a plurality of mobile stations by a public coast station.

Group calls to vessels under the common control of a single entity and information for the general benefit of mariners including storm warnings, ordinary weather, hydrographic information and press materials may be transmitted by a public coast station simultaneously to a plurality of mobile stations.

§80.110 Inspection and maintenance of antenna structure markings and associated control equipment.

The owner of each antenna structure required to be painted and/or illuminated under the provisions of Section 303(q) of the Communications Act of 1934, as amended, shall operate and maintain the antenna structure painting and lighting in accordance with part 17 of this chapter. In the event of default by the owner, each licensee or permittee shall be individually responsible for conforming to the requirements pertaining to antenna structure painting and lighting.

[61 FR 4368, Feb. 6, 1996]

§80.111 Radiotelephone operating procedures for coast stations.

This section applies to all coast stations using telephony which are subject to this part.

(a) *Limitations on calling.* (1) Except when transmitting a general call to all stations for announcing or preceding the transmission of distress, urgency, or safety messages, a coast station must call the particular station(s) with which it intends to communicate.

(2) Coast stations must call ship stations by voice unless it is known that the particular ship station may be contacted by other means such as automatic actuation of a selective ringing or calling device.

(3) Coast stations may be authorized emission for selective calling on each working frequency.

(4) Calling a particular station must not continue for more than one minute in each instance. If the called station does not reply, that station must not again be called for two minutes. When a called station does not reply to a call sent three times at intervals of two minutes, the calling must cease for fifteen minutes. However, if harmful interference will not be caused to other communications in progress, the call may be repeated after three minutes.

(5) A coast station must not attempt to communicate with a ship station that has specifically called another coast station until it becomes evident that the called station does not answer, or that communication between the ship station and the called station cannot be carried on because of unsatisfactory operating conditions.

(6) Calls to establish communication must be initiated on an available common working frequency when such a frequency exists and it is known that the called ship maintains a simultaneous watch on the common working frequency and the appropriate calling frequency(ies).

(b) *Time limitation on calling frequency.* Transmissions by coast stations on 2182 kHz or 156.800 MHz must be minimized and any one exchange of communications must not exceed one minute in duration.

(c) *Change to working frequency.* After establishing communications with another station by call and reply on 2182 kHz or 156.800 MHz coast stations must change to an authorized working channel for the transmission of messages.

(d) *Use of busy signal.* A coast station, when communicating with a ship station which transmits to the coast station on a radio channel which is a different channel from that used by the coast station for transmission, may transmit a ''busy'' signal whenever transmission from the ship station is being received. The characteristics of the ''busy'' signal are contained in §80.74.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35244, Sept. 18, 1987]

OPERATING PROCEDURES—SHIP STATIONS

§ 80.114 Authority of the master.

(a) The service of each ship station must at all times be under the ultimate control of the master, who must require that each operator or such station comply with the Radio Regulations in force and that the ship station is used in accordance with those regulations.

(b) These rules are waived when the vessel is under the control of the U.S. Government.

§ 80.115 Operational conditions for use of associated ship units.

(a) Associated ship units may be operated under a ship station authorization. Use of an associated ship unit is restricted as follows;

(1) It must only be operated on the safety and calling frequency 156.800 MHz or on commercial or noncommercial VHF intership frequencies appropriate to the class of ship station with which it is associated.

(2) Except for safety purposes, it must only be used to communicate with the ship station with which it is associated or with associated ship units of the same ship station. Such associated ship units may not be used from shore.

(3) It must be equipped to transmit on the frequency 156.800 MHz and at least one appropriate intership frequency.

(4) Calling must occur on the frequency 156.800 MHz unless calling and working on an intership frequency has been prearranged.

(5) Power is limited to one watt.

(6) The station must be identified by the call sign of the ship station with which it is associated and an appropriate unit designator.

(b) State or local government vehicles used to tow vessels involved in search and rescue operations are authorized to operate on maritime mobile frequencies as associated ship units. Such operations must be in accordance with paragraph (a) of this section, except that the associated ship unit: May be operated from shore; may use Distress, Safety and Calling, Intership Safety, Liaison, U.S. Coast Guard, or Maritime Control VHF intership frequencies; and may have a transmitter power of 25 watts.

§ 80.116 Radiotelephone operating procedures for ship stations.

(a) *Calling coast stations.* (1) Use by ship stations of the freqency 2182 kHz for calling coast stations and for replying to calls from coast stations is authorized. However, such calls and replies should be on the appropriate ship-shore working frequency.

(2) Use by ship stations and marine utility stations of the frequency 156.800 MHz for calling coast stations and marine utility stations on shore, and for replying to calls from such stations, is authorized. However, such calls and replies should be made on the appropriate ship-shore working frequency.

(b) *Calling ship stations.* (1) Except when other operating procedure is used to expedite safety communication, ship stations, before transmitting on the intership working frequencies 2003, 2142, 2638, 2738, or 2830 kHz, must first establish communications with other ship stations by call and reply on 2182 kHz. Calls may be initiated on an intership working frequency when it is known that the called vessel maintains a simultaneous watch on the working frequency and on 2182 kHz.

(2) Except when other operating procedures are used to expedite safety communications, the frequency 156.800 MHz must be used for call and reply by ship stations and marine utility stations before establishing communication on one of the intership working frequencies. Calls may be initiated on an intership working frequency when it is known that the called vessel maintains a simultaneous watch on the working frequency and on 156.800 MHz.

(c) *Change to working frequency.* After establishing communication with another station by call and reply on 2182 kHz or 156.800 MHz stations on board ship must change to an authorized working frequency for the transmission of messages.

(d) *Limitations on calling.* Calling a particular station must not continue for more than 30 seconds in each instance. If the called station does not reply, the station must not again be

called until after an interval of 2 minutes. When a called station called does not reply to a call sent three times at intervals of 2 minutes, the calling must cease and must not be renewed until after an interval of 15 minutes; however, if there is no reason to believe that harmful interference will be caused to other communications in progress, the call sent three times at intervals of 2 minutes may be repeated after a pause of not less than 3 minutes. In event of an emergency involving safety, the provisions of this paragraph do not apply.

(e) *Limitations on working.* Any one exchange of communications between any two ship stations on 2003, 2142, 2638, 2738, or 2830 kHz or between a ship station and a private coast station on 2738 or 2830 kHz must not exceed 3 minutes after the stations have established contact. Subsequent to such exchange of communications, the same two stations must not again use 2003, 2142, 2638, 2738, or 2830 kHz for communication with each other until 10 minutes have elapsed.

(f) *Transmission limitation on 2182 kHz and 156.800 MHz.* To facilitate the reception of distress calls, all transmissions on 2182 kHz and 156.800 MHz (channel 16) must be minimized and transmissions on 156.800 MHz must not exceed 1 minute.

(g) *Limitations on commercial communication.* On frequencies in the band 156–162 MHz, the exchange of commercial communication must be limited to the minimum practicable transmission time. In the conduct of ship-shore communication other than distress, stations on board ship must comply with instructions given by the private coast station or marine utility station on shore with which they are communicating.

(h) *2182 kHz silence periods.* To facilitate the reception of distress calls, transmission by ship or survival craft stations is prohibited on any frequency (including 2182 kHz) within the band 2173.5–2190.5 kHz during each 2182 kHz silence period.

SPECIAL PROCEDURES—PUBLIC COAST STATIONS

§80.121 Public coast stations using telegraphy.

(a) *Narrow-band direct-printing (NB–DP) operating procedures.* (1) When both terminals of the NB–DP circuit are satisfied that the circuit is in operable condition, the message preamble must be transmitted in the following format:

(i) One carriage return and one line feed,

(ii) Serial number or number of the message,

(iii) The name of the office of origin,

(iv) The number of words,

(v) The date of handing in of the message,

(vi) The time of handing in of the message, and

(vii) Any service instructions. (See The ITU ''Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services''.)

(2) Upon completion of transmission of the preamble, the address, text and signature must be transmitted as received from the sender.

(3) Upon completion of transmission of the signature the coast station must, following the signal ''COL'', routinely repeat all service indications in the address and for figures or mixed groups of letters, figures or signs in the address, text or signature.

(4) In telegrams of more than 50 words, routine repetition must be given at the end of each page.

(5) Paragraphs (a) (1) through (4) of this section need not be followed when a direct connection is employed.

(6) In calling ship stations by narrow-band direct-printing, the coast station must use the ship station selective calling number (5 digits) and its assigned coast station identification number (4 digits). Calls to ship stations must employ the following format: Ship station selective call number, repeated twice; ''DE'', sent once; and coast station identification number, repeated twice. When the ship station does not reply to a call sent three times at intervals of two minutes, the

calling must cease and must not be renewed until after an interval of fifteen minutes.

(7) A public coast station authorized to use NB–DP frequencies between 4000 kHz and 27500 kHz may use class A1A emission on the ''mark'' frequency for station identification and for establishing communications with ship stations. The radio station license must reflect authority for this type of operation, and harmful interference must not be caused.

(b) *Watch on ship calling frequencies.* (1) Public coast stations using telegraphy must maintain a continuous watch during their working hours for calls from ship stations on frequencies in the same band(s) in which the coast station is licensed to operate. See subpart H of this part.

(2) Such station must employ receivers which are capable of being accurately set to any designated calling frequency in each band for which the receiver is intended to operate. The time required to set the receiver to a frequency must not exceed five seconds. The receiver must have a long term frequency stability of not more than 50 Hz and a minimum sensitivity of two microvolts across receiver input terminals of 50 ohms, or equivalent. The audio harmonic distortion must not exceed five percent at any rated output power.

(c) *Radiotelegraph frequencies.* Radiotelegraph frequencies available for assignment to public coast stations are contained in subpart H of this part.

§ 80.122 Public coast stations using facsimile and data.

Facsimile operations are a form of telegraphy for the transmission and receipt of fixed images between authorized coast and ship stations. Facsimile and data techniques may be implemented in accordance with the following paragraphs.

(a) *Supplemental Eligibility Requirements.* Public coast stations are eligible to use facsimile and data techniques with ship stations.

(b) *Assignment and use of frequencies.* (1) Frequencies in the 2000–27500 kHz bands in part 2 of the Commission's rules as available for shared use by the maritime mobile service and other radio services are assignable to public coast stations for providing facsimile communications with ship stations. Additionally, frequencies in the 156–162 MHz band available for assignment to public coast stations for radiotelephone communications that are contained in subpart H of this part are also available for facsimile and data communications.

(2) Equipment used for facsimile and data operations is subject to the applicable provisions of subpart E of this part.

(3) The use of voice on frequencies authorized for facsimile operations in the bands 2000–27500 kHz listed in subpart H of this part is limited to setup and confirmation of receipt of facsimile transmissions.

[57 FR 43407, Sept. 21, 1992]

SPECIAL PROCEDURES—PRIVATE COAST STATIONS

§ 80.131 Radioprinter operations.

Radioprinter operations provide a relatively low cost system of record communications between authorized coast and ship stations in accordance with the following paragraphs.

(a) *Supplementary eligibility requirement.* A radioprinter authorization for a private coast station may be issued to the owner or operator of a ship of less than 1600 gross tons, a community of ships all of which are less than 1600 gross tons, or an association whose members operate ships of less than 1600 gross tons.

(b) *Scope of communications.* Only those communications which concern the business and operational needs of vessels are authorized.

(c) *Assignment and use of frequencies.* (1) Frequencies may be assigned to private coast stations for radioprinter use from the appropriate bands listed in subpart H of this part.

(2) Frequencies in the listed bands are shared with other radio services including the maritime mobile service. Each assigned frequency is available on a shared use basis only, not for the exclusive use of any one station or licensee.

(d) *Coast station responsibilities.* (1) Private coast stations must propose

frequencies and provide the names of ships to be served with the application.

(2) Private coast station licensees must provide copies of their license to all ships with which they are authorized to conduct radioprinter operations.

SPECIAL PROCEDURES—SHIP STATIONS

§80.141 General provisions for ship stations.

(a) *Points of communication.* Ship stations and marine utility stations on board ships are authorized to communicate with any station in the maritime mobile service.

(b) *Service requirements for all ship stations.* (1) Each ship station must receive and acknowledge all communications which are addressed to the ship or to any person on board.

(2) Every ship, on meeting with any direct danger to the navigation of other ships such as ice, a derelict vessel, a tropical storm, subfreezing air temperatures associated with gale force winds causing severe icing on superstructures, or winds of force 10 or above on the Beaufort scale for which no storm warning has been received, must transmit related information to ships in the vicinity and to the authorities on land unless such action has already been taken by another station. All such radio messages must be preceded by the safety signal.

(3) A ship station may accept communications for retransmission to any other station in the maritime mobile service. Whenever such messages or communications have been received and acknowledged by a ship station for this purpose, that station must retransmit the message as soon as possible.

(c) *Service requirements for vessels.* Each ship station provided for compliance with Part II of Title III of the Communications Act must provide a public correspondence service on voyages of more than 24 hours for any person who requests the service.

(1) Compulsory radiotelegraph ships must provide this service during the hours the radio operator is normally on duty.

(2) Compulsory radiotelephone ships must provide this service for at least four hours daily. The hours must be prominently posted at the principal operating location of the station.

(d) Operating conditions. Effective August 1, 1994, VHF hand-held, portable transmitters used while connected to an external power source or a ship antenna must be equipped with an automatic timing device that deactivates the transmitter and reverts the transmitter to the receive mode after an uninterrupted transmission period of five minutes, plus or minus 10 percent. Additionally, such transmitters must have a device that indicates when the automatic timer has deactivated the transmitter. See also §80.203(c).

[51 FR 31213, Sept. 2, 1986, as amended at 56 FR 57988, Nov. 15, 1991]

§80.142 Ships using radiotelegraphy.

(a) *Calling by narrow-band direct-printing.* (1) NB–DP ship stations must call United States public coast stations on frequencies designated for NB–DP operation.

(2) Where it is known that the coast station maintains a watch on working frequencies for ship station NB–DP calls the ship station must make its initial NB–DP call on those frequencies.

(3) Calls to a coast station or other ship station must employ the following format: Coast station identification number, repeated twice; ''DE'', sent once; and ship station selective call number, repeated twice. When the coast station does not reply to a call sent three times at intervals of two minutes, the calling must cease for fifteen minutes.

(b) *NB-DP operating procedure.* The operation of NB-DP equipment in the maritime mobile service must be in accordance with the operating procedures contained in the latest version of CCIR Recommendation 492 that does not prevent the use of existing equipment.

(c) *Required channels for radiotelegraphy.* (1) Each ship station using telegraphy on frequencies within the band 405–525 kHz must be capable of:

(i) Transmit and receive on 500 kHz using the authorized emissions, and

(ii) Transmit on at least two working frequencies and receive on all other frequencies necessary for their service using authorized emissions, and

(iii) When a radiotelegraph installation is compulsory, a fourth frequency within this band which is authorized specifically for direction finding must also be provided.

(2) Each ship station using telegraphy on frequencies within the band 90–160 kHz must be capable of transmitting and receiving Class A1A emission on the frequency 143 kHz, and on at least two additional working frequencies within this band except that portion between 140 kHz and 146 kHz.

(3) Each ship station using telegraphy and operating in the bands between 4000–27500 kHz must be capable of transmitting and receiving Class A1A or J2A emission on at least one frequency authorized for calling and at least two frequencies authorized for working in each of the bands for which facilities are provided to carry on its service.

(4) Each ship station using telegraphy in Region 2 on frequencies within the band 2065–2107 kHz must be capable of transmitting and receiving Class A1A or J2A emission on at least one frequency in this band authorized for working in addition to a frequency in this hand authorized for calling.

[51 FR 31213, Sept. 2, 1986, as amended at 54 FR 49993, Dec. 4, 1989]

§ 80.143 Required frequencies for radiotelephony.

(a) Except for compulsory vessels, each ship radiotelephone station licensed to operate in the band 1605–3500 kHz must be able to receive and transmit J3E emission on the frequency 2182 kHz. Ship stations are additionally authorized to receive and transmit H3E emission for communications with foreign coast stations and with vessels of foreign registry. If the station is used for other than safety communications, it must be capable also of receiving and transmitting the J3E emission on at least two other frequencies in that band. However, ship stations which operate exclusively on the Mississippi River and its connecting waterways, and on high frequency bands above 3500 kHz, need be equipped with 2182 kHz and one other frequency within the band 1605–3500 kHz. Additionally, use of A3E emission is permitted for distress and safety purposes on 2182 kHz for portable survival craft equipment also having the capability to operate on 500 kHz and for transmitters authorized for use prior to January 1, 1972.

(b) Except as provided in paragraph (c) of this section, at least one VHF radiotelephone transmitter/receiver must be able to transmit and receive on the following frequencies:

(1) The distress, safety and calling frequency 156.800 MHz;

(2) The primary intership safety frequency 156.300 MHz;

(3) One or more working frequencies; and

(4) All other frequencies necessary for its service.

(c) Where a ship ordinarily has no requirement for VHF communications, handheld VHF equipment may be used solely to comply with the bridge-to-bridge navigational communication requirements contained in subpart U of this part.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35244, Sept. 18, 1987]

§ 80.145 Class C EPIRB operational procedures.

Class C EPIRBs must be used for distress purposes only after use of the VHF/FM radiotelephone installation, in accordance with § 80.320, has proved unsuccessful or when a VHF/FM radiotelephone installation is not fitted, or when specifically requested to do so by a station engaged in search and rescue operations.

SHIPBOARD GENERAL PURPOSE WATCHES

§ 80.146 Watch on 500 kHz.

During their hours of service, ship stations using frequencies in the authorized bands between 405–525 kHz must, remain on watch on 500 kHz except when the operator is transmitting on 500 kHz or operating on another frequency. The provisions of this section do not relieve the ship from complying with the requirements for a safety watch as prescribed in §§ 80.304 and 80.305.

§ 80.147 Watch on 2182 kHz.

Ship stations must maintain a watch on 2182 kHz as prescribed by § 80.304(b).

§80.148 Watch on 156.8 MHz (Channel 16).

At least one VHF ship station per compulsory vessel while underway must maintain a watch on 156.800 MHz whenever such station is not being used for exchanging communications. The watch is not required:

(a) Where a ship station is operating only with handheld bridge-to-bridge VHF radio equipment under §80.143(c) of this part;

(b) For vessels subject to the Bridge-to-Bridge Act and participating in a Vessel Traffic Service (VTS) system when the watch is maintained on both the bridge-to-bridge frequency and a separately assigned VTS frequency; or

(c) For a station on board a voluntary vessel equipped with digital selective calling (DSC) equipment, maintaining a continuous DSC watch on 156.525 MHz whenever such station is not being used for exchanging communications, and while such station is within the VHF service area of a U.S. Coast Guard radio facility which is DSC equipped.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 16504, Mar. 29, 1993]

VIOLATIONS

§80.149 Answer to notice of violation.

(a) Any person receiving official notice of violation of the terms of the Communications Act, any legislative act, executive order, treaty to which the United States is a party, terms of a station or operator license, or the rules and regulations of the Federal Communications Commission must within 10 days from such receipt, send a written answer, in duplicate, to the office of the Commission originating the official notice. If an answer cannot be sent or an acknowledgment made within such 10-day period by reason of illness or other unavoidable circumstances, acknowledgment and answer must be made at the earliest practicable date with a satisfactory explanation of the delay. The answer to each notice must be complete in itself and must not be abbreviated by references to other communications or answers to other notices. The answer must contain a full explanation of the incident involved and must set forth the action taken to prevent a continuation or recurrence. If the notice relates to lack of attention to or improper operation of the station or to log or watch discrepancies, the answer must give the name and license number of the licensed operator on duty.

(b) When an official notice of violation, impending violation, or discrepancy, pertaining to any provision of Part II of Title III of the Communications Act or the radio provisions of the Safety Convention, is served upon the master or person responsible for a vessel and any instructions appearing on such document issued by a representative of the Commission are at variance with the content of paragraph (a) of this section, the instructions issued by the Commission's representative supersede those set forth in paragraph (a) of this section.

Subpart D—Operator Requirements

§80.151 Classification of operator licenses and endorsements.

(a) Commercial radio operator licenses issued by the Commission are classified in accordance with the Radio Regulations of the International Telecommunication Union.

(b) The following licenses are issued by the Commission. International classification, if different from the license name, is given in parentheses. The licenses and their alphanumeric designator are listed in descending order.

(1) T–1. First Class Radiotelegraph Operator's Certificate.

(2) T–2. Second Class Radiotelegraph Operator's Certificate.

(3) G. General Radiotelephone Operator License (radiotelephone operator's general certificate).

(4) T–3. Third Class Radiotelegraph Operator's Certificate (radiotelegraph operator's special certificate).

(5) MP. Marine Radio Operator Permit (radiotelephone operator's restricted certificate).

(6) RP. Restricted Radiotelephone Operator Permit (radiotelephone operator's restricted certificate).

(c) The following license endorsements are affixed by the Commission

to provide special authorizations or restrictions. Applicable licenses are given in parentheses.

(1) Ship Radar endorsement (First and Second Class Radiotelegraph Operator's Certificate, General Radiotelephone Operator License).

(2) Six Months Service endorsement (First and Second Class Radiotelegraph Operator's Certificate).

(3) Restrictive endorsements; relating to physical handicaps, English language or literacy waivers, or other matters (all licenses).

COAST STATION OPERATOR REQUIREMENTS

§ 80.153 Coast station operator requirements.

(a) Except as provided in § 80.179, operation of a coast station transmitter must be performed by a person holding a commercial radio operator license of the required class, who is on duty at the control point of the station. The operator is responsible for the proper operation of the station.

(b) The minimum class of radio operator license required for operation of each specific classification of station is set forth below:

Minimum Operator License

Public coast telegraph, all classes—T–2.

—Manual Morse under supervision of T1 or T2—T–3.

—NB–DP under supervision of T1 or T2—T–3, G or MP.

Coast telephone, all classes:

—Exceeding 250 watts carrier power or 1,500 watts peak envelope power—T–2 or G.

Except in Alaska regional and local area stations—T–3, G or MP.

—250 watts or less carrier power or 1,500 watts or less peak envelope power operating on frequencies below 30 MHz—T–3, G or MP.

Except in Alaska—None.

—250 watts or less carrier power operating on frequencies above 30 MHz—None.

(c) *Special Operating Conditions*: (1) When a coast telephone station of any class is used to transmit manual telegraphy the telegraph key operator must hold a third-class or higher radiotelegraph operator's license.

(2) An operational fixed station associated with a coast station may be operated by the operator of the associated coast station.

[51 FR 31213, Sept. 2, 1986, as amended at 54 FR 10008, Mar. 9, 1989; 54 FR 40058, Sept. 29, 1989]

SHIP STATION OPERATOR REQUIREMENTS

§ 80.155 Ship station operator requirements.

Except as provided in §§ 80.177 and 80.179, operation of transmitters of any ship station must be performed by a person holding a commercial radio operator license or permit of the class required below. The operator is responsible for the proper operation of the station.

[54 FR 10008, Mar. 9, 1989]

§ 80.156 Control by operator.

The operator on board ships required to have a holder of a commercial operator license or permit on board may, if authorized by the station licensee or master, permit an unlicensed person to modulate the transmitting apparatus for all modes of communication except Morse code radiotelegraphy.

[51 FR 34984, Oct. 1, 1986]

§ 80.157 Radio officer defined.

A *radio officer* means a person holding a first or second class radiotelegraph operator's certificate issued by the Commission who is employed to operate a ship radio station in compliance with Part II of Title III of the Communications Act. Such a person is also required to be licensed as a *radio officer* by the U.S. Coast Guard when employed to operate a ship radiotelegraph station.

[53 FR 46455, Nov. 17, 1988]

§ 80.159 Operator requirements of Title III of the Communications Act and the Safety Convention.

(a) Each telegraphy passenger ship equipped with a radiotelegraph station in accordance with Part II of Title III of the Communications Act must carry one radio officer holding a first or second class radiotelegraph operator's certificate and a second radio officer holding either a first or second class radiotelegraph operator's certificate. The holder of a second class radiotelegraph

operator's certificate may not act as the chief radio officer.

(b) Each cargo ship equipped with a radiotelegraph station in accordance with Part II of Title III of the Communications Act and which has a radiotelegraph auto alarm must carry a radio officer holding a first or second class radiotelegraph operator's certificate who has had at least six months service as a radio officer on board U.S. ships. If the radiotelegraph station does not have an auto alarm, a second radio officer who holds a first or second class radiotelegraph operator's certificate must be carried.

(c) Each cargo ship equipped with a radiotelephone station in accordance with Part II of Title III of the Communications Act must carry a radio operator who meets the following requirements:

(1) Where the station power does not exceed 1500 watts peak envelope power, the operator must hold a marine radio operator permit or higher class license.

(2) Where the station power exceeds 1500 watts peak envelope power, the operator must hold a general radiotelephone radio operator license or higher class license.

(d) Each ship transporting more than six passengers for hire equipped with a radiotelephone station in accordance with Part III of Title III of the Communications Act must carry a radio operator who meets the following requirements:

(1) Where the station power does not exceed 250 watts carrier power or 1500 watts peak envelope power, the radio operator must hold a marine radio operator permit or higher class license.

(2) Where the station power exceeds 250 watts carrier power or 1500 watts peak envelope power, the radio operator must hold a general radiotelephone operator license or higher class license.

[51 FR 31213, Sept. 2, 1986, as amended at 54 FR 40058, Sept. 29, 1989]

§80.161 Operator requirements of the Great Lakes Radio Agreement.

Each ship subject to the Great Lakes Radio Agreement must have on board an officer or member of the crew who holds a marine radio operator permit or higher class license.

§80.163 Operator requirements of the Bridge-to-Bridge Act.

Each ship subject to the Bridge-to-Bridge Act must have on board a radio operator who holds a restricted radiotelephone operator permit or higher class license.

§80.165 Operator requirements for voluntary stations.

	Minimum operator license
Ship Morse telegraph	T–2.
Ship direct-printing telegraph	MP.
Ship telephone, more than 250 watts carrier power or 1,000 watts peak envelope power.	G.
Ship telephone, not more than 250 watts carrier power or 1,000 watts peak envelope power.	MP.
Ship telephone, not more than 100 watts carrier power or 400 watts peak envelope power:	
Above 30 MHz	None.[1]
Below 30 MHz	RP.
Ship earth station	RP.

[1] RP required for international voyage.

General Operator Requirements

§80.167 Limitations on operators.

The operator of maritime radio equipment other than T–1, T–2, or G licensees, must not:

(a) Make equipment adjustments which may affect transmitter operation;

(b) Operate any transmitter which requires more than the use of simple external switches or manual frequency selection or transmitters whose frequency stability is not maintained by the transmitter itself.

§80.169 Operators required to adjust transmitters or radar.

(a) All adjustments of radio transmitters in any radiotelephone station or coincident with the installation, servicing, or maintenance of such equipment which may affect the proper operation of the station, must be performed by or under the immediate supervision and responsibility of a person holding a first or second class radiotelegraph operator's certificate or a general radiotelephone operator license.

(b) Only persons holding a first or second class radiotelegraph operator

certificate must perform such functions at radiotelegraph stations transmitting Morse code.

(c) Only persons holding an operator certificate containing a ship radar endorsement must perform such functions on radar equipment.

[51 FR 31213, Sept. 2, 1986, as amended at 54 FR 40058, Sept. 29, 1989]

§ 80.175 Availability of operator licenses.

All operator licenses required by this subpart must be readily available for inspection.

§ 80.177 When operator license is not required.

(a) No radio operator authorization is required to operate:

(1) A shore radar, a shore radiolocation, maritime support or shore radionavigation station;

(2) A survival craft station or an emergency position indicating radio beacon;

(3) A ship radar station if:

(i) The radar frequency is determined by a nontunable, pulse type magnetron or other fixed tuned device, and

(ii) The radar is capable of being operated exclusively by external controls;

(4) An on board station; or

(5) A ship station operating in the VHF band on board a ship voluntarily equipped with radio and sailing on a domestic voyage.

(b) No radio operator license is required to install a VHF transmitter in a ship station if the installation is made by, or under the supervision of, the licensee of the ship station and if modifications to the transmitter other than front panel controls are not made.

(c) No operator license is required to operate coast stations of 250 watts or less carrier power or 1500 watts or less peak envelope power operating on frequencies above 30 MHz, or marine utility stations.

(d) No radio operator license is required to install a radar station on a voluntarily equipped ship when a manual is included with the equipment that provides step-by-step instructions for the installation, calibration, and operation of the radar. The installation must be made by, or under the supervision of, the licensee of that ship station and no modifications or adjustments other than to the front panel controls are to be made to the equipment.

[51 FR 31213, Sept. 2, 1986, as amended at 53 FR 41434, Oct. 28, 1987]

§ 80.179 Unattended operation.

The following unattended transmitter operations are authorized:

(a) EPIRB operations when emergency conditions preclude attendance of the EPIRB transmitter by a person.

(b) Automatic use of a transmitter during narrow band-direct printing (NB–DP) operations in accordance with CCIR Recommendation 476 or 625.

(c) Automatic use of a transmitter during digital selective calling (DSC) operations in accordance with CCIR Recommendations 493 and 541.

(d) Automatic use of transmitter when operating as part of the Automated Maritime Telecommunications System (AMTS) or an automated multi-station system for which provisions are contained in this part.

(e) Automatic use of a VHF transmitter to send brief digital communications relating to the condition or safety of vessels while moored when all of the following conditions are met:

(1) The equipment must be using DSC in accordance with CCIR Recommendations 493 and 541 as modified by this section.

(2) Sensors must automatically activate the transmitter only under one or more of the following conditions:

(i) Fire, explosion;

(ii) Flooding;

(iii) Collision;

(iv) Grounding;

(v) Listing, in danger of capsizing;

(vi) Sinking;

(vii) Disabled and adrift; and

(viii) Undesignated condition related to ship safety.

(3) The ''ROUTINE'' DSC category must be used.

(4) Communications must be selectively addressed to an individual station.

(5) Transmitter output power must not exceed one watt.

(6) The call must employ a fixed format and must be in conformity with Recommendation 493 as follows:

Format specifier: Individual call—symbol 120 sent twice.

Address: 9 digit maritime mobile service identity of called station.

Category: Routine—symbol 100.

Self-identification: 9 digit ship station identity.

Message 1: Telecommand symbol 126 sent twice.

Message 2: Telecommand symbol 126 sent 6 times.

End of sequence: Symbol 127.

Error-check character: Check sum.

(7) Such transmissions are permitted only on channel 70 and the transmitter must be inhibited automatically whenever there is another call in progress on Channel 70.

(8) The call sequence for any one alarm must not be repeated until after an interval of at least five seconds. Further repetition is permitted only after intervals of at least fifteen minutes each. Repetitions following fifteen-minute waiting intervals must not exceed three.

[54 FR 10008, Mar. 9, 1989]

Subpart E—General Technical Standards

§80.201 Scope.

This subpart gives the general technical requirements for the use of frequencies and equipment in the maritime services. These requirements include standards for equipment authorization, frequency tolerance, modulation, emission, power and bandwidth.

§80.203 Authorization of transmitters for licensing.

(a) Each transmitter authorized in a station in the maritime services after September 30, 1986, except as indicated in paragraphs (g), (h) and (i) of this section, must be type accepted by the Commission for part 80 operations. The procedures for type acceptance are contained in part 2 of this chapter. Transmitters of a model type accepted or type approved before October 1, 1986 will be considered type accepted for use in ship or coast stations as appropriate.

(b) The external controls, of maritime station transmitters capable of operation in the 156–162 MHz band and manufactured in or imported into the United States after August 1, 1990, or sold or installed after August 1, 1991, must provide for selection of only maritime channels for which the maritime station is authorized. Such transmitters must not be capable of being programmed by station operators using external controls to transmit on channels other than those programmed by the manufacturer, service or maintenance personnel.

(1) Any manufacturer procedures and special devices for programming must only be made available to service companies employing licensed service and maintenance personnel that meet the requirements of §80.169(a) and must not be made available with information normally provided to consumers.

(2) The channels preprogrammed by manufacturers, service and maintenance personnel for selection by the external controls of a maritime station transmitter must be limited to those channels listed in this part and the duplex channels listed in Appendix 18 of the international Radio Regulations. The duplex channels listed in Appendix 18 of the international Radio Regulations must be used only in the specified duplex mode. Simplex operations on Appendix 18 duplex channels that are not in accordance with this part are prohibited.

(3) Programming of authorized channels must be performed only by a person holding a first or second class radiotelegraph operator's certificate or a general radiotelephone operator's license using any of the following procedures:

(i) Internal adjustment of the transmitter;

(ii) Use of controls normally inaccessible to the station operator;

(iii) Use of external devices or equipment modules made available only to service and maintenance personnel through a service company; and

(iv) Copying of a channel selection program directly from another transmitter (cloning) using devices and procedures made available only to service and maintenance personnel through a service company.

(4) VHF maritime radio station transmitters capable of being programmed by station operators by

means of external controls that are installed in a maritime station by August 1, 1991, are authorized for use indefinitely at the same maritime station.

(c) All VHF ship station transmitters that are either manufactured in or imported into the United States, on or after August 1, 1993, or are initially installed on or after August 1, 1994, must be equipped with an automatic timing device that deactivates the transmitter and reverts the transmitter to the receive mode after an uninterrupted transmission period of five minutes, plus or minus 10 per cent. Additionally, such transmitters must have a device that indicates when the automatic timer has deactivated the transmitter. VHF ship station transmitters initially installed before August 1, 1994, are authorized for use indefinitely at the same maritime station. VHF handheld, portable transmitters are not required to comply with the requirements in paragraph (c) of this section except when used as described in § 80.141.

(d) Except for radar equipment, applicants for type acceptance of radio equipment designed to satisfy Part II of Title III of the Communications Act or the Safety Convention must also submit with their application a working unit of the type for which type acceptance is desired. Manufacturers of radar equipment intended for installation on voluntarily equipped ships by persons without FCC operators license must include with their equipment authorization application a manual that provides step-by-step procedures for the installation, calibration, and operation of the radar stations.

(e) Double sideband (DSB) radiotelephone equipment operating in the 1605–27500 kHz band will be authorized only for use in ship stations. Such equipment must comply with Chapter IV of the Safety Convention, operate only on the frequency 2182 kHz, and be marked ''Distress and Safety Use Only''.

(f) Transmitters type accepted for single sideband suppressed carrier radiotelephone transmissions may be used for facsimile transmissions without filing for a type acceptance modification provided the transmitters retain type acceptance and comply with the applicable standards in this part.

(g) Manufacturers of ship earth station transmitters intended for use in the INMARSAT space segment must comply with the verification procedures given in part 2 of this chapter. Such equipment must be verified in accordance with the technical requirements provided by INMARSAT and must be type approved by INMARSAT for use in the INMARSAT space segment. The ship earth station input/output parameters, the data obtained when the equipment is integrated in system configuration and the pertinent method of test procedures that are used for type approval of the station model which are essential for the compatible operation of that station in the INMARSAT space segment must be disclosed by the manufacturer upon request of the FCC or the United States Signatory. Witnessing of the type approval tests and the disclosure of the ship earth station equipment design or any other information of a proprietary nature will be at the discretion of the ship earth station manufacturer. Transmitters of a model that was type accepted by MARISAT for use in its system will be considered verified for use in the INMARSAT system. However, the continued use of such equipment will not be permitted after September 1, 1991, unless verified under the Commission's procedures.

(h) In addition to the type acceptance requirements contained in part 2 of this chapter applicants for type acceptance of 406.025 MHz radiobeacons must also comply with the type acceptance procedures contained in § 80.1061 of this part.

(i) Type acceptance is not required for U.S. Government furnished transmitters to fulfill a U.S. Government contract. However, such transmitters must comply with all technical requirements in this part.

(j) Type acceptance is not required for transmitters authorized for developmental stations.

(k) Type acceptance of individual radio transmitters requested by station applicants or licensees must also follow the type acceptance procedure in paragraph (a) of this section. However, operation of such transmitters must be

limited to the specific units individually identified on the station authorization. Such transmitters will not be included in the Commission's ''Radio Equipment List''.

(l) Ship station transmitters may be type accepted for emissions not shown in § 80.205 of this part. However, such emissions are not authorized for use in the United States or for communications with U.S. coast stations.

(m) Ship station MF, HF, and VHF transmitters may employ external or internal devices to send synthesized voice transmissions for distress and safety purposes on any distress and safety frequency authorized for radiotelephony listed in § 80.369 provided the following requirements are met:

(1) The technical characteristics of the distress transmissions must comply with this part.

(2) A transmitter and any internal device capable of transmitting a synthesized voice message must be type accepted as an integral unit.

(3) The synthesized voice distress transmission must begin with the words ''this is a recording'' and should be comprised of at least:

(i) the radiotelephone distress call as described in § 80.315(b) and the ship's position as described in § 80.316(c); or

(ii) the radiotelephone distress message as described in § 80.316(b). If available, the ship's position should be reported as described in § 80.316(c).

(4) Such transmission must be initiated manually by an off-switch that is protected from inadvertent activation and must cause the transmitter to switch to an appropriate distress and safety frequency. The radiotelephone distress call and message described in §§ 80.203(m)(3) (i) and (ii), respectively, may be repeated. However, the entire transmission including repeats must not exceed 45 seconds from beginning to end. Upon ending the transceiver must return to the receive mode and must not be capable of sending the synthesized distress call for at least thirty seconds. Placing the switch to the off position must stop the distress transmission and permit the transmitter to be used to send and receive standard voice communications.

(5) Use of the microphone must cause the synthesized voice distress transmission to cease and allow the immediate use of the transmitter for sending and receiving standard voice communications.

[51 FR 31213, Sept. 2, 1986, as amended at 53 FR 41434, Oct. 28, 1987; 53 FR 37308, Sept. 26, 1988; 54 FR 31839, Aug. 2, 1989; 56 FR 3787, Jan. 31, 1991; 56 FR 57496, Nov. 12, 1991; 56 FR 57988, Nov. 15, 1991; 57 FR 8727, Mar. 12, 1992]

§ 80.205 Bandwidths.

(a) An emission designator shows the necessary bandwidth for each class of emission of a station except that in ship earth stations it shows the occupied or necessary bandwidth, whichever is greater. The following table gives the class of emission and corresponding emission designator and authorized bandwidth:

Class of emission	Emission designator	Authorized bandwidth (kHz)
A1A	160HA1A	0.4
A1B [1]	160HA1B	0.4
A1D [12]	16K0A1D	20.0
A2A	2K66A2A	2.8
A2B [1]	2K66A2B	2.8
A2D [12]	16K0A2D	20.0
A3E	6K00A3E	8.0
A3N [2]	2K66A3N	2.8
A3X [3]	3K20A3X	25.0
F1B [4]	280HF1B	0.3
F1B [5]	300HF1B	0.5
F1B [6]	16KOF1B	20.0
F1C	2K80F1C	3.0
F1D [12]	16K0F1D	20.0
F2B [6]	16KOF2B	20.0
F2C [7]	16KOF2C	20.0
F2D [12]	16K0F2D	20.0
F3C	2K80F3C	3.0
F3C [7]	16KOF3C	20.0
F3E [8]	16KOF3E	20.0
F3N [9]	20MOF3N	20,000.0
G1D [12]	16K0G1D	20.0
G2D [12]	16K0G2D	20.0
G3D [10]	16KOG3D	20.0
G3E [8]	16KOG3E	20.0
G3N [3 13]	16KOG3N	20.0
H2A	1K40H2A	2.8
H2B [1]	1K40H2B	2.8
H3E [11]	2K80H3E	3.0
H3N	2K66H3N	2.8
J2A	160HJ2A	0.4
J2B [4]	280HJ2B	0.3
J2B	300HJ2B	0.5
J2B	2K80J2B	3.0
J2C	2K80J2C	3.0
J3C	2K80J3C	3.0
J3E [11]	2K80J3E	3.0
J3N	160HJ3N	0.4
NON	NON	0.4
PON	([12])	([12])
R3E [11]	2K80R3E	3.0

[1] On 500 kHz and 2182 kHz A1B, A2B, H2B and J2B emissions indicate transmission of the auto alarm signals.

[2] Applicable only to transmissions in the 405–525 kHz band for direction finding.
[3] Applicable only to EPIRB's.
[4] Radioprinter transmissions for communications with private coast stations.
[5] NB–DP radiotelegraph and data transmissions for communications with public coast stations.
[6] Applicable only to radioprinter and data in the 156–162 MHz band and radioprinter in the 216–220 MHz band.
[7] Applicable only to facsimile in the 156–162 MHz and 216–220 MHz bands.
[8] Applicable only when maximum frequency deviation is 5 kHz. See also paragraph (b) of this section.
[9] Applicable only to marine hand-held radar.
[10] Applicable only to on-board frequencies for maneuvering or navigation.
[11] Transmitters type accepted prior to December 31, 1969, for emission H3E, J3E and R3E and an authorized bandwidth of 3.5 kHz may continue to be operated. These transmitters will not be authorized in new installations.
[12] Applicable to radiolocation and associated telecommand ship stations operating on 154.585 MHz, 159.480 MHz, 160.725 MHz. 160.785 MHz, 454.000 MHz, and 459.000 MHz; emergency position indicating radiobeacons operating in the 406.000–406.1000 MHz frequency bank; and data transmissions in the 156–162 MHz band.
[13] Class C EPIRB stations may not be used after February 1, 1999.

(b) For land stations the maximum authorized frequency deviation for F3E or G3E emission is as follows:

(1) 5 kHz in the 72.0–73.0 MHz, 75.4–76.0 MHz and 156–162 MHz bands;

(2) 15 kHz for stations which were authorized for operation before December 1, 1961, in the 73.0–74.6 MHz band.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 7418, Mar. 11, 1987; 53 FR 37308, Sept. 26, 1988; 56 FR 11516, Mar. 19, 1991; 57 FR 43407, Sept. 21, 1992; 58 FR 33344, June 17, 1993; 59 FR 7714, Feb. 16, 1994]

§ 80.207 Classes of emission.

(a) Authorization to use radiotelephone and radiotelegraph emissions by ship and coast stations includes the brief use of radiotelegraphy, including keying only the modulating audio frequency, tone signals, digital selective calling and other signalling devices to establish or maintain communications, provided:

(1) That these signalling techniques, other than digital selective calling, are not used on frequencies designated for general purpose DSC calling and distress and safety DSC calling as listed in § 80.359 (a) and (b).

(2) The authorized radiotelephone emission bandwidth is not exceeded; and

(3) Harmful interference is not caused to stations operating in accordance with the Radio Regulations.

(4) Use of selective calling equipment based upon this section, other than DSC equipment, may be continued for at least three years subsequent to an FCC Order that will authorize DSC as the only selective calling technique permitted for use in the maritime services. To quality for the continuation, the equipment must be used at the same station location where it was installed and operating on the date of the indicated FCC Order. This paragraph is not applicable to AMTS in the 216–220 MHz band or to NB–DP equipment that complies with CCIR Recommendation 476.

(b) In radiotelegraphy communications employing a modulated carrier the carrier must be keyed and modulated by an audio frequency.

(c) Authorization to use single sideband emission is limited to emitting a carrier;

(1) For full carrier transmitters at a power level between 3 and 6 dB below peak envelope power;

(2) For suppressed carrier transmitters at a power level at least 40 dB below peak envelope power; and

(3) For reduced or variable level carrier:

(i) In the 1600–4000 kHz band:

(A) For coast station transmitters 18±2 dB below peak envelope power;

(B) For ship station transmitters installed before January 2, 1982, 16±2 dB below peak envelope power; and

(C) For ship station transmitters installed after January 1, 1982, 18±2 dB below peak envelope power.

(ii) In the 4000–27500 kHz band:

(A) For coast station transmitters 18±2 dB below peak envelope power;

(B) For ship station transmitters installed before January 2, 1978, 16±2 dB below peak envelope power; and

(C) For ship station transmitters installed after January 1, 1978, 18±2 dB below peak envelope power.

(d) The authorized classes of emission are as follows:

Types of stations	Classes of emission
Ship Stations [1]	
Radiotelegraphy:	
100–160 kHz	A1A
405–525 kHz	A1A, J2A
1605–27500 kHz:	
Manual	A1A, J2A
DSC	F1B, J2B
NB–DP	F1B, J2B
Facsimile	F1C, F3C, J2C, J3C
156–162 MHz [2]	F1B,F2B,F2C,F3C,F1D,F2D
DSC	G2B
216–220 MHz [3]	F1B, F2B, F2C, F3C
1626.5–1646.5 MHz	([4])

Types of stations	Classes of emission
Radiotelephony:	
1605–27500 kHz [5]	H3E, J3E, R3E
27.5–470 MHz [6]	G3D, G3E
1626.5–1646.5 MHz	([4])
Radiodetermination:	
285–325 kHz [7]	A1A, A2A
405–525 kHz (Direction Finding) [8].	A3N, H3N, J3N, NON
154–459 MHz: [12]	A1D, A2D, F1D, F2D, G1D, G2D
2.4–9.5 GHz	PON
14.00–14.05 GHz	F3N
Land Stations [1]	
Radiotelegraphy:	
100–160 kHz	A1A
405–525 kHz	A1A, J2A
1605–2850 kHz:	
Manual	A1A, J2A
Facsimile	F1C, F3C, J2C, J3C
Alaska—Fixed	A1A, J2A
4000–27500 kHz:	
Manual	A1A, J2A
DSC	F1B, J2B
NB–DP	F1B, J2B
Facsimile	F1C, F3C, J2C, J3C
Alaska—Fixed	A1A, A2A, F1B, F2B
72–76 MHz	A1A, A2A, F1B, F2B
156–162 MHz [2]	F1B,F2B,F2C,F3C,F1D,F2D
DSC	G2B
216–220 MHz [3]	F1B, F2B, F2C, F3C
Radiotelephony:	
1605–27500 kHz	H3E, J3E, R3E
72–76 MHz	A3E, F3E, G3E
156–470 MHz	G3E
Radiodetermination:	
2.4–9.6 GHz	PON
Distress, Urgency and Safety: [8 9]	
500 kHz [10]	A2A and A2B or H2A and H2B
2182 kHz [10 11]	A2B, A3B, H2B, H3E, J2B, and J3E
8364 kHz	A2A, H2A
121.500 MHz	A3E, A3X, N0N
123.100 MHz	A3E
156.750 and 156.800 MHz [13].	G3E, G3N
243.000 MHz	A3E, A3X, N0N
406.025 MHz	G1D

[1] Excludes distress, EPIRB's, and survival craft.

[2] Frequencies used for public correspondence. See §§ 80.371(c) and 80.385(b). Transmitters type accepted before January 1, 1994, for G3E emissions will be authorized indefinitely for F2C, F3C, F1D and F2D emissions. Transmitters type accepted after January 1, 1994, will be authorized for F2C, F3C, F1D or F2D emissions only if they are type accepted specifically for each emission designator.

[3] Frequencies used in the Automated Maritime Telecommunications System (AMTS). See § 80.385(b).

[4] Types of emission are determined by the INMARSAT Organization.

[5] Transmitters type accepted prior to December 31, 1969, for emission H3E, J3E, and R3E and an authorized bandwidth of 3.5 kHz may continue to be operated. These transmitters will not be authorized in new installations.

[6] G3D emission must be used only by one-board stations for maneuvering or navigation.

[7] Frequencies used for cable repair operations. See § 80.375(b).

[8] For direction finding requirements see § 80.375.

[9] Includes distress emissions used by ship, coast, EPIRB's and survival craft stations.

[10] On 500 kHz and 2182 kHz A1B, A2B, H2B and J2B emissions indicate transmission of the auto alarm signals.

[11] Ships on domestic voyages must use J3E emission only.

[12] For frequencies 154.585 MHz, 159.480 MHz, 160.725 MHz, 160.785 MHz, 454.000 MHz and 459.000 MHz, authorized for offshore radiolocation and related telecommand operations.

[13] Class C EPIRB stations may not be used after February 1, 1999.

[51 FR 31213, Sept. 2, 1986; 51 FR 34984, Oct. 1, 1986; as amended at 52 FR 7418, Mar. 11, 1987; 52 FR 35244, Sept. 18, 1987; 53 FR 8905, Mar. 18, 1988; 53 FR 37308, Sept. 26, 1988; 54 FR 40058, Sept. 29, 1989; 54 FR 49993, Dec. 4, 1989; 56 FR 11516, Mar. 19, 1991; 57 FR 43407, Sept. 21, 1992; 58 FR 33344, June 17, 1993]

§ 80.209 Transmitter frequency tolerances.

(a) The frequency tolerance requirements applicable to transmitters in the maritime services are shown in the following table. Tolerances are given as parts in 10^6 unless shown in Hz.

Frequency bands and categories of stations	Tolerances [1]
(1) Band 100–525 kHz:	
(i) Coast stations:	
For single sideband emissions	20 Hz.
For transmitters with narrow-band direct printing and data emissions.	10 Hz. [2]
For transmitters with digital selective calling emissions.	10 Hz.
For all other emissions	100
(ii) Ship stations:	
For transmitters with single sideband emissions type accepted or type approved before November 30, 1977.	20 Hz.
For transmitters with other emissions type accepted or type approved before November 30, 1977.	1000. [5]
For transmitters with narrow-band direct printing and data emissions.	10 Hz. [2]
For transmitters with digital selective calling emissions.	10 Hz. [3]
For all other transmitters type accepted or type approved after November 29, 1977.	20 Hz.
(iii) Ship stations for emergency only:	
For transmitters type approved before November 30, 1977.	3000. [5]
For all transmitters type accepted or type approved after November 29, 1977.	20 Hz.
(iv) Survival craft stations:	
For transmitters type approved before November 30, 1977.	5000. [5]
For transmitters type approved or type accepted after November 29, 1977.	20 Hz.
(v) Radiodetermination stations:	
For all emissions	100.
(2) Band 1600–4000 kHz:	
(i) Coast Stations and Alaska fixed stations:	
For single sideband and facsimile	20 Hz.
For narrow-band direct-printing and data emissions.	10 Hz. [2]
For digital selective calling emissions	10 Hz.
For all other emissions	50.
(ii) Ship stations:	
For transmitters with narrow-band direct printing and data emissions.	10 Hz. [2]
For transmitters with digital selective calling emissions.	10 Hz. [3]

Frequency bands and categories of stations	Tolerances[1]
For all other transmitters	20 Hz.
(iii) Survival craft stations:	20 Hz.
(iv) Radiodetermination stations:	
With power 200W or less	20.
With power above 200W	10.
(3) Band 4000–27500 kHz:	
(i) Coast stations and Alaska fixed stations:	
For single sideband and facsimile emissions.	20 Hz.
For narrow-band direct printing and data emissions.	10 Hz.[2]
For digital selective calling emissions	10 Hz.
For Morse telegraphy emissions	10.
For all other emissions	15.
(ii) Ship stations:	
For transmitters with narrow-band direct printing and data emissions.	10 Hz.[2]
For transmitters with digital selective calling emissions.	10 Hz.[3]
For all other transmitters	20 Hz.
(iii) Survival craft stations:	50 Hz.
(4) Band 72–76 MHz:	
(i) Fixed stations:	
Operating in the 72.0–73.0 and 75.4–76.0 MHz bands.	5.
Operating in the 73.0–74.6 MHz band	50.
(5) Band 156–162 MHz:	
(i) Coast stations:	
For stations licensed to operate with a carrier power:.	
Below 3 watts	10.
3 to 100 watts	5.
Above 100 watts	2.5.
(ii) Ship stations	10.[4]
(iii) Survival craft stations operating on 121.500 MHz.	50.
(iv) EPIRBs:	
Operating on 121.500 and 243.000 MHz.	50.
Operating on 156.750 and 156.800 MHz[6].	10.
(6) Band 216–220 MHz	
(i) Coast Stations:	
For all emissions	5.
(ii) Ship stations:	
For all emissions	5.
(7) Band 400–466 MHz:	
(i) EPIRBs operating on 406.025 MHz	5.
(ii) On-board stations	5.
(iii) Radiolocation and telecommand stations.	5.
(8) Band 1626.5–1646.5 MHz:	
(i) Ship earth stations	5.

[1] Transmitters authorized prior to January 2, 1990, with frequency tolerances equal to or better than those required after this date will continue to be authorized in the maritime services provided they retain type acceptance and comply with the applicable standards in this part.

[2] The frequency tolerance for narrow-band direct printing and data transmitters installed before January 2, 1992, is 15 Hz for coast stations and 20 Hz for ship stations. The frequency tolerance for narrow-band direct printing and data transmitters type accepted or installed after January 1, 1992, is 10 Hz.

[3] Until February 2, 1999, the frequency tolerance for DSC ship station transmitters in the MF and HF bands that were installed before January 2, 1992, is 20 Hz. The frequency tolerance for DSC ship station transmitters in the MF and HF bands type accepted or installed after January 1, 1992, is 10 Hz. After February 1, 1999, the frequency tolerance for all DSC ship station transmitters in the MF and HF bands (regardless of installation date) is 10 Hz.

[4] For transmitters in the radiolocation and associated telecommand service operating on 154.585 MHz, 159.480 MHz, 160.725 MHz and 160.785 MHz the frequency tolerance is 15 parts in 10^6.

[5] This frequency tolerance applies to ship station transmitters until February 1, 1999. Thereafter, the frequency tolerance is 20 Hz.

[6] Class C EPIRB stations may not be used after February 1, 1999.

(b) When pulse modulation is used in land and ship radar stations operating in the bands above 2.4 GHz the frequency at which maximum emission occurs must be within the authorized bandwidth and must not be closer than 1.5/T MHz to the upper and lower limits of the authorized bandwidth where ''T'' is the pulse duration in microseconds. In the band 14.00–14.05 GHz the center frequency must not vary more than 10 MHz from 14.025 GHz.

(c) For stations in the maritime radiodetermination service, other than ship radar stations, the authorized frequency tolerance will be specified on the license when it is not specified in this part.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 7418, Mar. 11, 1987; 53 FR 37308, Sept. 26, 1988; 54 FR 49994, Dec. 4, 1989; 57 FR 26778, June 16, 1992; 58 FR 33344, June 17, 1993]

§ 80.211 Emission limitations.

The emissions must be attenuated according to the following schedule.

(a) The mean power when using emissions H3E, J3E and R3E:

(1) On any frequency removed from the assigned frequency by more than 50 percent up to and including 150 percent of the authorized bandwidth:

at least 25 dB for transmitters installed before February 1, 1992,

at least 28 dB for transmitters installed on or after February 1, 1992;

(2) On any frequency removed from the assigned frequency by more than 150 percent up to and including 250 percent of the authorized bandwidth: At least 35 dB; and

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 plus $10\log_{10}$ (mean power in watts) dB.

(b) For transmitters operating in the band 1626.5–1646.5 MHz. In any 4 kHz band the mean power of emissions shall be attenuated below the mean output power of the transmitter as follows:

(1) Where the center frequency is removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: At least 25 dB;

(2) Where the center frequency is removed from the assigned frequency by more than 100 percent up to 250 percent of the authorized bandwidth: At least 35 dB; and

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 plus $10\log_{10}$ (mean power in watts) dB.

(c) In any 4 kHz band the peak power of spurious emissions and noise at the input to the transmit antenna must be attenuated below the peak output power of the station as follows:

(1) 125 dB at 1525.0 MHz, increasing linearly to 90 dB at 1612.5 MHz;

(2) 90 dB at 1612.5 MHz increasing linearly to 60 dB at 1624.0 MHz;

(3) 90 dB from 1624.0 MHz to 1650.0 MHz, except at frequencies near the transmitted carrier where the requirements of paragraphs (b)(1) through (3) of this section, apply;

(4) 60 dB at 1650.0 MHz decreasing linearly to 90 dB at 1662.5 MHz;

(5) 90 dB at 1662.5 MHz decreasing linearly to 125 dB at 1752.5 MHz; and

(6) 125 dB outside above range, except for harmonics which must comply with (b)(3) of this section.

(d) Radiotelegraph survival craft transmitters must comply with §80.223.

(e) The mean power of EPIRBs operating on 121.500 MHz, 243.000 MHz and 406.025 MHz must be as follows:

(1) On any frequency removed from the assigned frequency by more than 50 percent, up to and including 100 percent of the authorized bandwidth: At least 25 dB;

(2) On any frequency removed from the assigned frequency by more than 100 percent: at least 30 dB.

(f) The mean power when using emissions other than those in paragraphs (a), (b), (c) and (d) of this section:

(1) On any frequency removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: At least 25 dB;

(2) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: At least 35 dB; and

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 plus $10\log_{10}$ (mean power in watts) dB.

(g) Developmental stations must conform to the standards for regular authorized stations.

[51 FR 31213, Sept. 2, 1986, as amended at 54 FR 40058, Sept. 29, 1989; 54 FR 49994, Dec. 4, 1989; 56 FR 11516, Mar. 19, 1991]

§80.213 Modulation requirements.

(a) Transmitters must meet the following modulation requirements:

(1) When double sideband emission is used the peak modulation must be maintained between 75 and 100 percent;

(2) When phase or frequency modulation is used in the 156–162 MHz and 216–220 MHz bands the peak modulation must be maintained between 75 and 100 percent. A frequency deviation of ±5 kHz is defined as 100 percent peak modulation; and

(3) In single sideband operation the upper sideband must be transmitted. Single sideband transmitters must automatically limit the peak envelope power to their authorized operating power and meet the requirements in §80.207(c).

(b) Radiotelephone transmitters using A3E, F3E and G3E emission must have a modulation limiter to prevent any modulation over 100 percent. This requirement does not apply to survival craft transmitters, to transmitters that do not require a license or to transmitters whose output power does not exceed 3 watts.

(c) Coast station transmitters operated in the 72.0–73.0 MHz and 75.4–76.0 MHz bands must be equipped with an audio low-pass filter. The filter must be installed between the modulation limiter and the modulated radio frequency stage. At frequencies between 3 kHz and 15 kHz it must have an attenuation greater than at 1 kHz by at least $40\log_{10}$ (f/3) dB where ''f'' is the frequency in kilohertz. At frequencies above 15 kHz the attenuation must be at least 28 dB greater than at 1 kHz.

(d) Ship and coast station transmitters operating in the 156–162 MHz and

216–220 MHz bands must be capable of proper operation with a frequency deviation of ±5 kHz when using any emission authorized by § 80.207.

(e) Coast station transmitters operated in the 156–162 MHz band must be equipped with an audio low-pass filter. The filter must be installed between the modulation limiter and the modulated radio frequency stage. At frequencies between 3 kHz and 20 kHz it must have an attenuation greater than at 1 kHz by at least $60\log_{10}$ (f/3) dB where ''f'' is the audio frequency in kilohertz. At frequencies above 20 kHz the attenuation must be at least 50 dB greater than at 1 kHz.

(f) Radiodetermination ship stations operating on 154.585 MHz, 159.480 MHz, 160.725 MHz, 160.785 MHz, 454.000 MHz and 459.000 MHz must employ a duty cycle with a maximum transmission period of 60 seconds followed by a minimum quiescent period four times the duration of the transmission period.

(g) Radar stations operating in the bands above 2.4 GHz may use any type of modulation consistent with the bandwidth requirements in § 80.209(b).

(h) Radar transponder coast stations using the 2920–3100 MHz or 9320–9500 MHz band must operate in a variable frequency mode and respond on their operating frequencies with a maximum error equivalent to 100 meters. Additionally, their response must be encoded with a Morse character starting with a dash. The duration of a Morse dot is defined as equal to the width of a space and ⅓ of the width of a Morse dash. The duration of the response code must not exceed 50 microseconds. The sensitivity of the stations must be adjustable so that received signals below −10 dBm at the antenna will not activate the transponder. Antenna polarization must be horizontal when operating in the 9320–9500 MHz band and either horizontal or both horizontal and vertical when operating in the 2920–3100 MHz band. Racons using frequency agile transmitting techniques must include circuitry designed to reduce interference caused by triggering from radar antenna sidelobes.

(i) Variable frequency ship station transponders operating in the 2920–3100 MHz or 9320–9500 MHz band that are not used for search and rescue purposes must meet the following requirements:

(1) Non-selectable transponders must have the following characteristics:

(i) They must respond on all their frequencies with a maximum range error equivalent to 100 meters;

(ii) They must use a Morse encoding of ''PS'' (dot-dash-dash-dot, dot-dot-dot), meaning ''You should not come any closer''. The width of a Morse dot is defined as equal to the width of a space and ⅓ of the width of a Morse dash;

(iii) When they employ swept frequency techniques they must not transmit on any frequency for more than 10 seconds in any 120 second period;

(iv) Any range offset of their response must occur during their pause on the fixed frequency;

(v) The duration of the response code must not exceed 50 microseconds;

(vi) The sensitivity of the stations must be adjustable so that received signals below −10 dBm at the antenna input will not activate the transponder;

(vii) Antenna polarization must be horizontal when operating in the 9320–9500 MHz band and either horizontal or both horizontal and vertical when operating in the 2920–3100 MHz band.

(viii) Transponders using frequency agile techniques must include circuitry designed to reduce interference caused by triggering from radar antenna sidelobes.

(2) Selectable transponders must be authorized under part 5 of the Commission's rules until standards for their use are developed.

(j) The transmitted signals of search and rescue transponders must cause to appear on a radar display a series of at least 20 equally spaced dots.

(k) The modulation requirements for EPIRB's are contained in subpart V.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 7418, Mar. 11, 1987; 52 FR 28825, Aug. 4, 1987; 54 FR 40058, Sept. 29, 1989; 57 FR 43407, Sept. 21, 1992]

§ 80.215 Transmitter power.

(a) Transmitter power shown on the radio station authorization is the maximum power the licensee is authorized

to use. Power is expressed in the following terms:

(1) For single sideband emission: Peak evelope power;

(2) For G3E emission: Carrier power;

(3) For PON and F3N emission: Mean power;

(4) For all emissions in the 1626.5–1646.5 MHz band: equivalent isotropic radiated power.

(5) For all other emissions: the carrier power multiplied by 1.67.

(b) *Coast station frequencies below 27500 kHz.* The maximum power must not exceed the values listed below.

(1) Public coast stations, except Alaska:

(i) Radiotelegraphy:

100–160 kHz—80kW
405–525 kHz—40kW
2035–2065 kHz—6.6kW
4000–8000 kHz—10kW
8000–9000 kHz—20kW
12000–27500 kHz—30kW

(ii) Radiotelephony:

2000–4000 kHz—day—800W
2000–4000 kHz—night—400W
4000–27500 kHz—10kW

(2) Private coast stations, except in Alaska: 1kW

(3) Coast stations in Alaska, public and private:

405–525 kHz—265W
1605–12000 kHz—150W

(c) *Coast station frequencies above 27500 kHz.* The maximum power must not exceed the values listed below.

(1) Coast stations:

156–162 MHz—50W [1, 12]
216–220 MHz [2]

(2) Marine utility stations:

156–162 MHz—10W

(d) *Ship station frequencies below 27500 kHz.* The maximum power must not exceed the values listed below:

(1) Radiotelegraphy: All ships—2kW [3]

(2) Radiotelephony:

(i) All ships—Great Lakes and Inland Waters—150W

(ii) All ships—Open waters; 2000–4000 kHz—150W

2182 kHz—emergency, urgency, or safety ship to shore—400W [4]

(iii) All ships—Open waters; 4000–27500 kHz—1.5kW [5].

(3) Digital selective calling:

All ships 415–526.5 kHz—400 W
All ships 1605–4000 kHz—400 W
All ships 4000–27500 kHz—1.5 kW

(e) *Ship stations frequencies above 27500 kHz.* The maximum power must not exceed the values listed below.

(1) Ship stations 156–162 MHz—25W [6]

Marine utility stations and hand-held portable transmitters 156–162 MHz—10W

(2) Ship stations 216–220 MHz—25W [7]

(3) On board stations 456–468 MHz—4W [8]

(4) Ship earth stations 1626.5–1646.5 MHz [9]

(5) Ship radar stations with F3N emission—200 mW

(6) EPIRB—121.500 and 243.00 MHz [10]

(7) EPIRB—156.750 and 156.800 MHz [10]

(f) *Fixed stations.* The maximum power must not exceed the values listed below.

(1) Maritime support (receiver test):

R3E and J3C emission—150W
F3E emission—50W

(2) Operational fixed: 72–76 MHz and above 162 MHz [11]

(3) Alaska—Private fixed:

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[1] Maximum authorized power at the input terminals of the station antenna.

[2] See paragraph (h) of this section.

[3] For passenger ships 5000 gross tons and over—8kW. For cable-repair ships operating on radiodetermination frequencies, 15 watts; see § 80.375(b).

[4] For passenger ships 5000 gross tons and over—1kW.

[5] For passenger ships 5,000 gross tons and over 3kW.

[6] Reducible to 1 watt or less, except for transmitters limited to public correspondence channels and used in an automated system.

[7] Reducible to 2.5 watts or less; see paragraph (i) of this section.

[8] Type acceptance based on a carrier power of 4 watts with transmitter connected to a dummy load of matching impedance. The effective radiated power must not exceed 2 watts.

[9] See paragraph (k) of this section.

[10] See subpart V of this part.

[11] See paragraph (l) of this section.

[12] The frequencies 156.375 MHz and 156.650 MHz are primarily intership frequencies. When authorized for coast stations on a secondary basis, the normal output power must not exceed 1 watt and the maximum output power must not exceed 10 watts.

10–200 kHz—650W
405–525 kHz—265W
1605–12000 kHz—150W

(4) Alaska—Public fixed:

405–525 kHz—1kW
1605–12000 kHz—1kW

(g) The carrier power of ship station radiotelephone transmitters, except portable transmitters, operating in the 156–162 MHz band must be at least 8 but not more than 25 watts. Transmitters that use 12 volt lead acid storage batteries as a primary power source must be measured with a primary voltage between 12.2 and 13.7 volts DC. Additionally, unless otherwise indicated, equipment in radiotelephone ship stations operating in the 156–162 MHz band must meet the following requirements:

(1) All transmitters must be capable of reducing the carrier power to one watt or less;

(2) All remote control units that are used with transmitters manufactured after August 31, 1979, or installed after February 29, 1980, must be capable of causing the carrier power to be reduced to one watt or less;

(3) Except as indicated in (4) of this paragraph, all transmitters manufactured after January 21, 1987, or in use after January 21, 1997, must automatically reduce the carrier power to one watt or less when the transmitter is tuned to 156.375 MHz or 156.650 MHz, and must be provided with a manual override switch which when held by an operator will permit full carrier power operation on 156.375 MHz and 156.650 MHz;

(4) Hand-held portable transmitters are not required to comply with the automatic reduction of carrier power in (g)(3) of this section; and

(5) Transmitters dedicated for use on public correspondence duplex channels as additional equipment to a VHF ship station in the Great Lakes which meet all pertinent rules in this part are not required to reduce their carrier power to one watt.

(h) Coast stations in an AMTS may radiate as follows, subject to the condition that no harmful interference will be caused to television reception except that TV services authorized subsequent to the filing of the AMTS station application will not be protected.

(1) When located more than 169 kilometers (105 miles) from the antenna of a Channel 13 TV station and more than 129 kilometers (80 miles) from the antenna of a channel 10 station, the ERP of coast stations having an antenna height of 61 meters (200 feet) or less above ground must not exceed 1000 watts.

(2) Coast stations located less than 169 kilometers (105 miles) from a Channel 13 TV station, or less than 129 kilometers (80 miles) from a channel 10 station or when using a transmitting antenna height above ground greater than 61 meters (200 feet), must submit a plan to limit interference to TV reception. The plan must include:

(i) A description of the interference contour with indentification of the method used to determine this contour; and

(ii) A statement concerning the number of residences within the interference contour. The interference contour includes only areas inside the TV grade B contour with the latter determined assuming maximum permissible TV antenna height and power for broadcast stations and the actual facility parameters for translators and low power TV stations. See part 73, subpart E of this chapter for further information on TV grade B contour determination.

(3) When located as described in paragraph (h)(2) of this section, the coast station (or stations affecting the same TV Grade B contour) will be authorized if the applicant's plan has limited the interference contour(s) to fewer than 100 residences or if the applicant:

(i) Shows that the proposed site is the only suitable location;

(ii) Develops a plan to control any interference caused to TV reception within the Grade B contour from its operations; and

(iii) Agrees to make such adjustments in the TV receivers affected as may be necessary to eliminate interference caused by its operations.

(4) The applicant must eliminate any interference caused by its operation to TV reception within the Grade B contour that might develop within 90 days of the time it is notified in writing by the Commission. If this interference is not removed within the 90-day period,

operation of the coast station must be discontinued. The licensee is expected to help resolve all complaints of interference, whether inside or outside the Grade B contour.

(5) The transmitter output power must be 50 watts or less.

(i) A ship station must have a transmitter output power not exceeding 25 watts and an ERP not exceeding 18 watts. The transmitter must include the capability to reduce the carrier power to 2.5 watts with a front panel control. The maximum transmitter output power is permitted to be increased to 50 watts under the following conditions:

(1) Increases exceeding 25 watts are made only by radio command from the controlling coast stations; and

(2) The application for an equipment authorization demonstrates that the transmitter output power is 25 watts or less when external radio commands are not present.

(j) A ship installation with a transmitter output power exceeding 25 watts under the conditions of paragraph (i) of this section is exempted from the limitation of 18 watts ERP when operating in specific geographical areas identified in a plan for the use of higher power.

(k) Within the 1626.5–1646.5 MHz band the maximum e.i.r.p by a ship earth station in any direction in the horizontal plane or in the direction of the space station must not exceed +40 dB relative to one watt in any 4 kHz band in the main beam, except upon a satisfactory showing of need for greater power, in which case a maximum of +55 dB relative to one watt may be authorized.

(l) For operational fixed stations using frequencies in the 72–76 MHz band and for other classes of stations operating above 162.025 MHz, the transmitter power must be specified in the station authorization. Frequencies in the 72–76 MHz band are listed in §80.381. The operational requirements for 72–76 MHz are contained in subpart L of this part.

(m) For radiodetermination transmitters using A1D, A2D, F1D, F2D, G1D and G2D emissions on 154.585 MHz, 159.480 MHz, 160.725 MHz, 160.785 MHz, 454.000 MHz and 459.000 MHz the mean output power of the unmodulated carrier must not exceed 25 watts.

(n) For radiodetermination stations operating above 2400 MHz the output power must be as follows:

(1) For radar stations that use F3N emission the mean output power must not exceed 200 milliwatts;

(2) For search and rescue stations the output power must be at least 400 milliwatts peak e.i.r.p.

(3) For all other transponder stations the output power must not exceed 20 watts peak e.i.r.p. Licensees of non-selectable transponder coast stations operating in the 2920–3100 MHz and 9320–9500 MHz bands must notify in writing the USCG District Commander of any incremental increase of their station's output power above 5 watts peak e.i.r.p.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 7419, Mar. 11, 1987; 52 FR 35244, Sept. 18, 1987; 54 FR 40058, Sept. 29, 1989; 54 FR 49994, Dec. 4, 1989; 56 FR 3783, Jan. 31, 1991; 59 FR 35269, July 11, 1994]

§80.217 Suppression of interference aboard ships.

(a) A voluntarily equipped ship station receiver must not cause harmful interference to any receiver required by statute or treaty.

(b) The electromagnetic field from receivers required by statute or treaty must not exceed the following value at a distance over sea water of one nautical mile from the receiver:

Frequency of interfering emissions	Field intensity in microvolts per meter
Below 30 MHz	0.1
30 to 100 MHz	.3
100 to 300 MHz	1.0
Over 300 MHz	3.0

or

Deliver not more than the following amounts of power, to an artificial antenna having electrical characteristics equivalent to those of the average receiving antenna(s) use on shipboard:

Frequency of interfering emissions	Power to artificial antenna in microwatts
Below 30 MHz	400
30 to 100 MHz	4,000
100 to 300 MHz	40,000

Frequency of interfering emissions	Power to artificial antenna in microwatts
Over 300 MHz	400,000

§ 80.219 Special requirements for narrow-band direct-printing (NB–DP) equipment.

NB–DP and data transmission equipment installed in ship and coast stations before October 1, 1990, that operate on frequencies in the 4000–27500 kHz bands must conform to the technical requirements of CCIR Recommendations 476 or 625. Equipment installed on or after October 1, 1990, must conform to the technical requirements of CCIR Recommendation 625. Equipment installed before October 1, 1990, and built in accordance with CCIR Recommendation 476, however, may continue to be used.

[54 FR 49994, Dec. 4, 1989]

§ 80.221 Special requirements for automatically generating the radiotelephone alarm signal.

(a) Each device for automatically generating the radiotelephone alarm signal must be capable of being disabled to permit the immediate transmission of a distress call and message.

(b) The device must comply with the following requirements:

(1) The frequency tolerance of each tone must be ±1.5 percent;

(2) The duration tolerance of each tone must be ±50 milliseconds;

(3) The interval between successive tones must not exceed 50 milliseconds; and

(4) The amplitude ratio of the tones must be flat within 1.6 dB.

(c) Devices installed on or after January 1, 1983, must comply with the following requirements:

(1) The frequency tolerance of each tone must be ±1.5 percent;

(2) The duration tolerance of each tone must be ±10 milliseconds;

(3) The interval between successive tones must not exceed 4 milliseconds;

(4) The amplitude ratio of the tones must be flat within 1.6 dB;

(5) The output of the device must be sufficient to modulate the associated transmitter for H2B emission to at least 70 percent, and for J2B emission to within 3 dB of the rated peak envelope power;

(6) Light from the device must not interfere with the safe navigation of the ship;

(7) After activation the device must automatically generate the radiotelephone alarm signal for not less than 30 seconds and not more than 60 seconds unless manually interrupted;

(8) After generating the radiotelephone alarm signal or after manual interruption the device must be immediately ready to repeat the signal;

(9) The transmitter must be automatically switched from the stand-by condition to the transmit condition at the start and return to the stand-by condition at the conclusion of the radiotelephone alarm signal.

(d) Any device used by a station to automatically generate the radiotelephone alarm signal must be type accepted by the Commission.

[51 FR 31213, Sept. 2, 1986, as amended at 54 FR 40059, Sept. 29, 1989]

§ 80.223 Special requirements for survival craft stations.

(a) Survival craft stations capable of transmitting on:

(1) 500 kHz must be able to operate with class A2A and A2B or H2A and H2B emissions;

(2) 2182 kHz must be able to operate with A2B and A3E or H2B and H3E and J2B and J3E emissions;

(3) 8364 kHz must be able to operate with class A2A or H2A emission; and

(4) 121.500 MHz must be able to operate with A3E or A3N emission.

(b) Survival craft stations must be able to receive the frequency and types of emission which the transmitter is capable of using. Where the transmitter frequency is 8364 kHz the receiver must be able to receive A1A, A2A and H2A emissions throughout the 8320–8745 kHz band.

(c) Survival craft transmitters operating on 500 kHz or on 8364 kHz must be able to be manually keyed. If provisions are made for automatically transmitting the radiotelegraph alarm signal or the radiotelegraph distress signal, such provisions must meet the requirements in subpart F of this part.

(d) Any EPIRB carried as part of a survival craft station must comply

with the specific technical and performance requirements for its class contained in subpart V of this chapter.

[51 FR 31213, Sept. 2, 1986, as amended at 53 FR 8905, Mar. 18, 1988; 53 FR 37308, Sept. 26, 1988; 56 FR 11516, Mar. 19, 1991]

§80.225 Requirements for digital selective calling (DSC) equipment.

This section specifies the requirements for optional DSC equipment installed in ship and coast stations. Reference to any CCIR Recommendation in this section is to the most recent CCIR approved Recommendation that does not prevent the use of existing equipment.

(a) DSC equipment installed in coast and ship stations must be designed in accordance with CCIR Recommendation 493. Classes A, B, and Class C DSC equipment must not be used with the sensors referred to in §80.179(e)(2).

(b) Manufacturers of Class C DSC equipment to be used on United States vessels must affix a clearly discernible permanent plate or label visible from the operating controls containing the following:

Warning. This equipment is designed to generate a digital maritime distress and safety signal to facilitate search and rescue. To be effective as a safety device, this equipment must be used only within communication range of a shore-based VHF marine channel 70 distress and safety watch system. The range of the signal may vary but under normal conditions should be approximately 20 nautical miles.

(c) Selective calling equipment, other than that designed in accordance with CCIR Recommendation 493, is authorized as follows:

(1) Equipment used in conjunction with the Automated Maritime Telecommunications System (AMTS) in the band 216–220 MHz,

(2) Equipment used to perform a selective calling function during narrowband direct-printing (NB–DP) operations in accordance with CCIR Recommendation 476 or 625, and

(3) Equipment functioning under the provisions of §80.207(a) until at least three years after mandatory DSC requirements become effective.

[54 FR 10009, Mar. 9, 1989]

§80.227 Special requirements for protection from RF radiation.

As part of the information provided with transmitters for ship earth stations, manufacturers of each such unit must include installation and operating instructions to help prevent human exposure to radiofrequency (RF) radiation in excess of the RF exposure guidelines specified in §1.1307(b) of the Commission's Rules.

[53 FR 28225, July 27, 1988]

Subpart F—Equipment Authorization for Compulsory Ships

§80.251 Scope.

(a) This subpart gives the general technical requirements for type acceptance of equipment used on compulsory ships. Such equipment includes radiotelegraph transmitters, radiotelegraph auto alarms, automatic-alarm-signal keying devices, survival craft radio equipment, watch receivers, and radar.

(b) The equipment described in this subpart must be type accepted.

(c) The term *transmitter* means the transmitter unit and all auxiliary equipment necessary to make this unit operate as a main or emergency transmitter in a ship station at sea. Each separate motor-generator, rectifier, or other unit required to convert the ship primary power to the phase, frequency, or voltage necessary to energize the transmitter unit is considered a component of the transmitter.

(d) *Average ship station antenna* means an actual antenna installed on board ship having a capacitance of 750 picofarads and an effective resistance of 4 ohms at a frequency of 500 kHz, or an artificial antenna having the same electrical characteristics.

§80.253 Technical requirements for main transmitter.

(a) The following table gives the operating carrier frequency, emission, modulation and average ship station antenna power requirements for the main transmitter.

Operating frequency (kHz)	Frequency tolerance		Class of emission	Percentage modulation for amplitude modulation	Modulation frequency for amplitude modulation	Power into average ship station antenna
	Parts [1] in 10^6	Hz [2]				
500 kHz	1,000	20	A2A and A2B or H2A and H2B.	Not less than 70; not more than 100.	At least 1 frequency between 300 and 1250 Hertz, except for transmittal installed after July 1, 1951, at least 1 frequency between 450 and 1250 Hertz.	Not less than 200 watts.
Do	1,000	20	A1A or J2A	.....	.....	Not less than 160 watts.
410 and 2 working frequencies in the band 415 to 525.	1,000	20	A2A and A3N or H2A and H3N.	Not less than 70; not more than 100.	At least 1 frequency between 300 and 1250 Hertz, except for transmitters installed after July 1, 1951, at least 1 frequency between 450 and 1250 Hertz.	Not less than 200 watts.
Do	1,000	20	A1A and N0N or J2A and J3N.	.....	.....	Not less than 160 watts.

[1] For equipment type accepted or type approved before November 30, 1977.
[2] For equipment type accepted or type approval after November 29, 1977.

(b) A main transmitter must operate at its required antenna power when adjusted to any required operating frequency and energized by the main power supply of the ship station or by an equivalent power supply.

(c) A main transmitter must be equipped to measure (1) antenna current, (2) transmitter power supply voltages, and (3) anode or collector current(s).

(d) The antenna power must be determined at the operating carrier frequency by the product of the antenna resistance and the square of the average antenna current, both measured at the same point in the antenna circuit at approximately ground potential.

(e) A main transmitter producing more than 250 watts output power must have the output power reduced to not more than 150 watts when used for telegraphy. In stations where a separate telegraph transmitter operable on the same frequencies as the main transmitter with an output power of less than 250 watts, is installed, the power reduction requirement does not apply. Such separate transmitters must not obtain power from the emergency power supply.

§ 80.255 Technical requirements for reserve transmitter.

(a) The following table describes the operating carrier frequency, emission, modulation and average ship station antenna power requirements for the reserve transmitter.

Operating frequency (kHz)	Frequency tolerance		Class of emission	Percentage modulation for amplitude modulation	Modulation for frequency for amplitude modulation	Power into an average ship station antenna
	Parts [1] in 10^6	Hz [2]				
500	[3] 1,000	20	A2A and A2B or H2A and H2B.	Not less than 70; not more 100.	At least 1 frequency between 300 and 1250 Hertz except for transmitters installed after July 1, 1951, at least 1 frequency between 450 and 1250 Hertz.	Not less than 25 watts.
410 and 1 working frequency in the band 415 to 525.	[3] 1,000	20	A2A and A3N or H2A and H3N.	.....do	.....do	.....do

[1] For equipment type accepted or type approved before November 30, 1977.
[2] For equipment type accepted or type approved after November 29, 1977.
[3] Except for reserve transmitters whose use is confined solely to safety communications. Such transmitters must maintain a frequency tolerance of 3000 parts in $10.^6$

(b) A reserve transmitter must operate at its required antenna power when adjusted to the operating frequency and energized by the reserve power supply of the ship station or by an equivalent power supply.

(c) A reserve transmitter must be equipped to measure antenna current.

(d) The antenna power must be determined at the operating carrier frequency by the product of the antenna resistance and the square of the average antenna current both measured at the same point in the antenna circuit at approximately gound potential.

§80.257 Manufacturing requirements for radiotelegraph automatic alarm receiver (auto alarm).

(a) The auto alarm must consist of:

(1) A radio receiver capable of receiving emissions of classes A1A, A1B, A2A, A2B, H2A, H2B, J2A, and J2B over the frequency range 496 through 504 kHz.

(i) The receiver must reject signals +106 dB above one microvolt at ±150 kHz from the center frequency and +88 dB above one microvolt at ±40 kHz from the center frequency.

(ii) The receiver must respond to signals from 100 microvolts to 1 volt on the center frequency. There must be less than 6 dB variation in sensitivity from 496 kHz through 504 kHz.

(2) A device capable of selecting the alarm signal specified under §80.259 (a) and (b).

(3) A minimum of 3 audible alarm units to meet the three location installation requirements of §80.259(g).

(4) A testing device to determine locally that the auto alarm system is operative.

(b) The auto alarm may be constructed in one or more units but must be independent of the ship's regular radio receiving apparatus.

(c) A telephone jack must be provided to permit reception by a telephone receiver.

(d) Tuning and timing controls must not be accessible from the exterior of the device.

(e) Once set into operation the audible alarms must continue to function until switches off in the principal radiotelegraph operating room.

(f) A nonlocking or momentary-throw switch must be provided to permit temporary disconnection of the audible alarm on the bridge and in the operator's quarters when the auto alarm system is being tested.

(g) A failure of the auto alarm power supply must activate the audible alarms.

(h) The auto alarm must operate within specifications throughout the temperature range 0–50 degrees Celsius at relative humidities as high as 95%.

(i) The auto alarm must be protected from excessive currents, power supply reversals and voltage variations which could cause damage to any component.

(j) The auto alarm must be capable of operating when subjected to vibrations having a frequency between 20 and 30 Hertz and an amplitude of 0.76 mm (0.03 inch) in a direction at an angle of 30 to 45 degrees with the base of the auto alarm.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44952, Aug. 25, 1993]

§80.259 Technical requirements for radiotelegraph auto alarm receiver.

(a) For type acceptance the auto alarm in the absence of interference must be capable of being operated by four consecutive dashes whose length may vary from 6.0 to 3.5 seconds and the intervening spaces vary between 1.5 seconds to 10 milliseconds. These types of auto alarms must not respond to dashes longer than 6.31 seconds or shorter than 3.33 seconds nor to intervening spaces longer than 1.58 seconds or shorter than 5 milliseconds except as follows:

(1) Non-digital types employing resistance-capacitance timing, type approved before October 1, 1969, and placed in service on or before January 1, 1985, must not respond to dashes longer than 7.40 seconds or shorter than 2.80 seconds, nor to space intervals longer than 1.80 seconds or shorter than 5 milliseconds.

(2) Digital types employing a stable clock as the basic timing device, type approved before May 1, 1968, and placed in service on or before December 1, 1975, may accept dashes whose lower limits extends down to 3.0 seconds.

(b) The auto alarm must operate with a signal of 100 microvolts RMS at 500 kHz applied to an artificial antenna

consisting of a 20 microhenry inductance, a 500 picofarad capacitor, and a 5 ohm resistor connected in series in the absence of any interference and without manual adjustment. It must be capable of operation under these conditions on the following classes of emission:

(1) A1B;

(2) A2B with a carrier modulated at any modulation percentage from 30 through 100 percent with any modulation frequency from 300 through 1350 Hertz; and

(3) H2B with a carrier keyed and emitted at any power level from 3 through 6 decibels below peak envelope power, with any modulation frequency from 300 through 1350 Hertz.

(c) The auto alarm must operate with signal levels up to 1 volt under normal operating conditions.

(d) The auto alarm warning device must not be activated by atmospherics or by any signal from the antenna other than the alarm signal.

(e) The auto alarms must respond to the alarm signal through non-continuous interference caused by atmospherics and powerful signals other than the alarm signal. In the presence of atmospherics or interfering signals, the auto alarm must automatically adjust itself within a reasonable time to the condition in which it can most readily distinguish the alarm signal.

(f) The auto alarm must respond without adjustment and with practically uniform sensitivity to signals over a band extending no less than 4 kHz on each side of the 500 kHz radiotelegraph frequency and with a minimum attenuation of:

5 dB at 495.0 kHz and 505.0 kHz
40 dB at 487.0 kHz and 513.0 kHz
80 dB at 475.0 kHz and 525.0 kHz

(g) When the auto alarm is activated it must sound continuously a warning in the radiotelegraph operating room, in the radio operator's cabin, and on the bridge.

(h) The auto alarm must include a 500 kHz signal generator and a keying device which automatically disconnects the auto alarm from the antenna when an alarm signal of 100 microvolts is applied to test the auto alarm.

§ 80.261 Technical requirements for automatic-alarm-signal keying device.

(a) The automatic-alarm-signal keying device may consist of one or more units.

(b) The device must be designed to activate the keying circuits of any transmitter approved by the Commission for use as a main or reserve transmitter.

(c) Timing-adjustment controls must not be accessible from the exterior of the device.

(d) The device must be able to repeatedly transmit the alarm signal. For this purpose the dashes transmitted must have a duration of 3.8 to 4.2 seconds, and spaces between each of the twelve dashes constituting a series must have a duration of 0.8 to 1.2 seconds. Spaces between each series of twelve dashes must have a duration of 0.8 second to one minute. This operation must be sustainable with power supply voltage variations of ±15%.

(e) A single control, protected to avoid accidental manipulation, must be provided for placing the device into full operation within 30 seconds. Once in operation, the device must be capable of continuous operation without attention for a least one hour.

(f) When the ''on-off'' control of the device is placed in the ''off'' position, the keying circuit to the radio transmitter(s) must be automatically opened.

(g) The automatic-alarm-signal keying device must be capable of operation from a power supply independent of ship power. It may operate from the radio station emergency power supply.

(h) Instructions for adjustment of the device and the correct indication of any instrument incorporated to reveal improper operation must be inscribed on a plate mounted on the device in a position to be easily read by the operator.

(i) The keying circuit must be capable of switching 0.75 amperes DC through a 32 ohms non-inductive resistance. If the automatic-alarm-signal keying device is also intended to be used with transmitters requiring a keying circuit capability of 2 amperes DC through a 115 ohms non-inductive

resistance, the keying circuit of the device must comply with this latter requirement.

(j) The automatic-alarm-signal keying device must operate within specifications throughout the temperature range 0–50 degrees Celsius at relative humidities as high as 95%.

(k) The automatic-alarm-signal keying device must be protected from excessive currents, power supply reversals and voltage variations which could cause damage to any component.

(l) The automatic-alarm-signal keying device must be capable of operating when subjected to vibrations having a frequency between 20 and 30 Hertz and an amplitude of 0.76 mm (0.03 inch) in a direction at an angle of 30 to 45 degrees with the base of the automatic-alarm-signal keying device.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44952, Aug. 25, 1993]

§80.263 Common requirements for survival craft radio equipment.

In addition to the requirements set forth in §§80.265 and 80.267, survival craft radio equipment must comply with the following:

(a) The radio equipment must be operable without tools.

(b) Each equipment must be provided with an instruction manual covering the design, installation, operation, and maintenance of the equipment.

(c) Simple instructions for the operation of the equipment must be prominently and permanently attached to it. These instructions must include information about the erection of the antenna(s), and automatic and manual transmission of the international distress and alarm signals on 500 kHz.

(d) An artificial antenna for test purposes must be provided.

(e) The survival craft radio transmitter must meet the following:

(1) Must be pretuned to the required frequencies. The operating frequencies must be maintained within the prescribed tolerances under varying voltages, antenna circuit characteristics, and other normal conditions of adjustment, and shock or vibration. The frequency control circuit adjustments must not be readily available to the person using the transmitter;

(2) Antenna tuning controls must be provided on the operating panel. An initial adjustment of these controls must resonate the antenna circuit at each required operating radio frequency. Resonance must be maintained without further adjustment of the controls during a normal operating period of the transmitter;

(3) The front panel must contain controls for manual operation on 500 kHz, manual operation on 8364 kHz, and automatic operation alternately on these two frequencies. Not more than one manual switch adjustment must be necessary to transmit automatically. For manual radiotelegraphy the transmitter and receiver, including their controls, must be arranged so that they can be operated from the same operating position and the time necessary to change from transmission to recepition and vice versa must not exceed two seconds; and

(4) In automatic operation the radio must:

(i) On 500 kHz transmit the international radiotelegraph alarm signal followed by the international radiotelegraph distress signal, the latter to be transmitted in one or more separate groups, each group consisting of three separate distress signals;

(ii) On 8364 kHz transmit the international radiotelegraph distress signal in one or more separate groups, each group consisting of three separate distress signals; this group or these groups to be followed by a continuous long dash of not less than 30 seconds in duration;

(iii) Transmit the specified signals by automatically changing the operating frequency of the transmitter from 500 kHz to 8364 kHz and vice versa with a transfer time interval not to exceed one second;

(iv) Completely de-energize the receiver during operation of the transmitter;

(v) Be capable of testing the required automatic keying arrangement without the generation of radio frequency energy; and

(vi) For automatic transmission of the international radiotelegraph distress signal, not exceed 16 words per minute or be less than 8 words per minute. The alarm signal dashes must

have a duration within the limits of 3.8 to 4.2 seconds, and the spaces between each of the 12 dashes constituting a series must have a duration within the limits of 0.8 to 1.2 seconds.

(f) Survival craft radio receivers must meet the following requirements:

(1) The receiver must be capable of receiving A2A or H2A emission over the 492–508 kHz band without manual tuning and when manually tuned must be capable of receiving A1A and A2A or H2A and J2A emission on any frequency in the 8320–8745 kHz band;

(2) The selectivity of the receiver preceeding the final detector must be flat within 6 dB over the band 492 to 508 kHz;

(3) The audio frequency response of the receiver must be flat within 6 dB over the range of frequencies between 400 and 1400 Hertz; and

(4) The receiver must be equipped with only one manually operated volume control.

(g) The artificial antenna must meet the following requirements:

(1) Provide a reliable test load for the transmitter at the frequencies 500 kHz and 8364 kHz of approximately the same electrical characteristics as the single wire or collapsible rod antenna required by this section;

(2) Be housed in a single container and provided with terminals. If more than two terminals are provided on the artificial antenna, all the terminals must be labelled; and

(3) Be prominently labelled ''FOR TEST USE ONLY''.

§ 80.265 Requirements for survival craft portable radio equipment.

(a) Survival craft portable radio equipment must be provided as a single portable buoyant unit consisting of a transmitter, receiver including headphones, power supply, grounding system, antenna system and line for lowering the apparatus. Each totally enclosed lifeboat must comply with the additional equipment requirements specified in this section:

(1) The radio must float in sea water and withstand a drop into sea water in various positions from a height of 6 meters (20 feet), without requiring repair or adjustment other than normal antenna tuning. The operating controls, indicating devices and instruments, including the headphones, must be protected against physical damage and from prolonged exposure to the weather. The radio must withstand submersion in sea water so that no part is less than 5 centimeters (2 inches) below the surface of the water for two hours without leaking;

(2) The radio must be fitted with handles or grips. It must be carryable by either one or two persons;

(3) The radio must be designed to attach to a lifeboat thwart by lashing or other acceptable means;

(4) The radio, exclusive of the line for lowering, must not weigh more than 27 kilograms (60 pounds). A radio for use in a totally enclosed lifeboat must not weigh more than 18 kilograms (40 pounds);

(5) The line for lowering must consist of not less than 12 meters (40 feet) of 9 thread manila or sisal rope, or the equivalent thereof, which must be securely attached to the radio at all times;

(6) All removable components necessary for the proper operation of the radio must be attached to this equipment;

(7) Each radio must have a durable removable plate showing clearly the survival craft radio call sign in letters and digits and in characters of the Morse code; and

(8) The maximum overall dimensions of the radio to be used in totally enclosed lifeboats including accessories must not exceed 35 by 40 by 50 centimeters (14 by 16 by 20 inches).

(b)(1) Portable survival craft radio transmitters must meet the following requirements:

Operating frequency (kHz)	Frequency tolerance		Type of emission	Modulation percentage (average of modulation percentage of positive and negative peaks	Modulation frequency	Average power output into specified artificial antenna	Artificial antenna
	Parts[1] in 10^6	Hz[2]					
500	5,000	20	A2A and A2B or H2A and H2B.	Not less than 70	Not less than 450 nor greater than 1350 Hertz.	Not less than 1.7 watts.	10 ohm resistance, 75 picofarads capacitance.
500	5,000	20	do	do	do	Not less than 2 watts[3].	15 ohms resistance, 100 picofarads capacitance.
8364	200	50	A2A and A3N or H2A and H3N.	do	do	Not less than 4 watts.	40 ohms resistance.

[1] For equipment type accepted or type approved before November 30, 1977.
[2] For equipment type accepted or type approved after November 29, 1977.
[3] In the case of equipment type approved prior to May 26, 1965, the power output may be 1.7 watts into an artificial antenna of 10 ohms resistance and 75 picofarads capacitance.

(2) The transmitter must be equipped with a visual indicator or indicators such as neon tubes to show antenna circuit resonance. Failure of the indicator(s) must not keep the transmitter from operating.

(c) Portable survival craft receivers must meet the following requirements:

(1) The audio output must be one milliwatt with a signal to noise power ratio of at least 10 to 1, when the receiver is supplied through the following artificial antennas with the respective radio frequency signals:

Operating frequency, (kHz)	Signal strength (microvolts)	Modulation factor	Modulation (Hz)	Artificial antenna
500	25	0.3	400	10 ohms resistance and 100 picofarads capacitance.[1]
8364	100	0.3	400	40 ohms resistance.

[1] In the case of equipment type approved prior to May 26, 1965, the artificial antenna may be 10 ohms resistance and 75 picofarads capacitance.

(2) The noise power present in the output of the receiver when the receiver is adjusted for A2A or H2A emission on 500 kHz and 8364 kHz must be determined with an unmodulated input signal of the indicated strength.

(d) The power supply must meet the following requirements:

(1) The source of power must be a manually operated electric generator capable of energizing the survival craft radio installation. The mechanical power applied to the crank handle(s) or the propelling lever(s) of the generator driving mechanism must not exceed a maximum of 0.15 horsepower for any operation of the survival craft radio installation at any temperature of the generator and its associated driving mechanism between minus 30 degrees and plus 50 degrees Celsius. Under these conditions the speed of rotation of the crank handle(s) must not be greater than 70 revolutions per minute nor must the cycles of operation of the propelling lever(s) be greater than 70 cycles per minute. The voltages applied to the radio installation must not vary from their normal values more than 20 percent at any generator speed in excess of the normal operating speed which can be manually developed.

(e) The antenna system must consist of a single wire antenna with a collapsible mast or a collapsible rod antenna conforming to the following requirements:

(1) The single wire antenna must be at least 12 meters (40 feet) of at least No. 10 AWG insulated extra-flexible stranded copper and include a means for fastening the wire to the antenna supports, and means for making electrical connection to the transmitter;

(2) Each totally enclosed lifeboat must be provided with a collapsible rod antenna which operates in either a freestanding position or supported only

by a grommet in the canopy of the lifeboat. The antenna must be capable of being erected from within of the enclosure. Antennas for use in totally enclosed lifeboats must be type accepted.

(f) The grounding system must consist of either a conducting wire or plate to provide an efficient ground for the portable survival craft equipment. The conducting wire must consist of a length of not less than 6 meters (20 feet) of No. 10 AWG bare stranded copper or equivalent copper braid weighted at one end for immersion in the sea. The ground plate must consist of a bare plate or strips of corrosion resistant metal having a total area of at least .6 square meters (6.5 square feet) and must be located on the hull of the lifeboat below the waterline. The electrical connection to the grounding conductor or to the ground plate must be made from inside the lifeboat.

§ 80.267 Requirements for survival craft nonportable radio equipment.

(a)(1) The radio transmitter must meet the following requirements:

Operating frequency (kHz)	Frequency tolerance		Type of emission	Modulation percentages (average of modulation percentage of positive and negative peaks)	Modulation frequency	Average power output into specified artificial antenna	Artificial antenna
	Parts [1] in 10^6	HZ [2]					
500	5,000	20	A2A and A2B or H2A and H2B.	Not less than 70	Not less than 450 nor greater than 1350 Hertz.	Not less than 30 watts.	10 ohms resistance and 100 picofarads capacitance.
8364	200	50	A2A or H2A ldes.	.....do	.....do	Not less than 40 watts.	40 ohms resistance.

[1] For equipment type accepted or type approved before November 30, 1977.
[2] For equipment type accepted or type approved after November 29, 1977.

(2) The transmitter must have an antenna current meter.

(b) Survival craft non-portable receivers must meet the following requirements:

(1) The audio output must be one milliwatt at a signal to noise power ratio of at least 10 to 1, when the receiver is supplied through the following artificial antennas with the respective radio frequency signals:

Operating frequency, (kHz)	Signal strength (microvolts)	Modulation factor	Modulation (Hz)	Artificial antenna
500	200	0.3	400	15 ohms resistance and 100 picofarads capacitance.
8364	1,000	0.3	400	40 ohms resistance.

(2) When the receiver is adjusted for A2A or H2A emission on 500 kHz and 8364 kHz the noise power present in the output of the receiver must be determined with an unmodulated input signal of the indicated strength;

(3) The audio output of the receiver must be capable of at least 8 dB above one milliwatt at the rated loan impedance.

§ 80.269 Technical requirements for radiotelephone distress frequency watch receiver.

(a) The radiotelephone distress frequency watch receiver is comprised of a receiver, a loudspeaker and a radiotelephone auto alarm device.

(b) The radiotelephone distress frequency watch receiver must meet the following requirements:

(1) The receiver must be capable of being switched to 2182 kHz and of receiving signals of at least A2A, A2B, H2A and H2B emissions;

(2) The receiver sensitivity must provide a SINAD of 20 dB at the audio output when a 30 microvolt signal with A2A, A2B, H2A, or H2B emission modulated 30% at 400 Hz is applied to the receiver RF terminals;

(3) The audio output of the receiver must be at least 50 milliwatts at the rated load impedance;

(4) The receiver must be provided with an auto alarm device which mutes the receiver (silences the loudspeaker) unless the radiotelephone alarm signal or the signal preceeding a vital navigational warning is received. When the auto alarm is activated the receiver audio output level must be louder than the output level of the received speech signal. Additionally, the receiver must meet the following requirements:

(i) When the receiver is muted its audio output power must be less than 1 milliwatt;

(ii) If tone filters are used to process the 1300 Hz and 2200 Hz tones the tolerance of their center frequency must be ±1.5 percent of the alerting frequency. The response must be flat within 6 dB to ±3% of the center frequency of the filters; and

(iii) The receiver must not be unmuted by atmospherics or by strong signals other than the radiotelephone alarm and the vital navigational warning signal.

(5) The receiver must be unmuted within 4 to 6 seconds when a double sideband alarm signal modulated at 70% is applied at its input terminals at a level which produces a SINAD of 10 dB under the following conditions:

(i) For radiotelephone alarm the signal must be modulated sequentially by a 1300 ±20 Hz tone and a 2200 ±35 Hz tone. The duration of each tone must be 250 ±50 milliseconds and the period between each tone must not exceed 50 milliseconds; and

(ii) For navigational warning the signal must be modulated by a 2200 ±35 Hz tone and the modulated carrier must be turned ''on'' for 250 ±50 milliseconds and then ''off'' for 250 ±50 milliseconds.

(6) The receiver must not be unmuted when a double sideband signal of 70 dB above the receiver measured sensitivity, modulated at 70% by a 2200 ±35 Hz tone with the following durations is applied at its input terminals:

(i) ''On'' periods of less than 175 milliseconds or more than 325 milliseconds followed by ''off'' periods of any duration; and

(ii) ''Off'' periods of less than 175 milliseconds or more then 425 milliseconds followed by ''on'' periods of any duration.

(7) The controls listed below must be provided on the exterior of the equipment:

(i) On/off switch with a visual indication that the device is on;

(ii) Volume control to adjust the audio output;

(iii) Control for dimming any light on the equipment;

(iv) Control for switching the auto alarm in and out of operation; and

(v) Control to manually reset the auto alarm to muted condition.

(8) The receiver must operate within specifications throughout the temperature range 0–50 degrees Celsius at relative humidities as high as 95%.

(9) The receiver must be capable of operating when subjected to vibrations having a frequency between 20 and 30 Hertz and an amplitude of 0.76 mm (0.03 inch) in a direction at an angle of 30 to 45 degrees with the base of the auto alarm.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44952, Aug. 25, 1993]

§80.271 Technical requirements for portable survival craft radiotelephone transceivers.

(a) Portable survival craft radiotelephone transceivers must comply with the following:

(1) The transceivers must receive and transmit either on 457.525 MHz or on 156.800 MHz;

(2) The receiver must comply with the requirements in part 15, subpart C of this chapter and must have a sensitivity of not more than 2 microvolts. The sensitivity requirement must be met using the receiver sensitivity measurement procedure specified in the Radio Technical Commission for Marine Services (RTCM) Special Committee No. 66 Report MMS–R2;

(3) The effective radiated power of the transmitter must be at least 0.1 watt;

(4) The transceivers must be battery powered and operate for at least four hours with a transmit to receive ratio of 1:9 with no significant adverse effect upon the performance of the device;

(5) The transceivers must have a permanently attached waterproof label with the statement ''Complies with the

FCC requirements for survival craft two-way radiotelephone equipment''; and

(6) The antenna must be permanently attached to the device or its removal must require the use of a special tool.

(b) Portable radiotelephone transceivers that are already type accepted may be used to satisfy the survival craft radiotelephone requirement until October 1, 1993, provided the device meets the technical requirements in paragraphs (a)(1) through (3) of this section.

(c) Survival craft radiotelephone equipment installed after October 1, 1988, must be type accepted to meet the requirements of this section.

(d) After October 1, 1993, all portable radiotelephone transceivers that are used to satisfy the survival craft radiotelephone requirement must have been type accepted to meet the requirements of this section.

(e) Portable radiotelephone transceivers which are type accepted to meet the requirements of this section must be identified by an appropriate note in the Commission's Radio Equipment List.

§ 80.273 Technical requirements for radar equipment.

The technical requirements for radar equipment are contained in § 80.825.

Subpart G—Safety Watch Requirements and Procedures

COAST STATION SAFETY WATCHES

§ 80.301 Watch requirements.

(a) Each public coast station operating on telegraphy frequencies in the band 405–535 kHz must maintain a watch for classes A1A, A2B and H2B emissions by a licensed radiotelegraph operator on the frequency 500 kHz for three minutes twice each hour, beginning at x h.15 and x h.45 Coordinated Universal Time (UTC).

(b) Each public coast station licensed to operate in the band 1605–3500 kHz must monitor such frequency(s) as are used for working or, at the licensee's discretion, maintain a watch on 2182 kHz.

(c) Except for distress, urgency or safety messages, coast stations must not transmit on 2182 kHz during the silence periods for three minutes twice each hour beginning at x h.00 and x h.30 Coordinated Universal Time (UTC).

(d) Each public coast station must provide assistance for distress communications when requested by the Coast Guard.

§ 80.302 Notice of discontinuance, reduction, or impairment of service involving a distress watch.

(a) When changes occur in the operation of a public coast station which include discontinuance, reduction or suspension of a watch required to be maintained on 500 kHz, 2182 kHz, or 156.800 MHz, notification must be made by the licensee to the nearest district office of the U.S. Coast Guard as soon as practicable. The notification must include the estimated or known resumption time of the watch.

(b) [Reserved]

§ 80.303 Watch on 156.800 MHz (Channel 16).

(a) During its hours of operation, each coast station operating in the 156–162 MHz band and serving rivers, bays and inland lakes except the Great Lakes, must maintain a safety watch on the frequency 156.800 MHz except when transmitting on 156.800 MHz.

(b) A coast station may be exempted from compliance with the watch requirement when Federal, State or Local Government stations maintain a watch on 156.800 MHz over 95% of the coast station's service area. Requests for an exemption must include a chart showing the receiving service area of the inland water public coast station. The coordinates, to the nearest minute, and the receiving service area of the Government stations maintaining the continuous watch on 156.800 MHz must be indicated on the same chart. The service area of these stations must be calculated using criteria specified in subpart P of this part.

(c) If the government station(s) providing the 156.800 MHz watch over the service area of an exempt station temporarily discontinues that watch, the exempt coast station upon receiving notice of this condition must maintain the watch on 156.800 HMz during the discontinuance. Automated maritime

communications systems' compliance with this requirement is limited to the use of existing facilities.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35245, Sept. 18, 1987]

SHIP STATION SAFETY WATCHES

§80.304 Watch requirement during silence periods.

(a) Each ship station operating on telegraphy frequencies in the band 405–535 kHz, must maintain a watch on the frequency 500 kHz of three minutes twice each hour beginning at x h.15 and x h.45 Coordinated Universal Time (UTC) by a licensed radiotelegraph officer using either a loudspeaker or headphone.

(b) Each ship station operating on telephony on frequencies in the band 1605–3500 kHz must maintain a watch on the frequency 2182 kHz. This watch must be maintained at least twice each hour for 3 minutes commencing at x h.00 and x h.30 Coordinated Universal Time (UTC) using either a loudspeaker or headphone. Expect for distress, urgency or safety messages, ship stations must not transmit during the silence periods on 2182 kHz.

§80.305 Watch requirements of the Communications Act and the Safety Convention.

(a) Each ship of the United States which is equipped with a radiotelegraph station for compliance with part II of title III of the Communications Act or chapter IV of the Safety Convention must:

(1) Keep a continuous and efficient watch on 500 kHz by means of radio officers while being navigated in the open sea outside a harbor or port. In lieu thereof, on a cargo ship equipped with a radiotelegraph auto alarm in proper operating condition, an efficient watch on 500 kHz must be maintained by means of a radio officer for at least 8 hours per day in the aggregate, i.e., for at least one-third of each day or portion of each day that the vessel is navigated in the open sea outside of a harbor or port.

(2) Keep a continuous and efficient watch on the radiotelephone distress frequency 2182 kHz from the principal radio operating position or the room from which the vessel is normally steered while being navigated in the open sea outside a harbor or port. A radiotelephone distress frequency watch receiver having a loudspeaker and a radiotelephone auto alarm facility must be used to keep the continuous watch on 2182 kHz if such watch is kept from the room from which the vessel is normally steered. After a determination by the master that conditions are such that maintenance of the listening watch would interfere with the safe navigation of the ship, the watch may be maintained by the use of the radiotelephone auto alarm facility alone.

(3) Keep a continuous and efficient watch on the VHF distress frequency 156.800 MHz from the room from which the vessel is normally steered while in the open sea outside a harbor or port. The watch must be maintained by a designated member of the crew who may perform other duties, relating to the operation or navigation of the vessel, provided such other duties do not interfere with the effectiveness of the watch. Use of a properly adjusted squelch or brief interruptions due to other nearby VHF transmissions are not considered to adversely affect the continuity or efficiency of the required watch on the VHF distress frequency. This watch need not be maintained by vessels subject to the Bridge-to-Bridge Act and participating in a Vessel Traffic Services (VTS) system as required or recommended by the U.S. Coast Guard, when an efficient listening watch is maintained on both the bridge-to-bridge frequency and a separate assigned VTS frequency.

(b) Each cargo ship of the United States which is equipped with a radiotelephone station for compliance with part II of title III of the Communications Act or chapter IV of the Safety Convention must while being navigated outside of a harbor or port:

(1) Keep a continuous watch on 2182 kHz in the room from which the vessel is normally steered while at sea, whenever such station is not being used for authorized traffic. Such watch must be maintained by at least one officer or crewmember who may perform other duties relating to the operation or navigation of the vessel, provided such other duties do not interfere with the

watch. A radiotelephone watch receiver having a loudspeaker and a radiotelephone auto alarm must be used to keep the continuous watch on 2182 kHz. After a determination by the master that maintenance of the watch would interfere with the safe navigation of the ship, the watch may be maintained by use of the radiotelephone auto alarm facility alone.

(2) Keep a continuous watch on 156.800 MHz from the room from which the vessel is normally steered. The watch must be maintained by a crewmember who may perform other duties, relating to the operation or navigation of the vessel, provided such other duties do not interfere with the watch. Use of properly adjusted squelch of brief interruptions due to other nearby VHF transmissions are not considered to adversely affect the watch. This watch need not be maintained by vessels subject to the Bridge-to-Bridge Act and participating in a Vessel Traffic Services (VTS) system when a watch is maintained on both the bridge-to-bridge frequency and a VTS frequency.

(c) Each vessel of the United States transporting more than six passengers for hire, which is equipped with a radiotelephone station for compliance with part III of title III of the Communications Act must, while being navigated in the open sea or any tidewater within the jurisdiction of the United States adjacent or contiguous to the open sea, keep a continuous watch on 2182 kHz while the vessel is beyond VHF communication range of the nearest VHF coast station, whenever the radiotelephone station is not being used for authorized traffic. A VHF watch must be kept on 156.800 MHz whenever such station is not being used for authorized traffic. The VHF watch must be maintained at the vessel's steering station actually in use by the qualified operator as defined by § 80.157 or by a crewmember who may perform other duties relating to the operation or navigation of the vessel, provided such other duties do not interfere with the watch. The use of a properly adjusted squelch is not considered to adversely affect the watch. The VHF watch need not be maintained by vessels subject to the Bridge-to-Bridge Act and participating in a Vessel Traffic Services (VTS) system when an efficient listening watch is maintained on both the bridge-to-bridge frequency and a VTS frequency.

§ 80.306 Provisions governing the radiotelegraph watch.

(a) The radio officer must use the main or reserve receiver, and either headphones or a loudspeaker to keep the watch on 500 kHz.

(b) During the watch, the radio officer may temporarily interrupt the required watch on 500 kHz while transmitting or receiving signals or messages to or from a station but only if it is not feasible to simultaneously handle such traffic and listen on 500 kHz by split headphones or a loudspeaker. The watch on 500 kHz must, however, without exception be maintained during the silence periods.

(c) During this watch, on vessels subject to the Communications Act and the Safety Convention on international voyages, the radio officer may discontinue listening when handling traffic on other frequencies or performing other essential radio duties, but only if it is impracticable to listen by split headphones or loudspeaker. The watch must always be maintained by a radio officer using headphones or loudspeaker during the silence periods. The term ''essential radio duties'' in this rule includes urgent repairs of radiocommunication equipment used for safety or radio navigational equipment by order of the master.

(d) When authorized by the master, the radio officer may perform maintenance repair of communications, navigation or other electronic equipment outside of the radiotelegraph room, provided that the listening watch on 500 kHz can be maintained by headphones, loudspeakers, portable receivers, or other suitable means. The watch on 500 kHz must be maintained in the radiotelegraph room during the silence period.

§ 80.307 Compulsory use of radiotelegraph auto alarm.

The radiotelegraph auto alarm required on a cargo ship subject to the radiotelegraph provisions of part II of title III of the Communications Act or

the Safety Convention must be in operation, connected to the main antenna and adjusted for optimum efficiency at all times while the ship is being navigated in the open sea when a radio officer is not listening on the frequency 500 kHz, except under the circumstances as set forth in §80.306(b).

§80.308 Watch required by the Great Lakes Radio Agreement.

(a) Each ship of the United States that is equipped with a radiotelephone station for compliance with the Great Lakes Radio Agreement must when underway keep a watch on:

(1) 156.800 MHz on board a vessel 20 meters (65 feet) and over in length, a vessel engaged in towing (See §80.951(b)), or a vessel carrying more than 6 passengers for hire. This watch must be maintained whenever the station is not being used for authorized traffic. However, a watch on 156.800 MHz need not be maintained by a vessel maintaining a watch on the bridge-to-bridge frequency 156.650 MHz *and* participating in a Vessel Traffic Services (VTS) system and maintaining a watch on the specified VTS frequency.

(2) 156.650 MHz on board a vessel 38 meters (124 feet) and over in length, a vessel engaged in towing (See §80.951(b)), or a vessel carrying more than six passengers for hire. This watch must be maintained continuously and effectively. Sequential monitoring is not sufficient. Portable VHF equipment may be used to meet this requirement. Vessels are exempted from this requirement while transiting the St. Lawrence Seaway and complying with the Joint Regulations of the St. Lawrence Seaway Authority and St. Lawrence Seaway Development Corporation between the lower exit of St. Lambert Lock at Montreal and Crossover Island, New York and in the Welland Canal and approaches between Calling in Point No. 15 and No. 16.

(b) The watch must be maintained by the master, or person designated by the master, who may perform other duties provided they do not interfere with the effectiveness of the watch.

[53 FR 17052, May 13, 1988]

§80.309 Watch required by the Bridge-to-Bridge Act.

In addition to the watch requirement contained in §80.148, all vessels subject to the Bridge-to-Bridge Act must keep a watch on the designated navigational frequency. The watch must be maintained by the master or person in charge of the vessel or the person designated by the master or person in charge to pilot or direct the movement of the vessel. The person standing watch may perform other duties provided such other duties do not interfere with the watch.

[51 FR 31213, Sept. 2, 1986, as amended at 57 FR 61012, Dec. 23, 1992]

§80.310 Watch required by voluntary vessels.

Voluntary vessels not equipped with DSC must maintain a watch on 156.800 MHz (channel 16) whenever the radio is operating and is not being used to communicate. Noncommercial vessels, such as recreational boats, may alternatively maintain a watch on 156.450 MHz (channel 9) for call and reply purposes.

[57 FR 19552, May 7, 1992]

DISTRESS, ALARM, URGENCY AND SAFETY PROCEDURES

§80.311 Authority for distress transmission.

A mobile station in distress may use any means at its disposal to attract attention, make known its position, and obtain help. A distress call and message, however, must be transmitted only on the authority of the master or person responsible for the mobile station. No person shall knowingly transmit, or cause to be transmitted, any false or fraudulent signal of distress or related communication.

§80.312 Priority of distress transmissions.

The distress call has absolute priority over all other transmissions. All stations which hear it must immediately cease any transmission capable of interfering with the distress traffic

and must continue to listen on the frequency used for the emission of the distress call. This call must not be addressed to a particular station. Acknowledgement of receipt must not be given before the distress message which follows it is sent.

§ 80.313 Frequencies for use in distress.

The frequencies specified in the bands below are for use by mobile stations in distress. The conventional emission is shown. When a ship station cannot transmit on the designated frequency or the conventional emission, it may use any available frequency or emission. Frequencies for distress and safety calling using digital selective calling techniques are listed in § 80.359(b). Distress and safety NB-DP frequencies are indicated by footnote 2 in § 80.361(b).

Frequency band	Emission	Carrier frequency
405–535 kHz	A2B	500 kHz.
1605–3500 kHz	J3E	2182 kHz.
4000–27, 5000 kHz	A2B	8364 kHz.
118–136 MHz	A3E	121.500 MHz.
156–162 MHz	F3E, PON	156.800 MHz 156.750 MHz.
243 MHz	A3N	243.000 MHz.

The maximum transmitter power obtainable may be used.

[51 FR 31213, Sept. 2, 1986; 51 FR 34984, Oct. 1, 1986]

§ 80.314 Distress signals.

(a) The international radiotelegraphy distress signal consists of the group ''three dots, three dashes, three dots'' (... ---...), symbolized herein by SOS, transmitted as a single signal in which the dashes are slightly prolonged so as to be distinguished clearly from the dots.

(b) The international radiotelephone distress signal consists of the word MAYDAY, pronounced as the French expression ''m'aider''.

(c) These distress signals indicate that a mobile station is threatened by grave and imminent danger and requests immediate assistance.

§ 80.315 Distress calls.

(a) The radiotelegraph distress call consists of:

(1) The distress signal SOS, sent three times;

(2) The word DE;

(3) The call sign of the mobile station in distress, sent three times.

(b) The radiotelephone distress call consists of:

(1) The distress signal MAYDAY spoken three times;

(2) The words THIS IS;

(3) The call sign (or name, if no call sign assigned) of the mobile station in distress, spoken three times.

§ 80.316 Distress messages.

(a) The radiotelegraph distress message consists of:

(1) The distress signal SOS;

(2) The name of the mobile station in distress;

(3) Particulars of its position;

(4) The nature of the distress;

(5) The kind of assistance desired;

(6) Any other information which might facilitate rescue.

(b) The radiotelephone distress message consists of:

(1) The distress signal MAYDAY;

(2) The name of the mobile station in distress;

(3) Particulars of its position;

(4) The nature of the distress;

(5) The kind of assistance desired;

(6) Any other information which might facilitate rescue, for example, the length, color, and type of vessel, number of persons on board.

(c) As a general rule, a ship must signal its position in latitude and longitude, using figures for the degrees and minutes, together with one of the words NORTH or SOUTH and one of the words EAST or WEST. In radiotelegraphy, the signal .-.-.- must be used to separate the degrees from the minutes. When practicable, the true bearing and distance in nautical miles from a known geographical position may be given.

§ 80.317 Radiotelegraph and radiotelephone alarm signals.

(a) The international radiotelegraph alarm signal consists of a series of twelve dashes sent in one minute, the duration of each dash being four seconds and the duration of the interval between consecutive dashes one second. The purpose of this special signal is the

actuation of automatic devices giving the alarm to attract the attention of the operator when there is no listening watch on the distress frequency.

(b) The international radiotelephone alarm signal consists of two substantially sinusoidal audio frequency tones transmitted alternately. One tone must have a frequency of 2200 Hertz and the other a frequency of 1300 Hertz, the duration of each tone being 250 milliseconds. When generated by automatic means, the radiotelephone alarm signal must be transmitted continuously for a period of at least 30 seconds, but not exceeding one minute; when generated by other means, the signal must be transmitted as continuously as practicable over a period of approximately one minute. The purpose of this special signal is to attract the attention of the person on watch or to actuate automatic devices giving the alarm.

§80.318 Use of alarm signals.

(a) The radiotelegraph or radiotelephone alarm signal, as appropriate, must only be used to announce:

(1) That a distress call or message is about to follow;

(2) The transmission of an urgent cyclone warning. In this case the alarm signal may only be used by coast stations authorized by the Commission to do so; or

(3) The loss of a person or persons overboard. In this case the alarm signal may only be used when the assistance of other ships is required and cannot be satisfactorily obtained by the use of the urgency signal only, but the alarm signal must not be repeated by other stations. The message must be preceded by the urgency signal.

(b) In cases described in paragraphs (a)(2) and (3) of this section, the transmission of the warning or message by radiotelegraphy must not begin until two minutes after the end of the radiotelegraph alarm signal.

§80.319 Radiotelegraph distress call and message transmission procedure.

(a) The radiotelegraph distress procedure consists of the following six steps: however, when time is vital, the first and second steps may be omitted. These two steps of the distress procedure may also be omitted in circumstances when transmission of the alarm signal is considered unnecessary:

(1) The radiotelegraph alarm signal;

(2) The distress call and an interval of two minutes;

(3) The distress call;

(4) The distress message;

(5) Two dashes of ten to fifteen seconds each;

(6) The call sign of the mobile station in distress.

(b) The radiotelegraph distress transmissions must be sent by means of the international Morse code at a speed not exceeding 16 words per minute nor less than 8 words per minute.

(c) The distress message, preceded by the distress call, must be repeated at intervals, especially during the 500 kHz international silence periods, until an answer is received. The radiotelegraph alarm signal may also be repeated, if necessary.

(d) The transmissions under paragraphs (a)(5) and (6) of this section, which are to permit direction finding stations to determine the position of the station in distress, may be repeated at frequent intervals if necessary.

(e) When the mobile station in distress receives no answer to a distress message transmitted on the distress frequency, the message may be repeated on any other available frequency on which attention might be attracted.

§80.320 Radiotelephone distress call and message transmission procedure.

(a) The radiotelephone distress procedure consists of:

(1) The radiotelephone alarm signal (whenever possible);

(2) The distress call;

(3) The distress message.

(b) Radiotelephone distress transmissions must be made slowly and distinctly, each word being clearly pronounced to facilitate transcription.

(c) After the transmission by radiotelephony of its distress message, the mobile station may be requested to transmit suitable signals followed by its call sign or name, to permit direction-finding stations to determine its

position. This request may be repeated at frequent intervals if necessary.

(d) The distress message, preceded by the distress call, must be repeated at intervals until an answer is received. This repetition must be preceded by the radiotelephone alarm signal whenever possible.

(e) When the mobile station in distress receives no answer to a distress message transmitted on the distress frequency, the message may be repeated on any other available frequency on which attention might be attracted.

§ 80.321 Acknowledgement of receipt of distress message.

(a) Stations of the maritime mobile service which receive a distress message from a mobile station which is beyond any possible doubt in their vicinity must immediately acknowledge receipt. However, in areas where reliable communication with one or more coast stations is practicable, ship stations may defer this acknowledgement for a short interval so that a coast station may acknowledge receipt.

(b) Stations of the maritime mobile service which receive a distress message from a mobile station which beyond any possible doubt is not in their vicinity, must allow a short interval of time to elapse before acknowledging receipt of the message in order to permit stations nearer to the mobile station in distress to acknowledge receipt without interference.

§ 80.322 Form of acknowledgement.

(a) The acknowledgement of receipt of a radiotelegraph distress message is transmitted in the following form:

(1) The distress signal SOS;

(2) The call sign of the station sending the distress message, sent three times;

(3) The word DE;

(4) The call sign of the station acknowledging receipt, sent three times;

(5) The group RRR;

(6) The message signal SOS.

(b) The acknowledgement of receipt of a radiotelephone distress message is transmitted in the following form:

(1) The distress signal MAYDAY;

(2) The call sign or other identification of the station sending the distress message, spoken three times;

(3) The words THIS IS;

(4) The call sign or other identification of the station acknowledging receipt, spoken three times;

(5) The word RECEIVED;

(6) The distress signal MAYDAY.

§ 80.323 Information furnished by an acknowledging station.

(a) Every mobile station which acknowledges receipt of a distress message must on the order of the master or person responsible for the ship, aircraft, or other vehicle carrying such mobile station, transmit as soon as possible the following information in the order shown:

(1) Its identifier;

(2) Its position;

(3) The speed at which it is proceeding towards, and the approximate time it will take to reach the mobile station in distress.

(b) Before sending this message, the station must ensure that it will not interfere with the emissions of other stations better situated to render immediate assistance to the station in distress.

§ 80.324 Transmission of distress message by station not itself in distress.

(a) A mobile station or a land station which learns that a mobile station is in distress must transmit a distress message in any of the following cases:

(1) When the station in distress cannot transmit the distress message.

(2) When the master or person responsible for the ship, aircraft, or other vehicle not in distress, or for the land station, believes that further help is necessary.

(3) When, although not in a position to assist, it has heard a distress message which has not been acknowledged. When a mobile station transmits such a distress message, it must notify the authorities who may be able to assist.

(b) Transmission must be made on the international distress frequencies or on any other available frequency on which attention might be attracted.

(c) Transmission of the distress message must always be preceded by the call indicated below, which must itself

be preceded whenever possible by the radiotelegraph or radiotelephone alarm signal. This call consists of:

(1) When radiotelegraphy is used:

(i) The signal DDD SOS SOS SOS DDD:

(ii) The word DE;

(iii) The call sign of the transmitting station, sent three times.

(2) When radiotelephony is used:

(i) The signal MAYDAY RELAY, spoken three times;

(ii) The words THIS IS;

(iii) The call sign or other identification of the transmitting station, spoken three times.

(d) When the radiotelegraph alarm signal is used, an interval of two minutes must be allowed, whenever this is considered necessary, before the transmission of the call mentioned in paragraph (c)(1) of this section.

§80.325 Control of distress traffic.

(a) Distress traffic consists of all messages relating to the immediate assistance required by the mobile station in distress. In distress traffic, the distress signal must be sent before the call and at the beginning of the preamble of any radiotelegram.

(b) The control of distress traffic is the responsibility of the mobile station in distress or of the station which has sent the distress message. These stations may delegate the control of the distress traffic to another station.

(c) The station in distress or the station in control of distress traffic may impose silence either on all stations of the mobile service in the area or on any station which interferes with the distress traffic. It must address these instructions ''to all stations'' or to one station only, according to circumstances. In either case, it must use one of the following signals which are reserved for use by the mobile station in distress and for the station controlling distress traffic:

(1) In radiotelegraphy, the abbreviation QRT, followed by the distress signal SOS.

(2) In radiotelephony, the signal SEELONCE MAYDAY.

(d) If essential, any station of the mobile service near the ship, aircraft, or other vehicle in distress may also impose silence. It must use for this purpose:

(1) In radiotelegraphy, the abbreviation QRT, followed by the word DISTRESS and its own call sign;

(2) In radiotelephony, the word SEELONCE, followed by the word DISTRESS and its own call sign or other identification.

§80.326 Notification of resumption of normal working.

(a) When distress traffic has ceased, or when complete silence is no longer necessary on a frequency which has been used for distress traffic, the station which has controlled this traffic must transmit on that frequency a message addressed ''to all stations'' indicating that normal working may be resumed.

(1) In radiotelegraphy, this message consists of:

(i) The distress signal SOS;

(ii) The call ''to all stations'' (CQ), sent three times;

(iii) The word DE;

(iv) The call sign of the station sending the message;

(v) The time of handing in the message;

(vi) The name and call sign of the mobile station which was in distress;

(vii) The service abbreviation QUM.

(2) In radiotelephony, this message consists of:

(i) The distress signal MAYDAY;

(ii) The call ''Hello all stations'', spoken three times;

(iii) The words THIS IS;

(iv) The call sign or other identification of the station sending the message;

(v) The time of handing in of the message;

(vi) The name and call sign of the mobile station which was in distress;

(vii) The words SEELONCE FEENEE OR PRU-DONCE.

(b) Until they receive the foregoing message indicating that normal or limited working may be resumed, all stations which are aware of the distress traffic, and which are not taking part in it, are forbidden to transmit on the frequencies on which the distress traffic is taking place.

§ 80.327 Urgency signals.

(a) The urgency signal indicates that the calling station has a very urgent message to transmit concerning the safety of a ship, aircraft, or other vehicle, or the safety of a person. The urgency signal must be sent only on the authority of the master or person responsible for the mobile station.

(b) In radiotelegraphy, the urgency signal consists of three repetitions of the group XXX, sent with the individual letters of each group, and the successive groups clearly separated from each other. It must be transmitted before the call.

(c) In radiotelephony, the urgency signal consists of three oral repetitions of the group of words PAN PAN transmitted before the call.

(d) The urgency signal has priority over all other communications except distress. All mobile and land stations which hear it must not interfere with the transmission of the message which follows the urgency signal.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35245, Sept. 18, 1987]

§ 80.328 Urgency message.

(a) The urgency signal and call, and the message following it, must be sent on one of the international distress frequencies. Stations which cannot transmit on a distress frequency may use any other available frequency on which attention might be attracted.

(b) Mobile stations which hear the urgency signal must continue to listen for at least three minutes. At the end of this period, if no urgency message has been heard, they may resume their normal service. However, land and mobile stations which are in communication on frequencies other than those used for the transmission of the urgency signal and of the call which follows it may continue their normal work without interruption provided the urgency message is not addressed ''to all stations''.

(c) When the urgency signal has been sent before transmitting a message ''to all stations'' which calls for action by the stations receiving the message, the station responsible for its transmission must cancel it as soon as it knows that action is no longer necessary. This message of cancellation must likewise be addressed ''to all stations''.

§ 80.329 Safety signals.

(a) The safety signal indicates that the station is about to transmit a message concerning the safety of navigation or giving important meteorological warnings.

(b) In radiotelegraphy, the safety signal consists of three repetitions of the group TTT, sent with the individual letters of each group, and the successive groups clearly separated from each other. It must be sent before the call.

(c) In radiotelephony, the safety signal consists of the word SECURITE, pronounced as in French, spoken three times and transmitted before the call.

(d) The safety signal and call must be sent on one of the international distress frequencies (500 kHz or 8364 kHz radiotelegraph; 2182 kHz or 156.8 MHz radiotelephone). Stations which cannot transmit on a distress frequency may use any other available frequency on which attention might be attracted.

§ 80.330 Safety message.

(a) The safety signal and call must be followed by the safety message. Where practicable, the safety message should be sent on a working frequency, and a suitable announcement to this effect must be made at the end of the call.

(b) Except for the cases mentioned in paragraph (c) of this section, the safety signal when sent on the frequency 500 kHz must be transmitted toward the end of the first available silence period; the safety message must be transmitted immediately after the silence period.

(c) Messages about meteorological warnings, of cyclones, dangerous ice, dangerous wrecks, or any other imminent danger to marine navigation must be preceded by the safety signal.

(d) Stations hearing the safety signal must not make any transmission likely to interfere with the message.

§ 80.331 Bridge-to-bridge communication procedure.

(a) Vessels subject to the Bridge-to-Bridge Act transmitting on the designated navigational frequency must conduct communications in a format similar to those given below:

(1) This is the (name of vessel). My position is (give readily identifiable position, course and speed) about to (describe contemplated action). Out.

(2) Vessel off (give a readily identifiable position). This is (name of vessel) off (give a readily identifiable position). I plan to (give proposed course of action). Over.

(3) (Coast station), this is (vessel's name) off (give readily identifiable position). I plan to (give proposed course of action). Over.

(b) Vessels acknowledging receipt must answer ''(Name of vessel calling). This is (Name of vessel answering). Received your call,'' and follow with an indication of their intentions. Communications must terminate when each ship is satisfied that the other no longer poses a threat to its safety and is ended with ''Out''.

(c) Use of power greater than 1 watt in a bridge-to-bridge station shall be limited to the following three situations:

(1) Emergency.

(2) Failure of the vessel being called to respond to a second call at low power.

(3) A broadcast call as in paragraph (a)(1) of this section in a blind situation, e.g., rounding a bend in a river.

§80.332 Equipment to aid search and rescue operations.

(a) Survival craft stations may transmit distress, urgency and safety signals, calls and messages.

(b) EPIRB's may transmit only in accordance with the requirements of subparts V and X of this part.

§80.333 Stations in the maritime mobile-satellite service.

The provisions of §§80.311 and 80.324 apply to the operations of ship earth stations in the maritime mobile-satellite service.

Subpart H—Frequencies

RADIOTELEGRAPHY

§80.351 Scope.

The following sections describe the carrier frequencies and general uses of radiotelegraphy with respect to the following:

—Distress, urgency, safety, call and reply.
—Working.
—Digital selective calling (DSC).
—Narrow-band direct-printing (NB–DP).
—Facsimile.

§80.353 General uses—radiotelegraphy.

(a) Unless otherwise indicated radiotelegraphy may be used by ship and public coast stations only.

(b) The signal code for Morse telegraphy must be the international Morse code signals specified in the Telegraph Regulations annexed to the International Telecommunication Convention.

(c) To facilitate communications, ship stations transmitting by means of radiotelegraphy must use the service abbreviations (''Q'' signals) listed in Appendix 14 to the ITU Radio Regulations whenever practicable.

(d) In order to reduce interference stations must attempt to select calling frequencies which provide the most favorable propagational characteristics for effecting reliable communications.

(e) Coast stations may apply to use for telegraphy communications any additional coast station frequencies that are allocated for such communications in the 10–27500 kHz band that are not listed in this part. See the Table of Frequency allocations in §2.106 of this chapter. The use of such frequencies will be authorized initially with a six month provisional period.

(f) Radiotelegraphy stations communicating with a Government station may transmit on a Government frequency when authorized to do so by the Government station or agency if the emission, bandwidth and frequency tolerance of the non-Government station are within the same limits as the Government station.

§80.355 Distress, urgency, safety, call and reply Morse code frequencies.

This section describes the distress, urgency, safety, call and reply carrier frequencies assignable to stations for Morse code radiotelegraphy.

(a) *Frequencies in the 100–160 kHz band.* The international calling frequency in the 100–160 kHz band is 143 kHz using A1A or J2A emission. When a ship station operating in the 100–160 kHz band desires to communicate with

a coast station, it must call on the frequency 143 kHz unless the International List of Coast Stations provides otherwise. Coast stations must reply on their normal working frequency in this band. Only individual calls, replies to such calls, and transmission of signals preparatory to traffic may be transmitted on 143 kHz.

(b) *Frequencies in the 405–535 kHz band.* (1) The international distress, urgency, safety, call and reply frequency used by ship and coast stations operating in the 405–525 kHz band is 500 kHz. A2A and A2B or H2A and H2B emissions are preferred for distress calls, distress traffic and for urgency and safety messages. For call and reply messages A1A or J2A emission must be used. In order to facilitate distress communications routine correspondence tranmissions on 500 kHz must be reduced to a minimum.

(2) In Region 2 and areas of heavy traffic ship stations must request coast stations to listen on the ship station's working frequencies.

(3) In areas where 500 kHz is used for distress a ship or coast station must use the supplementary calling frequency 512 kHz for routine calling and normally request a reply on its working frequency. The called station may reply on 512 kHz when requested to do so by the calling station.

(c) *Frequencies in the 2000–27500 kHz band*—(1) *Survival craft frequencies:* Survival craft operating on 8364 kHz must use A2A or H2A emission to establish communications related to search and rescue operations.

(2) *Ship station frequencies.* The following table describes the calling frequencies in the 4000–27500 kHz band which are available for use by authorized ship stations equipped with crystal controlled oscillators for A1A or J2A radiotelegraphy. There are two series of frequencies for worldwide use and two series of frequencies for each geographic region. Ship stations with synthesized transmitters may operate on every full 100 Hz increment in the 0.5 kHz channel for the frequencies listed, except for 100 Hz above and below those designated for worldwide use. During normal business hours when not communicating on other frequencies, all U.S. coast radiotelegraph stations must monitor the worldwide frequencies and the initial calling frequencies for the region in which it is located. The specific frequencies which must be monitored by a coast station will vary with propagation conditions. The calling frequencies which are routinely monitored by specific coast stations can be determined by reference to the ITU publication entitled ''List of Coast Stations''. Initial calls by ship stations must be made on the appropriate initial calling frequency first. Calls on the worldwide frequencies may be made only after calls on the appropriate initial calling frequency are unsuccessful.

SHIP MORSE CALLING FREQUENCIES (KHZ)

Region:	ITU							ITU	
Worldwide	3	4184.0	6276.0	8368.0	12552.0	16736.0	22280.5	C	25172.0
	4	4184.5	6276.5	8369.0	12553.5	16738.0	22281.0	C	25172.0
Atlantic:									
Initial	1	4182.0	6277.0	8366.0	12550.0	16734.0	22279.5	A	25171.5
Alternate	2	4182.5	6277.5	8366.5	12550.5	16734.5	22280.0	A	25171.5
Caribbean:									
Initial	1	4182.0	6277.0	8366.0	12550.0	16734.0	22279.5	A	25171.5
Alternate	2	4182.5	6277.5	8366.5	12550.5	16734.5	22280.0	A	25171.5
Gulf-Mexico:									
Initial	5	4183.0	6278.0	8367.0	12551.0	16735.0	22281.5	A	25171.5
Alternate	6	4183.5	6278.5	8367.5	12551.5	16735.5	22282.0	A	25171.5
N Pacific:									
Initial	7	4185.0	6279.0	8368.5	12552.5	16736.5	22282.5	B	25172.5
Alternate	8	4185.5	6279.5	8369.5	12553.0	16737.0	22283.0	B	25172.5
S Pacific:									
Initial	9	4186.0	6280.0	8370.0	12554.0	16737.5	22283.5	B	25172.5
Alternate	10	4186.5	6280.5	8370.5	12554.5	16738.5	22284.0	B	25172.5

(3) *Coast Station frequencies.* Coast stations may use any working carrier frequency for distress, safety and calling listed in §80.357(b)(1) which is not identified with a specific use.

(d) *Frequencies in the VHF bands.* (1) Survival craft stations using 121.500 MHz may be assigned A3N emission for radiobeacon purposes.

(2) EPIRB stations may be assigned 121.500 MHz and 243.000 MHz using A3E, A3X and NON emission or 156.750 MHz and 156.800 MHz using G3N emission to aid search and rescue operations. See subpart V of this part.

[51 FR 31213, Sept. 2, 1986; 51 FR 34984, Oct. 1, 1986; 52 FR 35245, Sept. 18, 1987; 56 FR 9886, Mar. 8, 1991; 56 FR 11516, Mar. 19, 1991]

§80.357 Morse code working frequencies.

This section describes the working frequencies assignable to maritime stations for A1A or J2A radiotelegraphy.

(a) *Ship station frequencies*—(1) *Frequencies in the 100–160 kHz band.* The following table describes the working carrier frequencies in the 100–160 kHz band which are assignable to ship stations. A ship station may also transmit on a radiotelegraphy working channel of a coast station within the 100–160 kHz band when directed to do so by the coast station provided interference is not caused to any land, fixed, broadcast, or radiolocation station.

100–160 (kHz)
152
153
154
155
156
157
158

(2) *Frequencies in the 405–525 kHz band.* The following table describes the working carrier frequencies in the 405–525 kHz band which are assignable to ship stations. A ship station may transmit on a radiotelegraphy working channel of a coast station in the 415–490 kHz band when directed to do so by the coast station.

405–525 (kHz)
[1] 410
425
454
468
480
[2] 512
[3] 518

[1] The frequency 410 kHz may be used on a secondary basis for the transmission of radiodetermination information and for transmitting by radiotelegraph radiodetermination related messages to direction-finding stations.

[2] The frequency 512 kHz may be used as a supplementary calling frequency when 500 kHz is used for distress, safety and urgency communications. The use of the 512 kHz as a working frequency is prohibited in areas where it is used as a supplementary calling frequency when 500 kHz is used for distress, safety, and urgency communications.

[3] The frequency 518 kHz is a receive only frequency by ship stations. It is used by U.S. Coast Guard coast stations for NB–DP transmissions of meteorological and navigational warnings to ships.

(3) *Frequencies in the 2000–27500 kHz band.* This paragraph describes the working frequencies and Channel Series in the 2000–27500 kHz band which are assignable to ship stations.

(i) Two Channel Series will be assigned for routine use to each ship station. Frequencies from any other Channel Series may be used if the frequencies in the assigned Channel Series are not adequate for communications.

SHIP MORSE WORKING FREQUENCIES (KHZ)

Channel Series:							
W1	4187.0	6285.0	8342.0 8343.5	12422.0 12453.0	16619.0 16650.0 16681.0	22242.0 22273.0	25161.5
W2	4187.5	6285.5	8342.5 8344.0	12422.5 12453.5	16619.5 16650.5 16681.5	22242.5 22273.5	25162.0
W3	4188.0	6286.0	8343.0 8344.5	12423.0 12454.0	16620.0 16651.0 16682.0	22243.0 22274.0	25162.5
W4	4188.5	6286.5	8343.5 8345.0	12423.5 12454.5	16620.5 16651.5 16682.5	22243.5 22274.5	25163.0
W5	4189.0	6287.0	8344.0 8345.5	12424.0 12455.0	16621.0 16652.0 16683.0	22244.0 22275.0	25163.5
W6	4189.5	6287.5	8344.5 8346.0	12424.5 12455.5	16621.5 16652.5 16619.0	22244.5 22275.5	25164.0
W7	4190.0	6288.0	8345.0 8346.5	12425.0 12456.0	16622.0 16653.0 16619.5	22245.0 22276.0	25164.5
W8	4190.5	6288.5	8345.5 8347.0	12425.5 12456.5	16622.5 16653.5 16620.0	22245.5 22276.5	25165.0
W9	4191.0	6289.0	8346.0 8347.5	12426.0 12457.0	16623.0 16654.0 16620.5	22246.0 22277.0	25165.5
W10	4191.5	6289.5	8346.5 8348.0	12426.5 12457.5	16623.5 16654.5 16621.0	22246.5 22270.5	25166.0
W11	4192.0	6290.0	8347.0 8348.5	12427.0 12458.0	16624.0 16655.0 16621.5	22247.0 22278.0	25166.5
W12	4192.5	6290.5	8347.5 8349.0	12427.5 12458.5	16624.5 16655.5 16622.0	22247.5 22278.5	25167.0
W13	4193.0	6291.0	8348.0 8349.5	12428.0 12459.0	16625.0 16656.0 16622.5	22248.0 22279.0	25167.5
W14	4193.5	6291.5	8348.5 8350.0	12428.5 12459.5	16625.5 16656.5	22248.5 22242.0	25168.0

					16623.0		
W15	4194.0	6292.0	8349.0	12429.0	16626.0	22249.0	25168.5
			8350.5	12460.0	16657.0	22242.5	
					16623.5		
W16	4194.5	6292.5	8349.5	12429.5	16626.5	22249.5	25169.0
			8351.0	12460.5	16657.5	22243.0	
					16624.0		
W17	4195.0	6293.0	8350.0	12430.0	16627.0	22250.0	25169.5
			8351.5	12461.0	16658.0	22243.5	
					16624.5		
W18	4195.5	6293.5	8350.5	12430.5	16627.5	22250.5	25170.0
			8352.0	12461.5	16658.5	22244.0	
					16625.0		
W19	4196.0	6294.0	8351.0	12431.0	16628.0	22251.0	25170.5
			8352.5	12462.0	16659.0	22244.5	
					16625.5		
W20	4196.5	6294.5	8351.5	12431.5	16628.5	22251.5	25171.0
			8353.0	12462.5	16659.5	22245.0	
					16626.0		
W21	4197.0	6295.0	8352.0	12432.0	16629.0	22252.0	25161.5
			8353.5	12463.0	16660.0	22245.5	
					16626.5		
W22	4197.5	6295.5	8352.5	12432.5	16629.5	22252.5	25162.0
			8354.0	12463.5	16660.5	22246.0	
					16627.0		
W23	4198.0	6296.0	8353.0	12433.0	16630.0	22253.0	25162.5
			8354.5	12464.0	16661.0	22246.5	
					16627.5		
W24	4198.5	6296.5	8353.5	12433.5	16630.5	22253.5	25163.0
			8355.0	12464.5	16661.5	22247.0	
					16628.0		
W25	4199.0	6297.0	8354.0	12434.0	16631.0	22254.0	25163.5
			8355.5	12465.0	16662.0	22247.5	
					16628.5		
W26	4199.5	6297.5	8354.5	12434.5	16631.5	22254.5	25164.0
			8356.0	12465.5	16662.5	22248.0	
					16629.0		
W27	4200.0	6298.0	8355.0	12435.0	16632.0	22255.0	25164.5
			8356.5	12466.0	16663.0	22248.5	
					16629.5		
W28	4200.5	6298.5	8355.5	12435.5	16632.5	22255.5	25165.0
			8357.0	12466.5	16663.5	22249.0	
					16630.0		
W29	4201.0	6299.0	8356.0	12436.0	16633.0	22256.0	25165.5

SHIP MORSE WORKING FREQUENCIES (KHZ)—Continued

			8357.5	12467.0	16664.0	22249.5	
					16630.5		
W30	4201.5	6299.5	8356.5	12436.5	16633.5	22256.5	25166.0
			8358.0	12467.5	16664.5	22250.0	
					16631.0		
W31	4202.0	6300.0	8357.0	12437.0	16634.0	22257.0	25166.5
			8358.5	12468.0	16665.0	22250.5	
					16631.5		
W32	4202.0	6300.0	8357.5	12437.5	16634.5	22257.5	25167.0
			8359.0	12468.5	16665.5	22251.0	
					16632.0		
W33	4201.5	6299.5	8358.0	12438.0	16635.0	22258.0	25167.5
			8359.5	12469.0	16666.0	22251.5	
					16632.5		
W34	4201.0	6299.0	8358.5	12438.5	16635.5	22258.5	25168.0
			8360.0	12469.5	16666.5	22252.0	
					16633.0		
W35	4200.5	6298.5	8359.0	12439.0	16636.0	22259.0	25168.5
			8360.5	12470.0	16667.0	22252.5	
					16633.5		
W36	4200.0	6298.0	8359.5	12439.5	16636.5	22259.5	25169.0
			8361.0	12470.5	16667.5	22253.0	
					16634.0		
W37	4199.5	6297.5	8360.0	12440.0	16637.0	22260.0	25169.5
			8361.5	12471.0	16668.0	22253.5	
					16634.5		
W38	4199.0	6297.0	8360.5	12440.5	16637.5	22260.5	25170.0
			8362.0	12471.5	16668.5	22254.0	
					16635.0		
W39	4198.5	6296.5	8361.0	12441.0	16638.0	22261.0	25170.5
			8362.5	12472.0	16669.0	22254.5	
					16635.5		
W40	4198.0	6296.0	8361.5	12441.5	16638.5	22261.5	25171.0
			8363.0	12472.5	16669.5	22255.0	
					16636.0		
W41	4197.5	6295.5	8362.0	12442.0	16639.0	22262.0	25161.5
			8363.5	12473.0	16670.0	22255.5	
					16636.5		
W42	4197.0	6295.0	8362.5	12442.5	16639.5	22262.5	25162.0
			8364.0	12473.5	16670.5	22256.0	
					16637.0		
W43	4196.5	6294.5	8363.0	12443.0	16640.0	22263.0	25162.5

			8364.5	12474.0	16671.0	22256.5	
					16637.5		
W44	4196.0	6294.0	8363.5	12443.5	16640.5	22263.5	25163.0
			8365.0	12474.5	16671.5	22257.0	
					16638.0		
W45	4195.5	6293.5	8364.0	12444.0	16641.0	22264.0	25163.5
			8365.5	12475.0	16672.0	22257.5	
					16638.5		
W46	4195.0	6293.0	8364.5	12444.5	16641.5	22264.5	25164.0
			8371.0	12475.5	16672.5	22258.0	
					16639.0		
W47	4194.5	6292.5	8365.0	12445.0	16642.0	22265.0	25164.5
			8371.5	12476.0	16673.0	22258.5	
					16639.5		
W48	4194.0	6292.0	8365.5	12445.5	16642.5	22265.5	25165.0
			8372.0	12476.5	16673.5	22259.0	
					16640.0		
W49	4193.5	6291.5	8371.0	12446.0	16643.0	22266.0	25165.5
			8372.5	12422.0	16674.0	22259.5	
					16640.5		
W50	4193.0	6291.0	8371.5	12446.5	16643.5	22266.5	25166.0
			8373.0	12422.5	16674.5	22260.0	
					16641.0		
W51	4192.5	6290.5	8372.0	12447.0	16644.0	22267.0	25166.5
			8373.5	12423.0	16675.0	22260.5	
					16641.5		
W52	4192.0	6290.0	8372.5	12447.5	16644.5	22267.5	25167.0
			8374.0	12423.5	16675.5	22261.0	
					16642.0		
W53	4191.5	6289.5	8373.0	12448.0	16645.0	22268.0	25167.5
			8374.5	12424.0	16676.0	22261.5	
					16642.5		
W54	4191.0	6289.0	8373.5	12448.5	16645.5	22268.5	25168.0
			8375.0	12424.5	16676.5	22262.0	
					16643.0		
W55	4190.5	6288.5	8374.0	12449.0	16646.0	22269.0	25168.5
			8375.5	12425.0	16677.0	22262.5	
					16643.5		
W56	4190.0	6288.0	8374.5	12449.5	16646.5	22269.5	25169.0
			8376.0	12425.5	16677.5	22263.0	
					16644.0		
W57	4189.5	6287.5	8375.0	12450.0	16647.0	22270.0	25169.5
			8342.0	12426.0	16678.0	22263.5	
					16644.5		

SHIP MORSE WORKING FREQUENCIES (KHZ)—Continued

W58	4189.0	6287.0	8375.5 8342.5	12450.5 12426.5	16647.5 16678.5 16645.0	22270.5 22264.0	25170.0
W59	4188.5	6286.5	8376.0 8343.0	12451.0 12427.0	16648.0 16679.0 16645.5	22271.0 22264.5	25170.5
W60	4188.0	6286.0	8342.0 8343.5	12451.5 12427.5	16648.5 16679.5 16646.0	22271.5 22265.0	25171.0
W61	4187.5	6285.5	8342.5 8344.0	12452.0 12428.0	16649.0 16680.0 16646.5	22272.0 22265.5	25161.5
W62	4187.0	6285.0	8343.0 8344.5	12452.5 12428.5	16649.5 16680.5 16678.0	22272.5 22266.0	25162.0

(ii) If the frequencies listed in paragraph (3)(i) of this section are not adequate for communications, ship stations may use any of the non-paired narrow-band direct-printing frequencies listed in § 80.361(b) of this part for A1A or J2A radiotelegraphy.

(b) *Coast station frequencies*—(1) *Frequencies in the 100–27500 kHz band.* The following table describes the working carrier frequencies in the 100–27500 kHz band which are assignable to coast stations located in the designated geographical areas. The exclusive maritime mobile HF bands listed in the table contained in § 80.363(b) of this part are also available for assignment to public coast stations for A1A or J2A radiotelegraphy following coordination with government users.

Area	Bands [1]								
	100–160 kHz	405–525 kHz	2 MHz	4 MHz	6 MHz	8 MHz	12 MHz	16 MHz	22 MHz
Central Pacific	126.15	426.00	2037.5	4247.0	6348.0	8558.0	12695.5	17016.8	22479.0
	.....	436.00	2045.0	4274.0	6365.5	8618.0	12808.5	17026.0	22515.0
	147.85	460.00	2061.5	4228.0	6477.5	8642.0	12844.5	17088.8	22557.0
	.....	476.0	.....	.....	6488.0	8445.0	13002.0	.....	22581.5
	.....	500.00	.....	.....	.....	.....	13033.5	.....	.....
	.....	512.00	.....	.....	.....	.....	.....	.....	.....
South Pacific	.....	418.00	2049.5	4238.0	6355.0	8590.0	12691.0	17064.8	22467.0
	.....	464.00	2055.5	4283.0	6463.5	8606.0	12912.0	17088.8	22593.5
	.....	482.00	.....	.....	.....	8642.0	12993.0	17220.5	.....
	.....	500.00	.....	.....	.....	.....	13033.5	.....	.....
	.....	512.00	.....	.....	.....	.....	.....	.....	.....
Gulf of Mexico	153.00	410.00	2042.0	4256.0	6369.0	8473.0	12704.5	17117.6	22467.0
	.....	420.00	2048.0	4274.0	6435.5	8550.0	12826.5	17170.4	22668.5
	.....	434.00	2049.5	4310.0	6446.0	8570.0	12840.0	17172.4	22686.5
	.....	438.00	2052.5	4322.0	6495.0	8666.0	13038.0	17230.1	22688.0
	.....	478.00	2055.5	.....	.....	8445.0	13051.5	.....	.....
	.....	484.00	2063.0	.....	.....	8453.0	12660.0	.....	.....
	.....	500.00	.....	.....	.....	.....	.....	.....	.....
	.....	512.00	.....	.....	.....	.....	.....	.....	.....
Great Lakes	.....	482.00	.....	4316.0	6474.0	8534.0	.....	.....	.....
	.....	500.00	.....	.....	.....	.....	.....	.....	.....
	.....	512.00	.....	.....	.....	.....	.....	.....	.....
Hawaii	.....	484.00	2052.5	4295.0	6407.5	8542.0	13029.0	16978.4	22509.0
	.....	500.00	.....	.....	.....	.....	.....	.....	.....
	.....	512.00	.....	.....	.....	.....	.....	.....	.....
Puerto Rico	153.00	486.00	2052.5	4244.0	.....	8457.0	12700.0	.....	.....
	.....	500.00	.....	.....	.....	.....	.....	.....	.....
	.....	512.00	.....	.....	.....	.....	.....	.....	.....
North Atlantic	112.85	418.00	2036.0	4238.0	6351.5	8502.0	12745.5	16933.2	22485.0
	124.05	436.00	2040.5	4268.0	6376.0	8514.0	12925.5	16968.8	22503.0
	130.35	442.00	2046.5	4331.0	6414.5	8586.0	12948.0	16973.6	22521.0
	132.10	460.00	2051.0	4343.0	6418.0	8610.0	12961.5	16997.6	22599.5
	134.55	472.00	2054.0	4346.0	6333.5	8630.0	12997.5	17021.6	22640.0
	137.00	476.00	2060.0	.....	6337.0	8658.0	13020.0	17093.6	22658.0
	.....	482.00	.....	.....	6344.0	8686.0	13024.5	16904.9	.....
	146.80	500.00	.....	.....	.....	.....	13033.5	.....	.....
	147.50	512.00	.....	.....	.....	.....	13060.5	.....	.....
Central Atlantic	.....	428.00	2063.0	4346.0	6484.5	8502.0	12885.0	16916.5	22588.5
	.....	500.00	.....	.....	.....	.....	.....	.....	.....
	.....	512.00	.....	.....	.....	.....	.....	.....	.....
South Atlantic	137.70	434.00	2039.0	4250.0	6389.6	8486.0	12952.5	16918.8	22503.0
	.....	464.00	2043.5	4292.0	6407.5	8525.0	12970.5	17093.6	22575.5
	.....	472.00	2051.0	4295.0	6411.0	8686.0	13011.0	17160.8	.....
	.....	488.00	2057.0	.....	.....	8453.0	12660.0	17170.4	.....
	.....	500.00	.....	.....	.....	.....	.....	17239.7	.....
	.....	512.00	.....	.....	.....	.....	.....	.....	.....
North Pacific	.....	482.00	2058.5	4349.0	6411.0	8582.0	12907.5	17007.2	22539.0
	.....	488.00	2063.0	.....	.....	8658.0	12916.5	.....	.....
	.....	500.00	.....	.....	.....	.....	.....	.....	.....
	.....	512.00	.....	.....	.....	.....	.....	.....	.....
Alaska	.....	416.00	.....	.....	.....	.....	.....	.....	.....
	.....	438.00	.....	.....	.....	.....	.....	.....	.....
	.....	452.00	.....	.....	.....	.....	.....	.....	.....
	.....	472.00	.....	.....	.....	.....	.....	.....	.....
	.....	512.00	.....	.....	.....	.....	.....	.....	.....

[1] All frequencies in this table are shown in kilohertz.

(2) *Conditions of use.* The following conditions are applicable to these frequencies:

(i) Frequencies in the 100–160 kHz band are assignable to coast stations for high seas communications only;

(ii) Frequencies above 5 MHz may be assigned primarily to stations serving the high seas and secondarily to stations serving inland waters of the United States, including the Great Lakes, under the condition that interference will not be caused to any coast station serving the high seas. Applicants for these frequencies must submit a substantial showing of need based on the following factors:

(A) A schedule of each currently licensed Morse working frequency and the expected use of the proposed frequencies;

(B) For additional frequencies within the same MHz band, a factual showing of the 3 busiest hours of any 4 days within a consecutive 10 day period for each of the 2 months immediately preceding the filing of the application indicating that the applicant has used its currently assigned frequencies within the same MHz band an aggregate average of at least 40% of the 3 busiest hours of each day for exchanging communications; and

(C) Any other facts that support the need for the proposed assignment, *e.g.*, evidence of radio interference by another station located near enough to render a currently licensed frequency substantially unusable.

(iii) The frequency 410 kHz may be used on a secondary basis for the transmission of radiodetermination information and for transmitting by radiotelegraph radiodetermination messages to direction-finding stations; and

(iv) The frequency 512 kHz may be used as a supplementary calling frequency when 500 kHz is used for distress, urgency and safety communications. The use of the 512 kHz as a working frequency is prohibited in areas where 500 kHz is used for distress, urgency and safety communications.

[51 FR 31213, Sept. 2, 1986; 51 FR 34984, Oct. 1, 1986; 56 FR 9887, Mar. 8, 1991; 56 FR 34029, July 25, 1991]

§ 80.359 Frequencies for digital selective calling (DSC).

(a) *General purpose calling.* The following table describes the calling frequencies for use by authorized ship and coast stations for general purpose DSC. There are three series of paried frequencies. One series is for worldwide use; the other two series are for regional use. The ''Series A'' designation includes coast stations along, and ship stations in, the Atlantic Ocean, the Gulf of Mexico, and the Caribbean Sea. The ''Series B'' designation includes stations in any remaining areas. Stations must initiate contact on the appropriate regional frequency depending upon the location of the called station and propagation conditions. Acknowledgement is made on the paired frequency. The worldwide frequencies may be used for international calling, if calls on the appropriate regional frequencies are unsuccessful, or the regional series does not contain the appropriate band (*e.g.*, 2 MHz). During normal working hours, all public coast stations capable of DSC operations must monitor the worldwide and regional frequencies appropriate for its location. The specific frequencies to be monitored will vary with propagation conditions.

GENERAL PURPOSE DSC

[In kHz unless otherwise noted]

Worldwide		Series A		Series B	
Ship	Coast	Ship	Coast	Ship	Coast
458.5	455.5	.....	.....	.....	.....
2189.5	[1] 2177.0	.....	.....	.....	.....
4208.0	4219.5	4208.5	4220.0	4209.5	4220.5
6312.5	6331.0	6313.0	6331.5	6313.5	6332.0
8415.0	8436.5	8415.5	8437.0	8416.0	8437.5
12577.5	12657.0	12578.0	12657.5	12578.5	12658.0
16805.0	16903.0	16805.5	16903.5	16806.0	16904.0
18898.5	19703.5	18899.0	19704.0	18899.5	19704.5
22374.5	22444.0	22375.0	22444.5	22375.5	22445.0
25208.5	26121.0	25209.0	26121.5	25209.5	26122.0

GENERAL PURPOSE DSC—Continued

[In kHz unless otherwise noted]

Worldwide		Series A		Series B	
Ship	Coast	Ship	Coast	Ship	Coast
[2] 156.525	[2] 156.525	.....	.....	.....	.....

[1] The frequency 2177.0 kHzs is also available to ship stations for intership calling and acknowledgement of such calls only.
[2] MHz.

(b) *Distress and safety calling.* The frequencies 2187.5 kHz, 4207.5 kHz, 6312.0 kHz, 8414.5 kHz, 12577.0 kHz, 16804.5 kHz, and 156.525 MHz may be used for DSC by coast and ship stations on a simplex basis for distress and safety purposes. The provisions and procedures for distress and safety calling are contained in CCIR Recommendation 541 as modified by § 80.103(c) of this part.

(c) *Working frequencies.* Coast and ship stations may use DSC techniques for general calling purposes on their assigned working frequencies in the 2000–27500 kHz band and on those frequencies in the 156–162 MHz band which are allocated for maritime control, commercial, non-commercial and public correspondence communications.

[51 FR 31213, Sept. 2, 1986, as amended at 54 FR 49995, Dec. 4, 1989; 56 FR 9890, Mar. 8, 1991; 56 FR 14150, Apr. 5, 1991]

§ 80.361 Frequencies for narrow-band direct-printing (NBDP), radioprinter and data transmissions.

(a) *Paired channels.* (1) The following frequencies are available for assignment to public coast stations for narrow-band direct-printing (NBDP) and data transmissions. The paired ship frequencies are available for use by authorized ship stations for NBDP and data transmissions.

Ch. no.	Paired frequencies for NBDP and data transmissions (kHz)															
	4 MHz		6 MHz		8 MHz		12 MHz		16 MHz		18/19 MHz		22 MHz		25/26 MHz	
	Coast	Ship	Coast	Ship	Coast	Ship	Coast	Ship	Coast	Ship	Coast	Ship	Coast	Ship	Coast	Ship
1	4210.5	4172.5	6314.5	6263.0			12579.5	12477.0	16807.0	16683.5	19681.0	18870.5	22376.5	22284.5	26101.0	25173.0
2	4211.0	4173.0	6315.0	6263.5	8417.0	8377.0	12580.0	12477.5	16807.5	16684.0	19681.5	18871.0	22377.0	22285.0	26101.5	25173.5
3	4211.5	4173.5	6315.5	6264.0	8417.5	8377.5	12580.5	12478.0	16808.0	16684.5	19682.0	18871.5	22377.5	22285.5	26102.0	25174.0
4	4212.0	4174.0	6316.0	6264.5	8418.0	8378.0	12581.0	12478.5	16808.5	16685.0	19682.5	18872.0	22378.0	22286.0	26102.5	25174.5
5	4212.5	4174.5	6316.5	6265.0	8418.5	8378.5	12581.5	12479.0	16809.0	16685.5	19683.0	18872.5	22378.5	22286.5	26103.0	25175.0
6	4213.0	4175.0	6317.0	6265.5	8419.0	8379.0	12582.0	12479.5	16809.5	16686.0	19683.5	18873.0	22379.0	22287.0	26103.5	25175.5
7	4213.5	4175.5	6317.5	6266.0	8419.5	8379.5	12582.5	12480.0	16810.0	16686.5	19684.0	18873.5	22379.5	22287.5	26104.0	25176.0
8	4214.0	4176.0	6318.0	6266.5	8420.0	8380.0	12583.0	12480.5	16810.5	16687.0	19684.5	18874.0	22380.0	22288.0	26104.5	25176.5
9	4214.5	4176.5	6318.5	6267.0	8420.5	8380.5	12583.5	12481.0	16811.0	16687.5	19685.0	18874.5	22380.5	22288.5	26105.0	25177.0
10	4215.0	4177.0	6319.0	6267.5	8421.0	8381.0	12584.0	12481.5	16811.5	16688.0	19685.5	18875.0	22381.0	22289.0	26105.5	25177.5
11					8421.5	8381.5	12584.5	12482.0	16812.0	16688.5	19686.0	18875.5	22381.5	22289.5	26106.0	25178.0
12	4215.5	4178.0	6319.5	6268.5	8422.0	8382.0	12585.0	12482.5	16812.5	16689.0	19686.5	18876.0	22382.0	22290.0	26106.5	25178.5
13	4216.0	4178.5	6320.0	6269.0	8422.5	8382.5	12585.5	12483.0	16813.0	16689.5	19687.0	18876.5	22382.5	22290.5	26107.0	25179.0
14	4216.5	4179.0	6320.5	6269.5	8423.0	8383.0	12586.0	12483.5	16813.5	16690.0	19687.5	18877.0	22383.0	22291.0	26107.5	25179.5
15	4217.0	4179.5	6321.0	6270.0	8423.5	8383.5	12586.5	12484.0	16814.0	16690.5	19688.0	18877.5	22383.5	22291.5	26108.0	25180.0
16	4217.5	4180.0	6321.5	6270.5	8424.0	8384.0	12587.0	12484.5	16814.5	16691.0	19688.5	18878.0	22384.0	22292.0	26108.5	25180.5
17	4218.0	4180.5	6322.0	6271.0	8424.5	8384.5	12587.5	12485.0	16815.0	16691.5	19689.0	18878.5	22384.5	22292.5	26109.0	25181.0
18			6322.5	6271.5	8425.0	8385.0	12588.0	12485.5	16815.5	16992.0	19689.5	18879.0	22385.0	22293.0	26109.5	25181.5
19			6323.0	6272.0	8425.5	8385.5	12588.5	12486.0	16816.0	16692.5	19690.0	18879.5	22385.5	22293.5	26110.0	25182.0
20			6323.5	6272.5	8426.0	8386.0	12589.0	12486.5	16816.5	16693.0	19690.5	18880.0	22386.0	22294.0	26110.5	25182.5
21			6324.0	6273.0	8426.5	8386.5	12589.5	12487.0	16817.0	16693.5	19691.0	18880.5	22386.5	22294.5		
22			6324.5	6273.5	8427.0	8387.0	12590.0	12487.5	16817.5	16694.0	19691.5	18881.0	22387.0	22295.0		
23			6325.0	6274.0	8427.5	8387.5	12590.5	12488.0	16818.0	16694.5			22387.5	22295.5		
24			6325.5	6274.5	8428.0	8388.0	12591.0	12488.5					22388.0	22296.0		
25			6326.0	6275.0	8428.5	8388.5	12591.5	12489.0	16818.5	16695.5			22388.5	22296.5		
26			6326.5	6275.5	8429.0	8389.0	12592.0	12489.5	16819.0	16696.0			22389.0	22297.0		
27			6327.0	6281.0	8429.5	8389.5	12592.5	12490.0	16819.5	16696.5			22389.5	22297.5		
28			6327.5	6281.5	8430.0	8390.0	12593.0	12490.5	16820.0	16697.0			22390.0	22298.0		
29			6328.0	6282.0	8430.5	8390.5	12593.5	12491.0	16820.5	16697.5			22390.5	22298.5		
30					8431.0	8391.0	12594.0	12491.5	16821.0	16698.0			22391.0	22299.0		
31					8431.5	8391.5	12594.5	12492.0	16821.5	16698.5			22391.5	22299.5		
32					8432.0	8392.0	12595.0	12492.5	16822.0	16699.0			22392.0	22300.0		
33					8432.5	8392.5	12595.5	12493.0	16822.5	16699.5			22392.5	22300.5		
34					8433.0	8393.0	12596.0	12493.5	16823.0	16700.0			22393.0	22301.0		
35							12596.5	12494.0	16823.5	16700.5			22393.5	22301.5		
36							12597.0	12494.5	16824.0	16701.0			22394.0	22302.0		
37							12597.5	12495.0	16824.5	16701.5			22394.5	22302.5		
38							12598.0	12495.5	16825.0	16702.0			22395.0	22303.0		
39							12598.5	12496.0	16825.5	16702.5			22395.5	22303.5		
40							12599.0	12496.5	16826.0	16703.0			22396.0	22304.0		
41							12599.5	12497.0	16826.5	16703.5			22396.5	22304.5		
42							12600.0	12497.5	16827.0	16704.0			22397.0	22305.0		
43							12600.5	12498.0	16827.5	16704.5			22397.5	22305.5		
44							12601.0	12498.5	16828.0	16705.0			22398.0	22306.0		
45							12601.5	12499.0	16828.5	16705.5			22398.5	22306.5		

46						12602.0	12499.5	16829.0	16706.0			22399.0	22307.0		
47						12602.5	12500.0	16829.5	16706.5			22399.5	22307.5		
48						12603.0	12500.5	16830.0	16707.0			22400.0	22308.0		
49						12603.5	12501.0	16830.5	16707.5			22400.5	22308.5		
50						12604.0	12501.5	16831.0	16708.0			22401.0	22309.0		
51						12604.5	12502.0	16831.5	16708.5			22401.5	22309.5		
52						12605.0	12502.5	16832.0	16709.0			22402.0	22310.0		
53						12605.5	12503.0	16832.5	16709.5			22402.5	22310.5		
54						12606.0	12503.5	16833.0	16710.0			22403.0	22311.0		
55						12606.5	12504.0	16833.5	16710.5			22403.5	22311.5		
56						12607.0	12504.5	16834.0	16711.0			22404.0	22312.0		
57						12607.5	12505.0	16834.5	16711.5			22404.5	22312.5		
58						12608.0	12505.5	16835.0	16712.0			22405.0	22313.0		
59						12608.5	12506.0	16835.5	16712.5			22405.5	22313.5		
60						12609.0	12506.5	16836.0	16713.0			22406.0	22314.0		
61						12609.5	12507.0	16836.5	16713.5			22406.5	22314.5		
62						12610.0	12507.5	16837.0	16714.0			22407.0	22315.0		
63						12610.5	12508.0	16837.5	16714.5			22407.5	22315.5		
64						12611.0	12508.5	16838.0	16715.0			22408.0	22316.0		
65						12611.5	12509.0	16838.5	16715.5			22408.5	22316.5		
66						12612.0	12509.5	16839.0	16716.0			22409.0	22317.0		
67						12612.5	12510.0	16839.5	16716.5			22409.5	22317.5		
68						12613.0	12510.5	16400.0	16717.0			22410.0	22318.0		
69						12613.5	12511.0	16400.5	16717.5			22410.5	22318.5		
70						12614.0	12511.5	16411.0	16718.0			22411.0	22319.0		
71						12614.5	12512.0	16841.5	16718.5			22411.5	22319.5		
72						12615.0	12512.5	16842.0	16719.0			22412.0	22320.0		
73						12615.5	12513.0	16842.5	16719.5			22412.5	22320.5		
74						12616.0	12513.5	16843.0	16720.0			22413.0	22321.0		
75						12616.5	12514.0	16843.5	16720.5			22413.5	22321.5		
76						12617.0	12514.5	16844.0	16721.0			22414.0	22322.0		
77						12617.5	12515.0	16844.5	16721.5			22414.5	22322.5		
78						12618.0	12515.5	16845.0	16722.0			22415.0	22323.0		
79						12618.5	12516.0	16845.5	16722.5			22415.5	22323.5		
80						12619.0	12516.5	16846.0	16723.0			22416.0	22324.0		
81						12619.5	12517.0	16846.5	16723.5			22416.5	22324.5		
82						12620.0	12517.5	16847.0	16724.0			22417.0	22325.0		
83						12620.5	12518.0	16847.5	16724.5			22417.5	22325.5		
84						12621.0	12518.5	16848.0	16725.0			22418.0	22326.0		
85						12621.5	12519.0	16848.5	16725.5			22418.5	22326.5		
86						12622.0	12519.5	16849.0	16726.0			22419.0	22327.0		
87								16849.5	16726.5			22419.5	22327.5		
88						12622.5	12520.5	16850.0	16727.0			22420.0	22328.0		
89						12623.0	12521.0	16850.5	16727.5			22420.5	22328.5		
90						12623.5	12521.5	16851.0	16728.0			22421.0	22329.0		
91						12624.0	12522.0	16851.5	16728.5			22421.5	22329.5		
92						12624.5	12522.5	16852.0	16729.0			22422.0	22330.0		
93						12625.0	12523.0	16852.5	16729.5			22422.5	22330.5		
94						12625.5	12523.5	16853.0	16730.0			22423.0	22331.0		
95						12626.0	12524.0	16853.5	16730.5			22423.5	22331.5		

Ch. no.	Paired frequencies for NBDP and data transmissions (kHz)															
	4 MHz		6 MHz		8 MHz		12 MHz		16 MHz		18/19 MHz		22 MHz		25/26 MHz	
	Coast	Ship	Coast	Ship	Coast	Ship	Coast	Ship	Coast	Ship	Coast	Ship	Coast	Ship	Coast	Ship
96							12626.5	12524.5	16854.0	16731.0			22424.0	22332.0		
97							12627.0	12525.0	16854.5	16731.5			22424.5	22332.5		
98							12627.5	12525.5	16855.0	16732.0			22425.0	22333.0		
99							12628.0	12526.0	16855.5	16732.5			22425.5	22333.5		
100							12628.5	12526.5	16856.0	16733.0			22426.0	22334.0		
101							12629.0	12527.0	16856.5	16733.5			22426.5	22334.5		
102							12629.5	12527.5	16857.0	16739.0						
103							12630.0	12528.0	16857.5	16739.5						
104							12630.5	12528.5	16858.0	16740.0						
105							12631.0	12529.0	16858.5	16740.5						
106							12631.5	12529.5	16859.0	16741.0						
107							12632.0	12530.0	16859.5	16741.5						
108									16860.0	16742.0						
109									16860.5	16742.5						
110									16861.0	16743.0						
111									16861.5	16743.5						
112									16862.0	16744.0						
113									16862.5	16744.5						
114									16863.0	16745.0						
115									16863.5	16745.5						
116									16864.0	16746.0						
117									16864.5	16746.5						
118									16865.0	16747.0						
119									16865.5	16747.5						
120									16866.0	16748.0						
121									16866.5	16748.5						
122									16867.0	16749.0						
123									16867.5	16749.5						
124									16868.0	16750.0						
125									16868.5	16750.5						
126									16869.0	16751.0						
127									16869.5	16751.5						
128									16870.0	16752.0						
129									16870.5	16752.5						
130									16871.0	16753.0						
131									16871.5	16753.5						
132									16872.0	16754.0						

(2) Applicants for these frequencies must submit a substantial showing of need based on the following factors:

(i) A schedule of each currently licensed NBDP frequency and the expected use of the proposed frequencies;

(ii) For additional frequencies within the same MHz band, a factual showing of the 3 busiest hours of any 4 days within a consecutive 10 day period for each of the 2 months immediately preceding the filing of the application indicating that the applicant has used its currently assigned frequencies within the same MHz band an aggregate average of at least 40% of the 3 busiest hours of each day for exchanging communications; and

(iii) Any other facts that support the need for the proposed assignment, *e.g.*, evidence of radio interference by another station located near enough to render a currently licensed frequency substantially unusable.

(b) *Non-paired channels.* The following table describes the frequencies and Channel Series with F1B or J2B emission which are assignable to ship stations for NB–DP and data transmissions with other ship stations and public coast stations. Public coast stations may receive only on these frequencies.

NON-PAIRED NBDP CHANNELS (KHZ)

Channel series:								
1	4202.5	6300.5	8396.5	12560.0	16785.0	18893.0	22352.0	25193.0
2	4203.0	6301.0	8397.0	12560.5	16785.5	18893.5	22352.5	25193.5
3	4203.5	6301.5	8397.5	12561.0	16786.0	18894.0	22353.0	25194.0
4	4204.0	6302.0	8398.0	12561.5	16786.5	18894.5	22353.5	25194.5
5	4204.5	6302.5	8398.5	12562.0	16787.0	18895.0	22354.0	25195.0
6	4205.0	6303.0	8399.0	12562.5	16787.5	18895.5	22354.5	25195.5
7	4205.5	6303.5	8399.5	12563.0	16788.0	18896.0	22355.0	25196.0
8	4206.0	6304.0	8400.0	12563.5	16788.5	18896.5	22355.5	25196.5
9	4206.5	6304.5	8400.5	12564.0	16789.0	18897.0	22356.0	25197.0
10	4207.0	6305.0	8401.0	12564.5	16789.5	18897.5	22356.5	25197.5
11	.....	6305.5	8401.5	12565.0	16790.0	18898.0	22357.0	25198.0
12	.....	6306.0	8402.0	12565.5	16790.5	.....	22357.5	25198.5
13	.....	6306.5	8402.5	12566.0	16791.0	.....	22358.0	25199.0
14	.....	6307.0	8403.0	12566.5	16791.5	.....	22358.5	25199.5
15	.....	6307.5	8403.5	12567.0	16792.0	.....	22359.0	25200.0
16	.....	6308.0	8404.0	12567.5	16792.5	.....	22359.5	25200.5
17	.....	6308.5	8404.5	12568.0	16793.0	.....	22360.0	25201.0
18	.....	6309.0	8405.0	12568.5	16793.5	.....	22360.5	25201.5
19	.....	6309.5	8405.5	12569.0	16794.0	.....	22361.0	25202.0
20	.....	6310.0	8406.0	12569.5	16794.5	.....	22361.5	25202.5
21	.....	6310.5	8406.5	12570.0	16795.0	.....	22362.0	25203.0
22	.....	6311.0	8407.0	12570.5	16795.5	.....	22362.5	25203.5
23	.....	6311.5	8407.5	12571.0	16796.0	.....	22363.0	25204.0
24	.....	.....	8408.0	12571.5	16796.5	.....	22363.5	25204.5
25	.....	.....	8408.5	12572.0	16797.0	.....	22364.0	25205.0
26	.....	.....	8409.0	12572.5	16797.5	.....	22364.5	25205.5
27	.....	.....	8409.5	12573.0	16798.0	.....	22365.0	25206.0
28	.....	.....	8410.0	12573.5	16798.5	.....	22365.5	25206.5
29	.....	.....	8410.5	12574.0	16799.0	.....	22366.0	25207.0
30	.....	.....	8411.0	12574.5	16799.5	.....	22366.5	25207.5
31	.....	.....	8411.5	12575.0	16800.0	.....	22367.0	25208.0
32	.....	.....	8412.0	12575.5	16800.5	.....	22367.5	.....
33	.....	.....	8412.5	12576.0	16801.0	.....	22368.0	.....
34	.....	.....	8413.0	12576.5	16801.5	.....	22368.5	.....
35	.....	.....	8413.5	.....	16802.0	.....	22369.0	.....
36	.....	.....	8414.0	.....	16802.5	.....	22369.5	.....
37	.....	.....	.....	.....	16803.0	.....	22370.0	.....
38	.....	.....	.....	.....	16803.5	.....	22370.5	.....
39	.....	.....	.....	.....	16804.0	.....	22371.0	.....
40	.....	.....	.....	.....	.....	.....	22371.5	.....
41	.....	.....	.....	.....	.....	.....	22372.0	.....
42	.....	.....	.....	.....	.....	.....	22372.5	.....
43	.....	.....	.....	.....	.....	.....	22373.0	.....
44	.....	.....	.....	.....	.....	.....	22373.5	.....

NON-PAIRED NBDP CHANNELS (KHZ)—Continued

45	.....	.....	.....	.....	.....	.....	22374.0	.....

(c) *Distress and calling.* The frequencies 2174.5 kHz, 4177.5 kHz, 6268.0 kHz, 8376.5 kHz, 12520.0 kHz, and 16695.0 kHz may be used for NBDP and data transmissions by coast and ship stations on a simplex basis for distress and safety purposes.

(d) The frequencies in the 156–162 MHz band available for assignment to public coast stations that are contained in § 80.371(c) of this part are also available for radioprinter and data communications between ship and coast stations using F1B, F2B, F1D, or F2D emission.

[51 FR 31213, Sept. 2, 1986, as amended at 56 FR 9890, Mar. 8, 1991; 57 FR 43407, Sept. 21, 1992; 58 FR 16504, Mar. 29, 1993]

§ 80.363 Frequencies for facsimile.

(a) The non-paired frequencies with F1C, F3C, J2C or J3C emission which are assignable to ship and public coast stations for facsimile are as follows:

(1) *Ship station frequencies.* The following frequencies are available for use by authorized ship stations for facsimile.

ASSIGNABLE SHIP FREQUENCIES FOR FACSIMILE (KHZ)

2070.5	4154.5	6235.5	8302.5	12370.5	16551.5	18847.5	22181.5	25123.5
2072.5	4169.5	6259.5	8338.5	12418.5	16614.5	18868.5	22238.5	25159.5
2074.5	.....	.....	.....	.....	.....	.....	.....	.....
2076.5	.....	.....	.....	.....	.....	.....	.....	.....

(2) *Coast station frequencies.* The following table describes the exclusive maritime mobile HF frequency bands that are available for assignment to coast stations using 3 kHz channels for facsimile. However, any frequency in the 2000–27500 kHz bands listed in Part 2 of the Commission's Rules as available for shared use by the maritime mobile service and other radio services, except for the 4000–4063 kHz and the 8100–8195 kHz bands, is available for assignment to coast stations for facsimile. Frequency assignments are subject to coordination with government users.

FREQUENCY BANDS FOR COAST FACSIMILE (KHZ)

4221.0– 4351.0	16904.5–17242.0
6332.5– 6501.0	19705.0–19755.0
8438.0– 8707.0	22445.5–22696.0
12658.5–13077.0	26122.5–26145.0

(b) The frequencies in the 156–162 MHz band available for assignment to public coast stations that are contained in § 80.371(c) of this part are also available for facsimile communications between ship and coast stations using F2C or F3C emission.

[51 FR 31213, Sept. 2, 1986, as amended at 54 FR 40059, Sept. 29, 1989; 56 FR 9893, Mar. 8, 1991; 57 FR 43407, Sept. 21, 1992]

RADIOTELEPHONY

§ 80.365 Scope.

The following sections describe the carrier frequencies and general conditions of use for the following types of radiotelephony:

—Distress, urgency, safety, call and reply.
—Working.
—Public.
—Private.

§ 80.367 General uses—radiotelephony.

(a) Ship stations communicating with foreign coast stations may operate on any frequency designated by that coast station.

(b) Radiotelephony stations communicating with a Government station may transmit on a Government frequency when authorized to do so by the Government station or agency if the emission, bandwidth and frequency tolerance of the maritime station are

within the same limits as the Government station.

(c) Frequencies assigned to Government radio stations are assignable to non-Government maritime stations for radiotelephony communications with other non-Government stations in connection with activities performed in coordination with or on behalf of the Government.

(d) Frequencies in the 2000–27500 kHz band will be authorized only to ship stations that in addition are authorized to use frequencies in the 156–162 MHz band.

(e) Frequencies in the 2000–2850 kHz band will be authorized to private coast stations that in addition are authorized to use frequencies in the 156–162 MHz band.

(f) Ship and coast stations authorized to use frequencies in both the 2000–27500 kHz and 156–162 MHz bands must not use frequencies in the 2000–27500 kHz band for communications with any other station which is within the VHF service range.

(g) Coast and ship station radiotelephone working frequencies are available for DSC general purpose calling under the provisions of § 80.207(a).

(h) Digital selective calling techniques are not authorized on the frequencies 2182 kHz or 156.800 MHz.

§ 80.369 Distress, urgency, safety, call and reply frequencies.

This section describes the general uses and frequencies assignable to maritime stations for distress, urgency, safety, call and reply radiotelephony communications.

(a) In the 1605–3500 kHz band, the frequency 2182 is an international radiotelephony distress, urgency and safety frequency for ship stations, public and private coast stations, and survival craft stations. It is also used for call and reply by ship stations on a primary basis and by public coast stations on a secondary basis. The carrier frequency 2191 kHz may be used as a supplementary calling frequency in areas of heavy usage of 2182 kHz. All stations must use J3E emission when operating on 2182 and 2191 kHz, except that:

(1) H3E emission may be used on 2182 kHz for communications with foreign coast and ship stations; or,

(2) A3E emission may be used on 2182 kHz by portable survival craft stations, or transmitters authorized for use prior to January 1, 1972. See § 80.203(c).

(b) The frequencies 4125.0 kHz, 6215 kHz, 8291 kHz, 12290 kHz, and 16420 kHz may be used by coast and ship stations on a simplex basis for distress and safety communications. The frequency 4125.0 kHz may also be used for distress and safety communications between aircraft and maritime mobile stations.

(c) The frequency 5167.5 kHz is available to any station for emergency communications in the State of Alaska. Peak envelope power of stations operating on this frequency must not exceed 150 watts. This frequency may also be used by Alaska private fixed stations for calling and listening, but only for establishing communication.

(d) In the 4000–27500 kHz band, the following coast frequencies are available for assignment to public coast stations for call and reply communications. The paired ship frequencies are available for use by authorized ship stations.

CALL AND REPLY FREQUENCY PAIRS IN THE 4000–27500 kHz

Carrier Frequencies (kHz)		
Channel No.	Ship transmit	Coast transmit
421	[1,2,3] 4125	[1] 4417
606	[2,3] 6215	[1] 6516
821	8255	8779
1221	[3] 12290	13137
1621	[3] 16420	17302
1806	18795	19770
2221	22060	22756
2510	25097	26172

[1] The frequencies 4125 kHz, 4417 kHz, and 6516 kHz are also available on a simplex basis for private communications, see § 80.373(c) of this part.

[2] The frequencies of 4125 kHz and 6215 kHz are also available on a simplex basis to ship and coast stations for call and reply, provided that the peak envelope power does not exceed 1 kW.

[3] The frequencies 4125 kHz, 6215 kHz, 8291 kHz, 12290 kHz, and 16420 kHz are also available on a simplex basis for distress and safety traffic, see paragraph (b) of this section.

(e) In the 120–156 MHz band the following frequencies are used as indicated:

(1) The frequencies 121.500 MHz and 123.100 MHz using A3E emission are available for scene of action search and rescue operations to ship, coast and aircraft stations. Communications in support of search and rescue operations must employ the frequency 121.500 MHz only when communications on 123.100

MHz or other VHF frequencies is not practicable. Ship, coast and aircraft stations engaged in such communications on 121.500 MHz must shift to 123.100 MHz as soon as possible.

(2) The frequency 156.525 MHz is available for intership, ship and coast general purpose, distress and safety DSC calls.

(3) The frequency 156.800 MHz is the international radiotelephone distress, urgency, safety, call and reply frequency for ship, public and private coast stations. Stations operating on 156.800 MHz must be able to transmit and receive using G3E emission.

(4) The frequency 156.450 MHz (channel 9) is available for intership, ship and coast station general purpose calling by noncommercial vessels, such as recreational boats. Distress, urgency and safety calls should initially be made on 156.800 MHz (channel 16) or, if equipped with DSC, on 156.525 MHz (channel 70).

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35245, Sept. 18, 1987; 54 FR 49995, Dec. 4, 1989; 56 FR 9893, Mar. 8, 1991; 57 FR 19552, May 7, 1992]

§ 80.371 Public correspondence frequencies.

This section describes the radiotelephony working frequencies assignable to ship and public coast stations.

(a) *Working frequencies in the 2000–4000 kHz band.* The following table describes the working carrier frequency pairs in the 2000–4000 kHz band.

Working frequency pairs in the 2000–4000 kHz band

Region	Carrier frequency (kHz)	
	Ship transmit	Coast transmit
East Coast:	2031.5	2490.0
	2118.0	[1] 2514.0
	2126.0	2522.0
	2142.0	2538.0
	2166.0	2558.0
	2198.0	2590.0
	2366.0	2450.0
	2382.0	2482.0
	2390.0	2566.0
	2400.0	2400.0
	2406.0	2442.0
	2406.0	2506.0
West Coat:	2003.0	2450.0
	2009.0	2442.0
	2009.0	2566.0
	2031.5	2566.0
	2126.0	2522.0
	2206.0	2598.0

Working frequency pairs in the 2000–4000 kHz band

Region	Carrier frequency (kHz)	
	Ship transmit	Coast transmit
	2382.0	2466.0
	2406.0	2506.0
	2430.0	2482.0
Gulf Coast:	2009.0	2466.0
	2134.0	2530.0
	2142.0	2538.0
	[1] 2158.0	[1] 2550.0
	2166.0	2558.0
	2206.0	2598.0
	2366.0	2450.0
	2382.0	2482.0
	2430.0	2572.0
	2458.0	2506.0
Great Lakes [2]:	2118.0	2514.0
	2158.0	2550.0
	2206.0	2582.0
Alaska:	2131.0	2309.0
	2134.0	2312.0
	2237.0	2397.0
	2240.0	2400.0
Hawaii	2134.0	2530.0
Caribbean:	2009.0	2506.0
	[3] 2086.0	2585.0
	2134.0	2530.0
Guam	2009.0	2506.0

[1] Unlimited hours of use from December 15 to April 1 and day only from April 1 to December 15. Harmful interference must not be caused to any ship station in the Great Lakes region.

[2] In the Great Lakes region 2206 kHz is not available for transmission to U.S. ships except in the case of distress. U.S. coast stations in the Great Lakes area may use 2514, 2550 and 2582 kHz on a shared basis with coast stations of Canada. Except in the case of distress, the frequency 2550 kHz must not be used for transmission to ship stations of Canada since the associated ship station transmit frequency 2158 kHz is not available to Canadian ship stations for transmission and 2582 kHz must not be used for public correspondence transmissions to U.S. ship stations since the associated ship transmit frequency 2206 kHz is not available to U.S. ship stations for transmissions except in the case of distress.

[3] Limited to a peak envelope power of 150 watts.

(b) *Working frequencies in the 4000–25700 kHz band.* This paragraph describes the working carrier frequencies in the 4000–27500 kHz band.

(1) The following table specifies the carrier frequencies available for assignment to public coast stations. The paired ship frequencies are available for use by authorized ship stations.

TABLE A—PUBLIC CORRESPONDENCE (DUPLEX CHANNELS)—Continued

[Working carrier frequency pairs in the 4000–27500 kHz band]

Region	Channel No.	Carrier frequencies (kHz)	
		Ship transmit	Coast transmit
East Coast	403	4071.0	4363.0
	410	4092.0	4384.0
	411	4095.0	4387.0
	412	4098.0	4390.0
	416	4110.0	4402.0
	417	4113.0	4405.0
	422	4128.0	4420.0

TABLE A—PUBLIC CORRESPONDENCE (DUPLEX CHANNELS)—Continued

[Working carrier frequency pairs in the 4000–27500 kHz band]

Region	Channel No.	Carrier frequencies (kHz)	
		Ship transmit	Coast transmit
	423	4131.0	4423.0
	802	8198.0	8722.0
	805	8207.0	8731.0
	808	8216.0	8740.0
	810	8222.0	8746.0
	811	8225.0	8749.0
	814	8234.0	8758.0
	815	8237.0	8761.0
	825	8267.0	8791.0
	826	8270.0	8794.0
	831	8285.0	8809.0
	1203	12236.0	13083.0
	1206	12245.0	13092.0
	1208	12251.0	13098.0
	1209	12254.0	13101.0
	1210	12257.0	13104.0
	1211	12260.0	13107.0
	1215	12272.0	13119.0
	1222	12293.0	13140.0
	1223	12296.0	13143.0
	1228	12311.0	13158.0
	1230	12317.0	13164.0
	1601	16360.0	17242.0
	1605	16372.0	17254.0
	1609	16384.0	17266.0
	1610	16387.0	17269.0
	1611	16390.0	17272.0
	1616	16405.0	17287.0
	1620	16417.0	17299.0
	1626	16435.0	17317.0
	1631	16450.0	17332.0
	2201	22000.0	22696.0
	2205	22012.0	22708.0
	2210	22027.0	22723.0
	2215	22042.0	22738.0
	2216	22045.0	22741.0
	2222	22063.0	22759.0
	2236	22105.0	22801.0
West Coast	401	4065.0	4357.0
	416	4110.0	4402.0
	417	4113.0	4405.0
	804	8204.0	8728.0
	809	8219.0	8743.0
	814	8234.0	8758.0
	1201	12230.0	13077.0
	1202	12233.0	13080.0
	1203	12236.0	13083.0
	1229	12314.0	13161.0
	1230	12317.0	13164.0
	1602	16363.0	17245.0
	1603	16366.0	17248.0
	1624	16429.0	17311.0
	2214	22039.0	22735.0
	2223	22066.0	22762.0
	2228	22081.0	22777.0
	2236	22105.0	22801.0
Gulf Coast	404	4074.0	4366.0
	405	4077.0	4369.0

TABLE A—PUBLIC CORRESPONDENCE (DUPLEX CHANNELS)—Continued

[Working carrier frequency pairs in the 4000–27500 kHz band]

Region	Channel No.	Carrier frequencies (kHz)	
		Ship transmit	Coast transmit
	414	4104.0	4396.0
	419	4119.0	4411.0
	824	8264.0	8788.0
	829	8279.0	8803.0
	830	8282.0	8806.0
	1212	12263.0	13110.0
	1225	12302.0	13149.0
	1226	12305.0	13152.0
	1607	16378.0	17260.0
	1632	16453.0	17335.0
	1641	16480.0	17362.0
	2227	22078.0	22774.0
	2231	22090.0	22786.0
	2237	22108.0	22804.0
Great Lakes	405	4077.0	4369.0
	409	4089.0	4381.0
	418	4116.0	4408.0
	826	8270.0	8794.0
Hawaii	418	4116.0	4408.0
	808	8216.0	8740.0
	1222	12293.0	13140.0
	1601	16360.0	17242.0
Caribbean	604	6209.0	6510.0
	605	6212.0	6513.0
	1602	16363.0	17245.0
	1603	16366.0	17248.0
	2223	22066.0	22762.0

(2) The following table specifies the additional carrier frequencies available for assignment to public coast stations for public correspondence. The paired ship frequencies are available for use by authorized ship stations. The specific frequency assignment available to public coast stations for a particular geographic area is indicated by an ''x'' under the appropriate column. Table B is based on the initial Appendix 25 Allotment Arrangement published by the International Frequency Registration Board (IFRB) (*see* IFRB Circular-letter No. 836, dated September 28, 1990). The allotment areas are in accordance with the ''Standard Defined Areas'' as identified in the Appendix 25 Planning System and indicated in the Preface to the International Frequency List (IFL) (*see* IFRB Circular-letter No. 843, dated October 31, 1990).

TABLE B—PUBLIC CORRESPONDENCE (ADDITIONAL DUPLEX CHANNELS)

[Working carrier frequency pairs in th 4000–27500 kHz band]

Channel	Ship transmit	Coast transmit	USA–E	USA–W	USA–S	USA–C	VIR	HWA	ALS	PTR	GUM
	Carrier frequencies (kHz)										
427	4143.0	4435.0	x	x	x	x	x	x	x	—	x
428	4060.0	4351.0	x	x	x	x	x	x	x	x	x
607	6218.0	6519.0	x	x	x	x	x	x	x	x	x
836	8113.0	8713.0	x	x	x	x	x	x	x	x	x
837	8128.0	8716.0	x	x	x	x	x	x	x	x	x
1233	12326.0	13173.0	x	x	x	x	x	x	x	x	x
1234	12329.0	13176.0	—	x	x	—	—	x	x	—	x
1235	12332.0	13179.0	x	x	x	x	x	x	x	x	x
1236	12335.0	13182.0	—	x	x	—	—	x	—	—	—
1237	12338.0	13185.0	x	—	x	x	x	—	—	x	—
1642	16483.0	17365.0	x	x	x	x	x	x	x	x	x
1643	16486.0	17368.0	x	x	x	x	x	x	x	x	x
1644	16489.0	17371.0	x	x	x	x	—	x	x	—	x
1645	16492.0	17374.0	x	x	x	x	x	x	x	x	x
1646	16495.0	17377.0	—	x	—	—	—	—	—	—	—
1647	16498.0	17380.0	x	x	x	x	—	x	x	—	x
1648	16501.0	17383.0	—	x	—	x	x	x	x	x	x
1801	18780.0	19755.0	x	x	x	x	x	x	x	x	x
1802	18783.0	19758.0	x	—	x	x	x	—	—	x	—
1803	18786.0	19761.0	x	x	—	x	x	x	x	x	x
1804	18789.0	19764.0	—	x	x	—	—	x	x	—	—
1805	18792.0	19767.0	—	x	—	—	—	x	x	—	—
1807	18798.0	19773.0	x	x	x	x	x	x	x	x	x
1808	18801.0	19776.0	x	x	x	x	x	x	x	x	x
2241	22120.0	22816.0	x	x	x	x	x	x	x	x	x
2242	22123.0	22819.0	x	x	x	x	x	x	x	x	x
2243	22126.0	22822.0	x	x	x	x	x	x	x	x	—
2244	22129.0	22825.0	—	x	—	—	—	x	x	—	—
2245	22132.0	22828.0	—	x	x	—	—	x	x	—	—
2246	22135.0	22831.0	x	x	x	x	—	x	x	—	x
2247	22138.0	22834.0	x	x	x	x	x	x	x	—	x
2501	25070.0	26145.0	x	x	x	x	—	x	x	—	x
2502	25073.0	26148.0	x	x	x	x	x	x	x	x	—
2503	25076.0	26151.0	x	x	x	x	x	x	x	—	—
2504	25079.0	26154.0	x	x	x	x	x	x	x	x	x

(3) The following table specifies the non-paired carrier frequencies that are available for assignment to public coast stations for simplex operations subject to the provision of paragraph (b)(4) of this section. These frequencies are available for use by authorized ship stations for transmissions to coast stations (simplex operations). Assignments on these frequencies must accept interference. They are shared with government users and are considered ''common use'' frequencies under the international Radio Regulations. They cannot be notified for inclusion in the Master International Frequency Register, which provides stations with interference protection, but may be listed in the international List of Coast Stations. (*See* Radio Regulation No. 1220 and Recommendation 304.)

PUBLIC CORRESPONDENCE (SIMPLEX)

[Non-paired radiotelephony frequencies in the 4000–27500 kHz Band[1] Carrier Frequencies (kHz)]

16537	18825	22174	25100
16540	18828	22177	25103
	18831	.....	25106
	18834	.....	25109
	18837	.....	25112

[1] Coast stations limited to a maximum transmitter power of 1 kW (PEP).

(4) Applicants for these public coast frequencies specified in this section must submit a substantial showing of need based on the following factors:

(i) A schedule of each currently licensed working frequency in the 4000–27500 kHz band and the expected use of the proposed frequencies;

(ii) For additional frequencies within the same MHz band, a factual showing of the 3 busiest hours of any 4 days within a consecutive 10 day period for each of the 2 months immediately preceding the filing of the application indicating that the applicant has used its currently assigned frequencies within the same MHz band an aggregate average of at least 40% of the 3 busiest hours of each day for exchanging communications;

(iii) Any other facts that support the need for the proposed assignment, e.g., evidence of radio interference by another station located near enough to render a currently licensed frequency substantially unusable; and

(iv) For simplex frequencies listed in paragraph (b)(3) of this section, an additional showing supporting the use of simplex rather than duplex frequencies for the proposed situation.

(c) *Working frequencies in the 156–162 MHz band.* Initial grants will be limited to one working frequency. An additional frequency may be assigned when the assigned working frequency is also used by a foreign station near enough to result in harmful radio interference by simultaneous operation or when the channel occupancy of the assigned frequency or frequencies exceeds 40 percent during its busiest hours of operation. An application for assignment of an additional working frequency based on channel occupancy must be accompanied by a factual showing that for any 4 days within a 10-consecutive-day period of station operation in each of 2 months immediately prior to the filing of the application, the assigned frequency or frequencies was in average daily use for exchanging communications at least 40 percent of the 3 busiest hours of each day, of which not more the half of the use time was waiting or setup time. For purposes of this paragraph, an application for a frequency which overlaps by 70 percent or more the coverage area of a frequency already authorized for use by a station licensed to the same applicant or substantially the same applicant will be considered an application for an additional frequency.

Working Carrier Frequency Pairs in the 156–162 MHz Band[1, 4]

Channel designator	Carrier frequency (MHz)	
	Ship transmit	Coast transmit
24	157.200	161.800
84	157.225	161.825
25	157.250	161.850
85[2]	157.275	161.875
26	157.300	161.900
86	157.325	161.925
27	157.350	161.950
87	157.375	161.975
28	157.400	162.000
88[3]	157.425	162.025

[1] For special assignment of frequencies in this band in certain areas of Washington State, the Great Lakes and the east coast of the United States pursuant to arrangements between the United States and Canada, see subpart B of this part.

[2] The frequency pair 157.275/161.875 MHz is available for assignment on a primary basis to ship and public coast stations. In Alaska it is also available on a secondary basis to private mobile repeater stations.

[3] Within 120 km (75 miles) of the United States/Canada border, in the area of the Puget Sound and the Strait of Juan de Fuca and its approaches, the frequency 157.925 MHz is available for use by ship stations for public correspondence communications only. One hundred twenty kilometers (75 miles) from the United States/Canada border 157.425 MHz is available for intership and commercial communications. Outside the Puget Sound area and its approaches and the Great Lakes, 157.425 MHz is available for communications between commercial fishing vessels and associated aircraft while engaged in commercial fishing activities.

[4] Except for the frequency pair 157.425/162.025 MHz, these frequencies may be shared with stations in the private land mobile radio service, within the 48 contiguous states, under the terms of operation described in § 90.283 of this chapter.

(d) *Working frequencies in the Mississippi River System.* The Mississippi River System includes the Mississippi River and connecting navigable waters other than the Great Lakes. The following simplex frequencies are available for assignment to public coast stations serving the Mississippi River System for radiotelephony communications. These simplex frequencies also are available for use by authorized ship stations within communication service range, whether or not the ship is operating within the confines of the Mississippi River System.

MISSISSIPPI RIVER SYSTEM WORKING FREQUENCIES; CARRIER FREQUENCIES (KHZ)

2086 [1]	4065	6209	8201	12362	16543
2782	4089	6212	8213	12365	16546
	4116	6510	8725	.....	.....
	4408	6513	8737	.....	.....

[1] Limited to a maximum transmitter output of 150 watts (PEP).

(e) *Canada/U.S.A. channeling arrangement frequencies.* The VHF frequencies assignable to ship and coast stations in the State of washington and their usage limitations purusant to the Canada/U.S.A. channeling arrangement are described in subpart B of this part.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35245, Sept. 18, 1987; 52 FR 48439, Dec. 22, 1987; 56 FR 9894, Mar. 8, 1991; 57 FR 26779, June 16, 1992; 58 FR 44953, Aug. 25, 1993; 60 FR 35510, July 10, 1995]

§ 80.373 Private communications frequencies.

This section describes the carrier frequencies assignable for ship-to-ship and ship-to-coast private communications.

(a) *Special requirements for private coast stations.* Assignment to private coast stations of radiotelephony frequencies in the 2000–27500 kHz band are subject to the following:

(1) Private coast stations must see J3E emission.

(2) On 2182 kHz, private coast stations must be capable of receiving J3E and H3E emissions.

(3) Except in the Mississippi River System and Great Lakes, private coast stations serving lakes or rivers are not authorized on the 2000–2850 kHz band.

(4) Private coast stations may use DSC for calling on their assigned frequencies in the 2000–27500 kHz band and on those frequencies in the 156–162 MHz band which are allocated for maritime control, commercial and non-commercial communications.

(b) *Frequencies in the 2000–27500 kHz band for intership safety and other communications.* This paragraph describes the geographic areas of operation and the frequencies and liminations in the band available for assignment for intership safety and operational simplex radiotelephone communications.

(1) *Frequencies avaiable.*

Carrier frequency (kHz)	Geographic area
2003.0	Great Lakes only.
2082.5 [1, 2]	All areas.
2093.0 [1]	All areas.
2142.0	Pacific coast areas south of 42 degrees north on a day basis only.
2203.00 [2]	Gulf of Mexico.
2214.0 [1]	All areas.
2638.0 [1]	All areas.
2670.0	All areas.
2738.0 [1]	All areas except the Great Lakes.
2830.0	Gulf of Mexico only.

[1] Limited to a peak envelope power of 150 watts.

[2] Available on a secondary basis for intership communications by ships involved in non-commercial fishing.

(2) Except for 2093.0 kHz and 2214.0 kHz the frequencies shown in paragraph (b)(1) of this section are authorized primarily for intership safety communications in the indicated geographic area.

(3) Except for the frequencies 2093.0 kHz, 2214.0 Khz and 2670.0 kHz the frequencies shown in paragraph (b)(1) of this section may be used on a non-interference basis to safety communications, for operational communications and in the case of commercial transport ships and ships of municipal and state governments, for business communications.

(4) Ship stations may communicate with government coast stations on

2003.0 kHz about passage of vessels. Interference must not be caused to communications on the St. Lawrence Seaway and on the St. Mary's River.

(5) Ship stations may use 2670.0 kHz for communications with coast and ship stations of the U.S. Coast Guard. When a ship is not equipped to transmit on 2670.0 kHz or in the band 156–162 MHz the frequency 2003.0 kHz may be used on the Great Lakes for communications must not cause harmful interference to intership safety, operational and business communications.

(6) Navigational communications between ships and private coast stations may be exchanged on 2738.0 kHz and 2830.0 kHz. The frequencies 2214.0 kHz2738.0 kHz and 2830.0 kHz are assignable to private coast stations upon a showing that they need to communicate with commercial transport or Government ships. Private coast station applicants must show that public coast stations do not provide the required communications and harmful interference will not be caused to the intership use of these frequencies. The transmitter power must not exceed 150 watts. If 2214.0 kHz is authorized for ships, intership communication is also authorized. The geographic limitations to the frequencies 2738.0 KHz and 2830.0 Khz do not prohibit intership communication of less than 320 km (200 statute miles) when only one of the ship stations is within a permitted use geographic area.

(7) Private aircraft stations may communicate with ship stations on 2738.0 kHz and 2830.0 kHz if:

(i) The communications are limited to business or operational needs of the vessel while it is engaged in commercial fishing activities in the open sea or adjacent waters;

(ii) Harmful interference must not be caused to intership communications;

(iii) The maximum output power used for such communication must not exceed 25 watts;

(c) *Frequencies in the 2000–27500 kHz bands for business and operational communications.* (1) The following simplex frequencies in the 2000–27500 kHz band are available for assignment to private coast stations for business and operational radiotelephone communications. These simplex frequencies also are available for use by authorized ship stations for business and operational radiotelephone communications.

BUSINESS AND OPERATIONAL FREQUENCIES IN THE 2000–27500 KHZ BAND; CARRIER FREQUENCIES (KHZ)

2065.0 [1,3]	4146	6224	8294	12353	16528	18840	22159	25115
2079.0 [1,3]	4149	6227	8297	12356	16531	18843	22162	25118
2096.5 [1]	4125 [2]	6230	.....	12359	16534	.....	22165	.....
3023.0 [4]	4417 [5]	6516	.....	.....	.....	.....	22168	.....
	5680 [4]	.....	.....	.....	.....	.....	22171	.....

[1] Limited to peak envelope power of 150 watts.
[2] The frequency 4125 kHz is also available for distress and safety, and calling and reply, see § 80.369 (b) and (d) of this part.
[3] The frequencies 2065.0 kHz and 2079.0 kHz must be coordinated with Canada.
[4] The frequencies 3023.0 kHz and 5680.0 kHz are available to private coast stations licensed to state and local governments and any scene-of-action ships for the purpose of search and rescue scene-of-action coordination including communications with any scene-of-action aircraft.
[5] The frequency 6516 kHz is limited to daytime operations. The frequencies 4417 kHz and 6516 kHz are also available for calling and reply, see § 80.369(d) of this part.

(2) Assignment of these frequencies is subject to the following general limitations:

(i) These frequencies are shared and are not available for the exclusive use of any station. No more than one frequency from each of the frequency bands will be authorized to a private station without justification;

(ii) The emissions must be J3E except that when DSC is used the emission must be F1B or J2B; and

(iii) Maximum transmitter output power is limited to 1 kW except as noted.

(d) *Radioprinter frequencies.* (1) The following table describes the bands available for radioprinter simplex communications between ship and private coast stations:

Frequency bands (kHz)	
2107–2170	4750–4850
2194–2495	5060–5450
2505–2850	5730–5950
3155–3400	7300–8100
4438–4650	.....

(2) Ship stations may conduct radioprinter communications with private coast stations on frequencies within these bands which are assigned to their associated private coast stations;

(3) Any alphanumeric code may be used; and

(4) The bandwidth of radioprinter communications on frequencies within these bands must not exceed 300 Hz.

(e) *Frequencies in the 2000–27500 kHz band for medical advisory communications.* (1) Private coast stations may be authorized to use any frequencies within the 2030–27500 kHz band that are allocated to Government and non-Government fixed or fixed and mobile radio services shown in the Commission's Table of Frequency Allocations contained in § 2.106 of this chapter for communications with ship stations to provide medical treatment information or advice. Assignment of these frequencies is subject to the following limitations:

(2) No protection is provided from harmful interference caused by foreign stations; and

(3) A private coast station must cease operations on a frequency that causes harmful interference to a foreign station.

(f) *Frequencies in the 156–162 MHz band.* The following tables describe the carrier frequencies available in the 156–162 MHz band for radiotelephone communications between ship and private coast stations. (Note: the letter ''A'' following the channel designator indicates simplex operation on a channel designated internationally as a duplex channel.)

Frequencies in the 156–162 MHz band			
Channel designator	Carrier frequency (MHz)		Points of communication (Intership and between coast and ship unless otherwise indicated)
	Ship transmit	Coast transmit	
Port Operations			
01A [1]	156.050	156.050	
63A [1]	156.175	156.175	
05A [2]	156.250	156.250	
65A	156.275	156.275	
66A	156.325	156.325	
12 [3]	156.600	156.600	
73	156.675	156.675	
14 [3]	156.700	156.700	
74	156.725	156.725	
77 [4]	156.875	.....	Intership only.
20A [12]	157.000	.....	Intership only.
Navigational (Bridge-to-Bridge) [5]			
13 [6]	156.650	156.650	
67 [7]	156.375	156.375	
Commercial			
01A [1]	156.050	156.050	
63A [1]	156.175	156.175	
07A	156.350	156.350	
67 [7]	156.375	.....	Intership only.
08	156.400	.....	Do.
09	156.450	156.450	
10	156.500	156.500	
11 [3]	156.550	156.550	
18A	156.900	156.900	
19A	156.950	156.950	
79A	156.975	156.975	
80A	157.025	157.025	
88A [8]	157.425	.....	Intership only.
72 [14]	156.625	.....	Internship only.
Digital Selective Calling			
70 [15]	156.525	156.525	
Noncommercial			
68	156.425	156.425	
09 [16]	156.450	156.450	
69	156.475	156.475	
71	156.575	156.575	
72	156.625	.....	Intership only.
78A	156.925	156.925	
79A	156.975	156.975	Great Lakes only.
80A	157.025	157.025	Do.
67 [14]	156.375	.....	Internship only.
Distress, Safety and Calling			
16	156.800	156.800	EPRIB
Intership Safety			
06	156.300	.....	a. Intership, or b. For SAR: Ship and aircraft for the U.S. Coast Guard.
Environmental			
15 [13]	.....	156.750	Coast to ship only.
Maritime Control			
17 [9, 10]	156.850	156.850	

Frequencies in the 156–162 MHz band			
Channel designator	Carrier frequency (MHz)		Points of communication (Intership and between coast and ship unless otherwise indicated)
	Ship transmit	Coast transmit	
Liaison, U.S. Coast Guard			
22A [11]	157.100	157.100	Ship, aircraft, and coast stations of the U.S. Coast Guard and at Lake Mead, Nev., ship and coast stations of the National Park Service, U.S. Department of the Interior.

[1] 156.050 MHz and 156.175 MHz are available for port operations and commercial communications purposes when used only within the U.S. Coast Guard designated Vessel Traffic Services (VTS) area of New Orleans, on the lower Mississippi River from the various pass entrances in the Gulf of Mexico to Devil's Swamp Light at River Mile 242.4 above head of passes near Baton Rouge.

[2] 156.250 MHz is available for port operations communications use only within the U.S. Coast Guard designated VTS radio protection areas of New Orleans and Houston described in § 80.383.

[3] 156.550 MHz, 156.600 MHz and 156.700 MHz are available in the U.S. Coast Guard designated port areas only for VTS communications and in the Great Lakes available primarily for communications relating to the movement of ships in sectors designated by the St. Lawrence Seaway Development Corporation or the U.S. Coast Guard. The use of these frequencies outside VTS and ship movement sector protected areas is permitted provided they cause no interference to VTS and ship movement communications in thier respective designated sectors.

[4] Use of 156.875 MHz is limited to communications with pilots regarding the movement and docking of ships. Normal output power must not exceed 1 watt.

[5] 156.375 MHz and 156.650 MHz are available primarily for intership navigational communications. These frequencies are available between coast and ship on a secondary basis when used on or in the vicinity of locks or drawbridges. Normal output power must not exceed 1 watt. Maximum output power must not exceed 10 watts for coast stations or 25 watts for ship stations.

[6] On the Great Lakes, in addition to bridge-to-bridge communications, 156.650 MHz is available for vessel control purposes in established vessel traffic systems. 156.650 MHz is not available for use in the Mississippi River from South Pass Lighted Whistle Buoy ''2'' and Southwest Pass entrance Midchannel Lighted Whistle Buoy to mile 242.4 above Head of Passes near Baton Rouge. Additionally it is not available for use in the Mississippi River-Gulf Outlet, the Mississippi River-Gulf Outlet Canal, and the Inner Harbor Navigational Canal, except to aid the transition from these areas.

[7] Use of 156.375 MHz is available for navigational communications only in the Mississippi River from South Pass Lighted Whistle Buoy ''2'' and Southwest Pass entrance Mid-channel Lighted Whistle Buoy to mile 242.4 above head of Passes near Baton Rouge, and in addition over the full length of the Mississippi River-Gulf Outlet Canal from entrance to its junction with the Inner Harbor Navigation Canal, and over the full length of the Inner Harbor Navigation Canal from its junction with the Mississippi River to its entry to Lake Pontchartrain at the New Seabrook vehicular bridge.

[8] Within 120 km (75 miles) of the United States/Canada border, in the area of the Puget Sound and the Strait of Juan de Fuca and its approaches, 157.425 MHz is half of the duplex pair designated as Channel 88. In this area, Channel 88 is available to ship stations for communications with public coast stations only. More than 120 km (75 miles) from the United States/Canada border in the area of the Puget Sound and the Strait of Juan de Fuca, its approaches, the Great Lakes, and the St. Lawrence Seaway, 157.425 MHz is available for intership and commercial communications. Outside Puget Sound area and its approaches and the Great Lakes, 157.425 MHz is also available for communications between commercial fishing vessels and associated aircraft while engaged in commercial fishing activities.

[9] When the frequency 156.850 MHz is authorized, it may be used additionally for search and rescue training exercises conducted by state or local governments.

[10] The frequency 156.850 MHz is additionally available to coast stations on the Great Lakes for transmission of scheduled Coded Marine Weather Forecasts (MAFOR), Great Lakes Weather Broadcast (LAWEB) and unscheduled Notices to Mariners or Bulletins. F3C and J3C emissions are permitted. Coast Stations on the Great Lakes must cease weather broadcasts which cause interference to stations operating on 156.800 MHz until the interference problem is resolved.

[11] The frequency 157.100 MHz is authorized for search and rescue training exercises by state or local government in conjunction with U.S. Coast Guard stations. Prior U.S. Coast Guard approval is required. Use must cease immediately on U.S. Coast Guard request.

[12] The duplex pair for channel 20 (157.000/161.600 MHz) may be used for ship to coast station communications.

[13] Available for assignment to coast stations, the use of which is in accord with an agreed program, for the broadcast of information to ship stations concerning the environmental conditions in which vessels operate, i.e., weather; sea conditions; time signals; notices to mariners; and hazards to navigation.

[14] Available only in the Puget Sound and the Strait of Juan de Fuca.

[15] The frequency 156.525 MHz is to be used exclusively for distress, safety and calling using digital selective calling techniques. No other uses are permitted.

[16] The frequency 156.450 MHz is available for intership, ship and coast general purpose calling by noncommercial vessels, such as recreational boats and private coast stations.

(g) On-board communications: This section describes the carrier frequency pairs assignable for on-board mobile radiotelephony communications. The center of the on-board repeater antenna must not be located more than 3 meters (10 feet) above the ship's working deck. These frequencies are available on a shared basis with stations in the Business Radio Service.

Channel	Frequencies for On-Board Communications	
	Carrier frequency (MHz)	
	On-board mobile station	On-board repeater station [1]
1	467.750	457.525
2	467.775	457.550
3	467.800	457.575
4	467.825	457.600

[1] These frequencies may also be assigned to mobile stations for single frequency simplex operation.

(h) *Repeater frequencies in Alaska.* The following frequencies are assignable on a primary basis to public and on a secondary basis to private coast stations in Alaska for maritime repeater operations:

Repeater receive: 157.275 MHz
Repeater transmit: 161.875 MHz

(i) *Frequencies in the 1600–5450 kHz band for private communications in Alaska.* The following simplex frequencies are available for assignment to private fixed stations located in the State of

Alaska for radiotelephony communications with ship stations. These simplex frequencies are available for use by authorized ship stations for radiotelephony communications with private fixed stations located in the State of Alaska.

Private communications in Alaska Carrier frequencies (kHz)

1619.0	2382.0	2563.0
1622.0	2419.0	2566.0
1643.0	2422.0	2590.0
1646.0	2427.0	2616.0
1649.0	2430.0	3258.0
1652.0	2447.0	[1] 3261.0
1705.0	2450.0	4366.0
1709.0	2479.0	4369.0
1712.0	2482.0	4396.0
2003.0	2506.0	4402.0
2006.0	2509.0	4420.0
2115.0	2512.0	4423.0
2118.0	2535.0	[2] 5167.5
2379.0	2538.0	

[1] Ship stations must limit use of 3261.0 kHz to communications over distances which cannot be reached by the use of frequency below 2700 kHz or above 156.000 MHz.

[2] The frequency 5167.5 kHz is available for emergency communications in Alaska. Peak envelope power of stations operating on this frequency must not exceed 150 watts. When a station in Alaska is authorized to use 5167.5 kHz, such station may also use this frequency for calling and listening for the purpose of establishing communications.

(j) *Frequencies for portable ship stations.* VHF frequencies authorized for stations authorized carrier frequencies in the 156.275 MHz to 157.450 MHz and 161.575 MHz to 162.025 MHz bands may also be authorized as marine utility stations. Marine-utility stations on shore must not cause interference to any VHF or coast station, VHF or UHF land mobile base station, or U.S. Government station.

[51 FR 31213, Sept. 2, 1986; 51 FR 34984, Oct. 1, 1986, as amended at 52 FR 35245, Sept. 18, 1987; 53 FR 17052, May 13, 1988; 54 FR 8542, Mar. 1, 1989; 54 FR 40059, Sept. 29, 1989; 56 FR 9896, Mar. 8, 1991; 56 FR 34030, July 25, 1991; 57 FR 19552, May 7, 1992; 57 FR 26779, June 16, 1992; 58 FR 16504, Mar. 29, 1993; 58 FR 44953, Aug. 25, 1993; 60 FR 35510, July 10, 1995]

§ 80.374 Special provisions for frequencies in the 4000–4063 kHz and the 8100–8195 kHz bands shared with the fixed service.

Until implementation procedures and schedules are determined by a conference of the International Telecommunications Union (ITU), the bands 4000–4063 kHz and 8100–8195 kHz are allocated on a shared primary basis between the fixed service and the maritime mobile service; see § 2.106, note US236, of the Commission's Rules. Frequency assignments in the 4000–4063 kHz and 8100–8195 kHz bands are subject to coordination with government users. Additionally, coast station assignments in the 4000–4063 kHz band deviate from international provisions. Coast station assignments in the 4000–4063 kHz band are permitted provided that harmful interference is not caused to, and must accept interference from, stations operated by other countries in accordance with the Radio Regulations (*see* Radio Regulation Nos. 342 and 517).

(a) *Application requirements.* Applicants for public coast station frequencies described in this section must submit a substantial showing of need based on the following factors:

(1) A schedule of each currently licensed 4, 6, and 8 MHz frequency and the expected use of the proposed frequencies;

(2) For additional frequencies within the same MHz band, a factual showing of the 3 busiest hours of any 4 days within a consecutive 10 day period for each of the 2 months immediately preceding the filing of the application indicating that the applicant has used its currently assigned frequencies within the same MHz band an aggregate average of at least 40% of the 3 busiest hours of each day for exchanging communications; and

(3) Any other facts that support the need for the proposed assignment, *e.g.*, evidence of radio interference by another station located near enough to render a currently licensed frequency substantially unusable.

(b) *Frequencies in the 4000–4063 kHz band.* (1) The frequencies in the 4000–4063 kHz bands are available to ship and public coast stations for:

(i) Supplementary ship-to-shore duplex operations with coast stations assigned the frequencies described in § 80.371(b) of this part;

(ii) Intership simplex operations and cross-band operations;

(iii) Ship-to-shore or shore-to-ship simplex operations; or

(iv) Duplex operations with coast stations assigned in the band 4438–4650

kHz, as described in §80.373(d) of this part.

(2) The following table describes the channelization of carrier frequencies in the 4000–4063 kHz band.

CARRIER FREQUENCIES (kHz)

4000	4015	4030	4045
4003	4018	4033	4048
4006	4021	4036	4051
4009	4024	4039	4054
4012	4027	4042	4057

(c) *Frequencies in the 8100–8195 kHz band.* (1) The frequencies in the 8100–8195 kHz bands are available to ship and public coast stations for:

(i) Supplementary ship-to-shore duplex operations with coast stations assigned the frequencies described in §80.371(b) of this part;

(ii) Intership simplex operations and cross-band operations; or

(iii) Ship-to-shore or shore-to-ship simplex operations.

(2) The following table describes the channelization of carrier frequencies in the 8100–8195 kHz band.

CARRIER FREQUENCIES (kHz)

8101	8137	8167
8104	8140	8170
8107	8143	8173
8110	8146	8176
8116	8149	8179
8119	8152	8182
8122	8155	8185
8125	8158	8188
8131	8161	8191
8134	8164	

[56 FR 9896, Mar. 8, 1991]

RADIODETERMINATION

§80.375 Radiodetermination frequencies.

This section describes the carrier frequencies assignable to radiodetermination stations. Only direction finding radar stations will be authorized on land.

(a) *Direction finding frequencies.* The carrier frequencies assignable to ship stations for direction finding operations are:

Carrier frequency
410 kHz
500 kHz
2182 kHz
8364 kHz
121.500 MHz
243.000 MHz

(1) Except in distress the assigned frequency for direction finding is 410 kHz;

(2) Ship stations may use 500 kHz for direction finding exclusively in Regions 1 and 3 outside areas of heavy radio traffic. Use must not interfere with distress urgency and safety signals or calls and replies.

(b) *Radiodetermination frequencies for cable-repair ships.* Except in Region 1 the channels in the 285–325 kHz band are assignable to ship stations for cable-repair radiodetermination operations. In Region 1 the channels available for assignment for such operations are limited to the 285–315 kHz band. The conditions of use of these channels are set forth in subpart X of this part. Channel usage must comply with the following requirements:

(1) They are not permitted within the territorial waters of a foreign country;

(2) Their output power must not exceed 15 watts; and

(3) They must not cause interference to any maritime station in the radionavigation service.

(c) *Radiodetermination frequencies below 500 MHz.* The frequencies 154.585 MHz, 159.480 MHz, 160.725 MHz, 160.785 MHz, 454.000 MHz and 459.000 MHz are authorized for offshore radiolocation and associated telecommand operations under a ship station license provided:

(1) The use of these frequencies is related to the ship's commercial operations;

(2) The station antenna height does not exceed 6 meters (20 feet) above sea level in a buoy station or 6 meters (20 feet) above the mast of the ship in which it is installed.

(d) *Radiodetermination frequency bands above 2400 MHz.* (1) The radiodetermination frequency bands assignable to ship and shore stations including ship and shore radar and transponder stations are as follows: 2450–2500 MHz; 2900–3100 MHz; 5460–5650 MHz; 9300–9500 MHz; and 14.00–14.05 GHz.

(2) Assignment of these bands to ship and coast stations are subject to the following conditions:

(i) The 2450–2500 MHz band may be used only for radiolocation on the condition that harmful interference must not be caused to the fixed and mobile services. No protection is provided from interference caused by emissions from industrial, scientific, or medical equipment;

(ii) The use of the 2900–3100 MHz, 5470–5650 MHz and 9300–9500 MHz bands for radiolocation must not cause harmful interference to the radionavigation and Government radiolocation services. Additionally, the use of the 2900–3000 MHz band for radiolocation must not cause harmful interference to the Government meteorological aids service.

(iii) In the 2920–3100 MHz and 9320–9500 MHz bands the use of fixed-frequency transponders for radionavigation is not permitted;

(iv) Non-Government radiolocation stations may be authorized in the 5460–5470 MHz band on the condition that harmful interference shall not be caused to the aeronautical or maritime radionavigation services or to Government radiolocation service;

(v) The use of the 5460–5650 MHz band for radionavigation is limited to shipborne radar;

(vi) The use of the 14.00–14.05 GHz band will be authorized only for test purposes and maritime radionavigation on a secondary basis to the fixed-satellite service; and

(vii) Selectable transponders must be authorized under Part 5 of the Commission rules until technical standards for their use are developed.

(3) In addition to the conditions in (2) of this paragraph ship stations are subject to the following conditions:

(i) Transponders used for safety purposes will be authorized in the 2900–3100 MHz, 5470–5650 MHz and 9300–9500 MHz bands. Transponders used for non-safety purposes will be confined to the 2930–2950 MHz, 5470–5480 MHz and 9300–9500 MHz subbands only;

(ii) In the 2900–2920 MHz and 9300–9320 MHz subbands the use of radars other than those installed prior to January 2, 1976, is not permitted;

(iii) In the 2920–3100 MHz and 9320–9500 MHz bands non-selectable transponders will be authorized only for safety purposes;

(iv) Non-selectable transponders must not be used to enhance detection of marine craft;

(4) In the 2920–3100 MHz and 9320–9500 MHz bands shore station radar transponders used only as racons will be authorized.

(e) In addition to the other technical requirements contained in subpart E of this part search and rescue transponder stations must meet the following technical standards contained in the latest international Radio Consultative Committee (CCIR) Recommendation 628 titled ''Technical Characteristics for a Search and Rescue Radar Transponder'':

(1) Operate in the 9300–9500 MHz band;

(2) Be horizontally polarized at their source;

(3) Have an effective receiver sensitivity including its antenna gain better than −50 dBm;

(4) Operate within specifications between the temperatures of −20 and +50 degrees Celsius;

(5) Operate within specifications for at least 48 hours at 0 degrees Celsius without changing batteries;

(6) Have a sawtooth sweep with a 5 microseconds ± 0.5 microseconds rate and return of less than 0.5 microseconds;

(7) Have a pulse emission of 100 microseconds maximum duration;

(8) Have a recovery time following excitation of 10 microseconds or less;

(9) Have a delay between receipt of a radar signal and start of transmissions of 1.25 microseconds or less;

(10) Have an antenna whose vertical beamwidth is no less than 25 degrees and its azimuthal beamwidth is omnidirectional within 2 dB; and

(11) Suppress interference caused by the interrogating radar antenna's sidelobes.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 7419, Mar. 11, 1987; 55 FR 6394, Feb. 23, 1990; 57 FR 26779, June 16, 1992; 58 FR 44953, Aug. 25, 1993]

SHIP EARTH STATIONS

§80.377 Frequencies for ship earth stations.

The frequency band 1626.5–1645.5 MHz is assignable for communication, radiodetermination and telecommand messages, and developmental operations that are associated with the position, orientation and operational functions of maritime satellite equipment. The frequency band 1645.5–1646.5 MHz is reserved for use in the Global Maritime Distress and Safety System (GMDSS).

[51 FR 31213, Sept. 2, 1986, as amended at 57 FR 26779, June 16, 1992]

AIRCRAFT STATIONS

§80.379 Maritime frequencies assignable to aircraft stations.

This section describes the maritime frequencies assignable to aircraft stations for simplex operations:

(a) Available frequencies:

Carrier frequency	Conditions of use
2738 kHz	(1)
2830 kHz	(1)
3023 kHz	(2)
4125 kHz	(3)
5680 kHz	(2)
121.500 MHz	(4)
123.100 MHz	(4)
156.300 MHz	(5)
156.375 MHz	(5)
156.400 MHz	(5)
156.425 MHz	(5)
156.450 MHz	(5)
156.625 MHz	(5)
156.800 MHz	(5)
156.900 MHz	(5)
157.100 MHz	(6)
157.425 MHz	(5)(7)

(b) The conditions of use of the carrier frequencies in paragraph (a) of this section, are:

(1) For permissible geographic areas of operation see §80.373(b)(1). For other limitations see §80.373(b)(7);

(2) Aircraft and ship stations may use 3023.0 kHz and 5680.0 kHz for search and rescue scene-of-action coordination including communications between these stations and participating land stations. Stations using these frequencies must use J3E emission;

(3) Assignable for distress and safety communications between aircraft and maritime mobile stations;

(4) Assignable for search and rescue between ships and aircraft. Stations using these frequencies must use A3E emission;

(5) These frequencies may be used by aircraft stations when:

(i) The altitude of aircraft stations does not exceed 300 meters (1,000 feet), except for reconnaissance aircraft participating in icebreaking operations where an altitude of 450 meters (1,500 feet) is allowed;

(ii) The mean power of aircraft stations must not exceed five watts;

(iii) Communications are limited to operations in which the maritime mobile stations are primarily involved and where direct communications between the aircraft and the ship or coast station is required;

(iv) Stations may use 156.300 MHz for safety purposes only;

(v) Stations may use 156.800 MHz for distress, safety and calling only; and

(vi) Use of 156.375 MHz by aircraft is not permitted in the New Orleans VTS area specified in §80.383.

(6) The use of 157.100 MHz is limited to communications with stations of the Department of Interior at Lake Mead, Nevada; and

(7) Commercial fishing vessels and associated aircraft may use 157.425 MHz while engaged in commercial fishing activities except within 120 km (75 miles) of the United States/Canada border and Puget Sound and the Strait of Juan de Fuca and its approaches, the Great Lakes, and the St. Lawrence Seaway.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44953, Aug. 25, 1993]

OPERATIONAL FIXED STATIONS

§80.381 Frequencies for operational fixed stations.

The following carrier frequencies in the 72–76 MHz band are assignable to operational fixed stations using vertical polarization, if no harmful interference is caused to TV reception on Channels 4 and 5. These frequencies are shared with the Land Mobile and Aviation Radio Services.

OPERATIONAL FIXED FREQUENCIES IN THE 72–76 MHZ BAND

CARRIER FREQUENCY IN MHZ

72.02	72.28	72.64	72.90	75.68	75.94
72.04	72.30	72.66	72.92	75.70	75.96
72.06	72.32	72.68	72.94	75.72	75.98
72.08	72.34	72.70	72.96	75.74	.....
72.10	72.36	72.72	72.98	75.76	.....
72.12	72.38	72.74	75.42	75.78	.....
72.14	72.40	72.76	75.46	75.80	.....
72.16	72.42	72.78	75.50	75.82	.....
72.18	72.46	72.80	75.54	75.84	.....
72.20	72.50	72.82	75.58	75.86	.....
72.22	72.54	72.84	75.62	75.88	.....
72.24	72.58	72.86	75.64	75.90	.....
72.26	72.62	72.88	75.66	75.92	.....

[51 FR 31213, Sept. 2, 1986, as amended at 54 FR 40059, Sept. 29, 1989]

VESSEL TRAFFIC SERVICES SYSTEM (VTS)

§ 80.383 Vessel Traffic Services (VTS) system frequencies.

This section describes the carrier frequencies available for use in the Coast Guard Vessel Traffic Services (VTS) systems within the designated geographic radio protected areas.

(a) Assigned frequencies:

VESSEL TRAFFIC CONTROL FREQUENCIES

Carrier frequencies (MHz)	Geographic areas
156.250	Seattle.
156.550	New York, New Orleans,[1] Houston, Prince William Sound,[3] Berwick Bay.
156.600	New York, New Orleans,[1] Houston, San Francisco,[3] Sault Ste. Marie.[3]
156.700	New York, New Orleans,[1] Seattle, San Francisco.[2]

[1] Until further notice, this frequency is available for use as permitted by § 80.373(f), notwithstanding the provisions of footnote 3 that are applicable to the VTS system. Availability is a result of the closure of the VTS system for the port area of New Orleans. If the United States Coast Guard re-establishes this system, the Commission may require operations pursuant to such conditional licenses for this frequency to cease, or may choose not to renew such conditional licenses. All licenses for this frequency will be expressly conditioned upon the continued availability of the frequency for non-VTS use.

[2] Private coast station licenses for the use of this frequency will not be renewed beyond November 1, 1997. Continued use until expiration must be on a noninterference basis to Coast Guard VTS communications.

[3] Private coast station licenses for the use of this frequency in this area will expire at the end of the current license term or five years after the adopted date of the final rule, whichever comes first. Continued use until expiration must be on a noninterference basis to Coast Guard VTS communications.

(b) The U.S. Coast Guard designated radio protection areas for VTS are as follows:

(1) *New York.* The rectangle between north latitudes 40 degrees and 42 degrees and west longitudes 71 degrees and 74 degrees 30 minutes;

(2) *New Orleans.* The rectangle between North latitudes 27 degrees 30 minutes and 31 degrees 30 minutes and West longitudes 87 degrees 30 minutes and 93 degrees;

(3) *Houston.* The rectangle between north latitudes 28 degrees 30 minutes and 30 degrees 20 minutes and west longitudes 93 degrees 30 minutes and 96 degrees;

(4) *Seattle (Puget Sound).* The area encompassed between the United States-Canadian border and a line drawn from 49 degrees North 121 degrees West on the United States-Canadian Border, to 46 degrees 30 minutes North 121 degrees West, then to 46 degrees 30 minutes North 125 degrees West, then to 48 degrees 30 minutes North 125 degrees West, and then east to the United States-Canadian Border;

(5) *San Francisco.* The rectangle between north latitudes 39 degrees and 37 degrees and west longitudes 120 degrees 50 minutes and 123 degrees 20 minutes; and

(6) *Prince William Sound.* The rectangle between North latitudes 61 degrees 17 minutes and 59 degrees 22 minutes and West longitudes 149 degrees 39 minutes and 145 degrees 36 minutes.

(7) *Sault Ste. Marie.* The rectangle between North latitudes 45 degrees and 47 degrees, and West longitudes 83 degrees and 85 degrees.

(8) *Berwick Bay.* The rectangle between North latitudes 28 degrees 30 minutes and 30 degrees 30 minutes, and West longitudes 90 degrees 50 minutes and 92 degrees.

(c) The use of the frequencies shown in paragraph (a) of this section is permitted in areas outside the Coast Guard radio protection areas provided there is no interference to VTS communications within the VTS areas.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35245, Sept. 18, 1987; 54 FR 8746, Mar. 2, 1989; 55 FR 46514, Nov. 5, 1990; 58 FR 16504, Mar. 29, 1993; 61 FR 26120, May 24, 1996; 61 FR 26466, May 28, 1996]

AUTOMATED SYSTEMS

§80.385 Frequencies for automated systems.

This section describes the carrier frequencies for the Automated Maritime Telecommunications System (AMTS) and for other automated multi-station systems.

(a) *Automated Maritime Telecommunications System (AMTS).* (1) The Automated Maritime Telecommunications System (AMTS) is an integrated and interconnected maritime communications system.

(2) The following carrier frequency pairs are available for radiotelephony, facsimile and teleprinter communications. AMTS operations must not cause harmful interference to the U.S. Navy SPASUR system which operates in the band 216.880–217.080 MHz.

Channel No.	Carrier frequency (MHz)		
	Ship transmit [1]	Coast transmit [2]	Group
101		216.0125	D
102		216.0375	
103		216.0625	
104		216.0875	
105		216.1125	
106		216.1375	
107		216.1625	
108		216.1875	
109		216.2125	
110		216.2375	
111		216.2625	
112		216.2875	
113		216.3125	
114		216.3375	
115		216.3625	
116		216.3875	
117		216.4125	
118		216.4375	
119		216.4625	
120		216.4875	
121		216.5125	C
122		216.5375	
123		216.5625	
124		216.5875	
125		216.6125	
126		216.6375	
127		216.6625	
128		216.6875	
129		216.7125	
130		216.7375	
131		216.7625	
132		216.7875	
133		216.8125	
134		216.8375	
135		216.8625	
136		216.8875	
137		216.9125	
138		216.9375	
139		216.9625	
140		216.9875	
141	219.0125	217.0125	B
142	219.0375	217.0375	
143	219.0625	217.0625	
144	219.0875	217.0875	
145	219.1125	217.1125	
146	219.1375	217.1375	
147	219.1625	217.1625	
148	219.1875	217.1875	
149	219.2125	217.2125	
150	219.2375	217.2375	
151	219.2625	217.2625	
152	219.2875	217.2875	
153	219.3125	217.3125	
154	219.3375	217.3375	
155	219.3625	217.3625	
156	219.3875	217.3875	
157	219.4125	217.4125	
158	219.4375	217.4375	
159	219.4625	217.4625	
160	219.4875	217.4875	
161	219.5125	217.5125	A
162	219.5375	217.5375	
163	219.5625	217.5625	
164	219.5875	217.5875	
165	219.6125	217.6125	
166	219.6375	217.6375	
167	219.6625	217.6625	
168	219.6875	217.6875	
169	219.7125	217.7125	
170	219.7375	217.7375	
171	219.7625	217.7625	
172	219.7875	217.7875	
173	219.8125	217.8125	
174	219.8375	217.8375	
175	219.8625	217.8625	
176	219.8875	217.8875	
177	219.9125	217.9125	
178	219.9375	217.9375	
179	219.9625	217.9625	
180	219.9875	217.9875	

[1] Ship transmit frequencies in Group C and D are not authorized for AMTS use.

[2] Coast station operation on frequencies in Groups C and D are not currently assignable and are shared on a secondary basis with the Low Power Radio Service in part 95 of this chapter. Frequencies in the band 216.750–217.000 MHz band are available for low power point-to-point network control communications by AMTS coast stations under the Low Power Radio Service (LPRS). LPRS operations are subject to the conditions that no harmful interference is caused to the United States Navy's SPASUR radar system (216.88–217.08 MHz) or to TV reception within the Grade B contour of any TV channel 13 station or within the 68 dBu predicted contour of any low power TV or TV translator station operating on channel 13.

(3) Channels in the 219–220 MHz band are also used on a secondary, non-interference basis by amateur stations participating in digital message forwarding systems. Amateur stations may not cause harmful interference to AMTS operations and must accept any harmful interference from AMTS operation. Amateur stations within 80 km (50 miles) of an AMTS coast station must obtain written approval from the AMTS licensee prior to operating in the 219–220 MHz band. Amateur stations within 640 km (398 miles) of an AMTS coast station must notify the AMTS licensee in writing at least 30

days prior to initiation of operations in the 219–220 MHz band. All amateur stations must notify the American Radio Relay League in writing at least 30 days prior to initiation of operations in the 219–220 MHz band (ARRL, 225 Main St., Newington, CT 06111–1494).

(b) *Narrowband operations in AMTS.* AMTS licensees may operate on frequencies offset from the assignable channels specified in paragraph (a)(2) of this section provided such licensees are also licensed for channels on each side of the offset frequency. Licensees using offset frequencies must conform with all other conditions of operation.

(c) *Automated multi-station system.* Great Lakes Region. The following table describes the assignable carrier frequency pairs to provide communication services including automated calling, teleprinter and facsimile:

Channel designator	Carrier frequency (MHz)	
	Ship transmit	Coast transmit
17	None	[1] 156.850
84	157.225	161.825
85	157.275	161.875
86	157.325	161.925
87	157.375	161.975

[1] The frequency 156.850 MHz is used only to transmit scheduled weather broadcasts.

[51 FR 31213, Sept. 2, 1986, as amended at 54 FR 29041, July 11, 1989; 56 FR 3783, Jan. 31, 1991; 57 FR 26780, June 16, 1992; 60 FR 15687, Mar. 27, 1995; 61 FR 46566, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46566, Sept. 4, 1996, § 80.385 was amended by revising footnote 2 to the table in paragraph (a)(2), effective Oct. 4, 1996. For the convenience of the user, the superseded text is set forth as follows:

§ 80.385 Frequencies for automated systems.

* * * * *

(a) * * *

(2) * * *

[2] Coast station operation on frequencies in Group C and D are not currently assignable.

* * * * *

ALASKA FIXED STATIONS

§ 80.387 Frequencies for Alaska fixed stations.

(a) The carrier frequencies listed in (b) of this section are assignable for point-to-point simplex radiotelephone communications between private fixed stations in Alaska. The frequency pairs listed in paragraph (d) of this section are assignable for point-to-point duplex radiotelephone communications between private and public fixed stations in Alaska. Fixed stations in Alaska authorized to share carrier frequencies with the maritime mobile service must always give priority on such frequencies to maritime distress, urgency and safety communications.

(b) *Alaska-private fixed station frequencies:*

Carrier frequencies (kHz)

1643.0	2430.0	2773.0
1646.0	2447.0	3164.5
1649.0	2450.0	3183.0
1652.0	2463.0	3196.0
1657.0	2466.0	3201.0
1660.0 [1]	2471.0	3258.0
1705.0	2479.0	3261.0
1709.0	2482.0	3303.0
1712.0	2506.0	3365.0
2003.0	2509.0	4035.0
2006.0	2512.0	5164.5
2115.0	2535.0	[3] 5167.5
2118.0	2538.0	5204.5
2253.0	2563.0	[2] 6948.5
2400.0	2566.0	[2] 7368.5
2419.0	2601.0	8067.0
2422.0	2616.0	8070.0
2427.0	2691.0	[2] 11437.0
		[2] 11601.5

[1] Use of 1660.0 kHz must be coordinated to protect radiolocation on adjacent channels.

[2] Peak envelope power must not exceed 1 kW for radiotelephony. Teleprinter use is authorized.

[3] The frequency 5167.5 kHz is available for emergency communications in Alaska. Peak envelope power of stations operating on this frequency must not exceed 150 watts. When a station in Alaska is authorized to use 5167.5 kHz, such station may also use this frequency for calling and listening for the purpose of establishing communications.

(c) Use of the frequencies in paragraph (b) of this section must meet the following conditions:

(1) Communications between private coast and private fixed stations are prohibited; and

(2) Station licensees must not charge for third party communication services between their station and any other private fixed station.

(d) The following carrier frequency pairs are assignable for point-to-point communications between public fixed and private fixed stations:

Public fixed station frequencies (kHz)	Private fixed Station frequencies (kHz)
[1] 2312.0	2632.0

Public fixed station frequencies (kHz)	Private fixed Station frequencies (kHz)
2604.0	2256.0
2781.0	[3] 2474.0
2784.0	2694.0
3167.5	3354.0
3180.0	2776.0
3241.0	3357.0
3362.0	3238.0
[2] 4791.5	5207.5
5370.0	[4] 5134.5, [4] 5137.5

[1] This frequency is assignable on a primary basis to public coast stations and on a secondary basis to public fixed stations.
[2] Teleprinter use is authorized.
[3] Peak envelope power must not exceed 1 kW.
[4] Licensees must cease all communications on 5134.5 kHz and 5137.5 kHz when notified by the State of Alaska of an emergency or disaster. Licensees may resume communication on these frequencies when notified by the State of Alaska that the disaster or harmful interference has ended.

(e) The public fixed station frequencies are assignable to common carriers.

(f) The private fixed station frequencies described in paragraph (d) of this section are assignable to private entities located in areas where common carrier facilities are not available. Private fixed stations operating on the frequencies in paragraph (d) of this section, must communicate with public fixed stations only. Private fixed stations are permitted to provide third party communications between their station and the public fixed stations. A charge for such service is prohibited.

(g) U.S. Government frequencies will be authorized if the Commission determines that the assignment is in the public interest.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35245, Sept. 18, 1987; 56 FR 34030, July 25, 1991]

MARITIME SUPPORT STATIONS

§80.389 Frequencies for maritime support stations.

(a) *Marine receiver test.* Maritime support stations will be authorized to conduct receiver tests on the ship station frequencies of the channels assigned to the associated public coast station.

(b) *Shore radar and radiolocation tests.* The following frequency bands are available for assignment to demonstrate radar and radiolocation equipment. The use of frequencies within these bands must not cause harmful interference to the radionavigation service and the Government radiolocation service: 2450–2500 MHz, 2900–3100 MHz, 5460–5650 MHz, 9300–9500 MHz, 14.0–14.05 GHz.

DEVELOPMENTAL STATIONS

§80.391 Frequencies for developmental stations.

(a) Ship and shore stations engaged in developmental operations may be assigned any frequency or frequencies assignable to the service and class of station they propose to operate. The following frequency bands are also assignable to ships and coast stations for developmental operations:

Ship transmit	Coast transmit
5350–5460 MHz [1]	5350–5460 MHz [1]
6425–6525 MHz	
9000–9200 MHz [1]	9000–9200 MHz [1]
11700–12200 MHz	11700–12200 MHz
17700–19700 MHz	
27500–29500 MHz	

[1] The bands 5350–5460 MHz and 9000–9200 MHz are assignable for developmental operations at ship and shore radiolocation stations if their operations do not cause harmful interference to aeronautical radionavigation or Government radiolocation services.

(b) Stations authorized to conduct developmental operations are prohibited from communicating with any station of a country other than the United States.

(c) Stations authorized to conduct developmental operations must not cause harmful interference to the operation of stations authorized in other public services nor to any United States Government or foreign station.

Subpart I—Station Documents

§80.401 Station documents requirement.

Licensees of radio stations are required to have current station documents as indicated in the following table:

LEGEND:
R = REQUIRED

DOCUMENTS →

	Radio Station Category	Station License	Appropriate Operator Authorization	Station Logs	Appropriate safety Convention Certificate	Communications Act Safety Certificate	Great Lakes Radio Agreement Safety Certificate	Bridge to Bridge Act Safety Certificate	Part 80; FCC Rules and Regulations	Alphabetical List of Maritime Mobile Call Signs	List of Ship Stations	Manual for use by Maritime Mobile (M/M) Service&M/M Satellite Serv	List Of Coast Stations	List of Radiodetermination and special Services Stations	Station Equipment Records
Shipboard:	Telegraph;Title III, Part II/Safety Convention	R1	R	R	R				R	R	R	R	R	R	
	Telephone; Title III, Part II/Safety Convention	R1	R	R	R				R			R	R2		
	Telephone; Title III, Part II	R1	R	R					R						
	Telephone; Title III, Part III	R1	R	R		R			R						
	Telephone; Great Lakes Radio Agreement	R	R	R4			R4								
	Telephone; Bridge-to-Bridge Act	R	R	R				R							
	Radar	R													
	On Board	R													R
	Voluntary	R	R												
Land:	Public Coast (MF)	R	R	R					R	R3	R3	R3			
	Public Coast (HF)	R	R	R					R	R	R	R			
	Public Coast (VHF)	R	R	R					R						
	Private Coast	R	R												
	Radio Determination	R	R												
	Operational Fixed	R	R												
	Maritime Support	R	R												
	Alaska - Public Fixed	R	R	R											
	Alaska - Private Fixed	R	R												
Ship/Coast:	Marine Utility	R	R												

NOTES:

1. The expired station license must be retained in the station records until the first Commission inspection after the expiration date.

2. Alternatively, a list of coast stations maintained by the licensee with which communications are likely to be conducted, showing watchkeeping hours, frequencies and charges, is authorized.

3. Required only if station provides a service to oceangoing vessels.

4. Certification of a Great Lakes Agreement inspection may be made by either a log entry or issuance of a Great Lakes Agreement certificate. Radiotelephone logs containing entries certifying that a Great Lakes Agreement inspection has been conducted must be retained and be available for inspection by the FCC for 2 years after the date of the inspection.

[61 FR 25805, May 23, 1996]

§80.403 Availability of documents.

Station documents must be readily available to the licensed operator(s) on duty during the hours of service of the station and to authorized Commission employees upon request.

§80.405 Station license.

(a) *Requirement.* Stations must have an authorization granted by the Federal Communications Commission.

(b) *Application.* Application for authorizations in the maritime services must be submitted on the prescribed forms in accordance with subpart B of this part.

(c) *Posting.* The current station authorization or a clearly legible copy must be posted at the principal control point of each station. If a copy is posted, it must indicate the location of the original. When the station license cannot be posted, as in the case of a marine utility station operating at temporary unspecified locations, it must be kept where it will be readily available for inspection. The licensee of a station on board a ship subject to Part II or III of Title III of the Communications Act or the Safety Convention must retain the most recently expired ship station license in the station records until the first Commission inspection after the expiration date.

§80.407 Operator authorization.

This section contains information and rules pertinent to the application for and posting of radio operator authorizations. Rules applicable to radio operator requirements are contained in subpart D of this part and other rules pertinent to commercial radio operators are contained in part 13 of this chapter.

(a) *Application.* Detailed information about application forms, filing procedures, and places to file applications for radio operator authorizations is contained in the bulletin ''Commercial Radio Operator Licenses and Permits.'' This bulletin is available from any Commission District Office or from the FCC, Washington, DC 20554.

(b) *Posting.* When a Commission-authorized operator is required, the original authorization of each operator must be posted at the principal control point of the station. In lieu of posting, an operator who holds a restricted radiotelephone operator permit or a higher class operator license may have the operator authorization or a photocopy thereof available for inspection upon request by authorized Commission employees when operating the following:

(1) A voluntary station;

(2) Any class of ship station when the operator is on board solely to service the radio equipment; or

(3) A portable station.

§80.409 Station logs.

(a) *General requirements.* Logs must be established and properly maintained as follows:

(1) The log must be kept in an orderly manner. The required information for the particular class or category of station must be readily available. Key letters or abbreviations may be used if their proper meaning or explanation is contained elsewhere in the same log.

(2) Erasures, obliterations or willful destruction within the retention period are prohibited. Corrections may be made only by the person originating the entry by striking out the error, initialing the correction and indicating the date of correction.

(3) Ship station logs must identify the vessel name, country of registry, and official number of the vessel.

(4) The station licensee and the radio operator in charge of the station are

responsible for the maintenance of station logs.

(b) *Availability and retention.* Station logs must be made available to authorized Commission employees upon request and retained as follows:

(1) Logs must be retained by the licensee for a period of one year from the date of entry, and when applicable for such additional periods as required by the following paragraphs:

(i) Logs relating to a distress situation or disaster must be retained for three years from the date of entry.

(ii) If the Commission has notified the licensee of an investigation, the related logs must be retained until the licensee is specifically authorized in writing to destroy them.

(iii) Logs relating to any claim or complaint of which the station licensee has notice must be retained until the claim or complaint has been satisfied or barred by statute limiting the time for filing suits upon such claims.

(2) Logs containing entries required by paragraphs (e) and (f) of this section must be kept at the principal radiotelephone operating location while the vessel is being navigated. All entries in their original form must be retained on board the vessel for at least 30 days from the date of entry. Additionally, logs required by paragraph (f) of this section must be retained on board the vessel for a period of 2 years from the date of the last inspection of the ship radio station.

(3) Ship radiotelegraph logs must be kept in the principal radiotelegraph operating room during the voyage.

(c) *Public coast station logs.* Public coast stations must maintain a log as follows:

(1) ''ON DUTY'' must be entered by the operator beginning a duty period, followed by the operator's signature. ''OFF DUTY'' must be entered by the operator being relieved of or terminating duty, followed by the operator's signature.

(2) The date and time of making an entry must be shown opposite the entry.

(3) Failure of equipment to operate as required and incidents tending to unduly delay communication must be entered.

(4) All measurements of the transmitter frequency(ies) must be entered with a statement of any corrective action taken.

(5) Entries must be made giving details of all work performed which may affect the proper operation of the station. The entry must be made, signed and dated by the operator who supervised or performed the work and, unless the operator is regularly employed on a full-time basis at the station, must also include the mailing address, class, serial number, and expiration date of the operator license.

(6) Entries must be made about the operation of the antenna tower lights when the radio station has an antenna structure requiring illumination by part 17 of this chapter.

(7) All distress or safety related calls transmitted or received must be entered, together with the frequency used and the position of any vessel in need of assistance.

(8) Coast stations which maintain a watch on 500 kHz must enter the time this watch is begun, suspended or ended.

(d) *Ship radiotelegraph logs.* Logs of ship stations which are compulsorily equipped for radiotelegraphy and operating in the band 90 to 535 kHz must contain log entries as follows:

(1) The date and time of each occurrence or incident required to be entered in the log must be shown opposite the entry and the time must be expressed in Coordinated Universal Time (UTC).

(2) ''ON WATCH'' must be entered by the operator beginning a watch, followed by the operator's signature. ''OFF WATCH'' must be entered by the operator being relieved or terminating a watch, followed by the operator's signature. All log entries must be completed by the end of each watch.

(3) During the watch, all calls and replies to and from the station must be entered to include the time, frequencies, and call letters of the station communicated with or heard. Also, any messages exchanged must be entered to include the time, frequency, and call letters of the station(s) communicated with or heard.

(4) During the watch, an entry must be made twice per hour stating whether the international silence period was

observed. Entries must also be made indicating any signals or communications heard on 500 kilohertz during this period. If no signals are heard on 500 kHz, an entry to that effect must be made.

(5) The time and reason for discontinuance and the time of resuming the watch must be entered when the 500 kHz watch is discontinued.

(6) All distress calls, automatic-alarm signals, urgency and safety signals made or intercepted, the complete text, if possible, or distress messages and distress communications, and any incidents or occurrences which may appear to be of importance to safety of life or property at sea, must be entered, together with the time of such observation or occurrence and the position of the ship or other mobile unit in need of assistance.

(7) The position of the ship at least once per day.

(8) A daily entry must be made comparing the radio station clock with standard time, including errors observed and corrections made. For this purpose, authentic radio time signals received from land or fixed stations will be acceptable as standard time.

(9) All test transmissions must be entered, including the time of the transmissions and the approximate geographical location of the vessel.

(10) Any failure of equipment to operate as required and any incidents tending to unduly delay communications must be entered.

(11) A ship required to keep a radiotelegraph watch on 500 kHz must meet the following:

(i) Entries must be made of the results of tests of the emergency installation including transmitter antenna current, hydrometer readings of lead-acid storage batteries, voltage readings of other types of batteries, and quantity of fuel available for engine generators.

(ii) When the vessel is in the open sea, a log entry must be made each time the emergency power supply is used to carry on a communication other than during a safety watch.

(iii) When the vessel is in the open sea, a daily entry must be made showing whether the storage batteries were brought up to the normal full charge condition that day.

(iv) Entries must be made stating when each storage battery is placed on charge or off charge.

(v) Entries must be made about maintenance of survival craft radio equipment, including a record of charging of any storage batteries supplying power to such equipment. The record of charging must show when such storage battery is placed on charge and when it is taken off charge.

(vi) Results of inspections and tests of survival craft radio equipment, prior to departure of the vessel from a harbor or port and weekly inspections, must be entered.

(vii) On a cargo vessel equipped with an auto alarm, the entry ''AUTO ALARM ON'' and the entry ''AUTO ALARM OFF'', respectively, must be made whenever the operator places the auto alarm in and out of operation. Results of the required auto alarm tests must be entered daily, including the minimum number of 4-second dashes from the testing device which were necessary to properly operate the alarm.

(viii) On a cargo vessel equipped with an auto alarm, a log entry must be made whenever the auto alarm becomes inoperative. The entry must include a statement showing the time the operator was called to make repairs; the reason for the failure; parts changed; repairs; and the time the auto alarm was restored to service.

(e) *Ship radiotelephone logs.* Logs of ship stations which are compulsorily equipped for radiotelephony must contain the following applicable log entries and the time of their occurrence:

(1) A summary of all distress, urgency and safety traffic;

(2) A summary of communications conducted on other than VHF frequencies between the ship station and land or mobile stations;

(3) A reference to important service incidents;

(4) The position of the ship at least once a day;

(5) The name of the operator at the beginning and end of the watch period;

(6) The time the watch begins when the vessel leaves port, and the time it ends when the ship reaches port;

(7) The time the watch is discontinued, including the reason, and the time the watch is resumed;

(8) The times when storage batteries provided as a part of the required radiotelephone installation are placed on charge and taken off charge;

(9) Results of required equipment tests, including specific gravity of lead-acid storage batteries and voltage reading of other types of batteries provided as a part of the compulsory installation;

(10) Results of inspections and tests of compulsorily fitted lifeboat radio equipment;

(11) A daily statement about the condition of the required radiotelephone equipment, as determined by either normal communication or test communication;

(12) When the master is notified about improperly operating radiotelephone equipment.

(f) *Applicable radiotelephone log entries.* The log entries listed in paragraph (e) of this section are applicable as follows:

(1) Radiotelephony stations subject to parts II and III of title III of the Communications Act and/or the Safety Convention must record entries indicated by paragraphs (e)(1) through (e)(11) of this section.

(2) Radiotelephony stations subject to the Great Lakes Agreement and the Bridge-to-Bridge Act must record entries indicated by paragraphs (e) (1), (5), (6), (7), (8), (9), (11) and (12) of this section. Additionally, the radiotelephone log must provide an easily identifiable, separate section relating to the required inspection of the ship's radio station. Entries must be made in this section giving at least the following information:

(i) The date the inspection was conducted;

(ii) The date by which the next inspection needs to be completed;

(iii) The inspector's printed name, address and class of FCC license (including the serial number);

(iv) The results of the inspection, including any repairs made;

(v) The inspector's signed and dated certification that the vessel meets the requirements of the Great Lakes Agreement and the Bridge-to-Bridge Act contained in subparts T and U of this part and has successfully passed the inspection; and

(vi) The vessel owner, operator, or ship's master's certification that the inspection was satisfactory.

(3) Radiotelephony stations subject to the Bridge-to-Bridge Act must record entries indicated by paragraphs (e) (1), (5), (6), (7), (11) and (12) of this section.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35245, Sept. 18, 1987; 54 FR 40059, Sept. 29, 1989; 61 FR 25807, May 23, 1996]

§ 80.411 Vessel certification or exemption.

(a) *Application.* The application procedures for inspection and certification and for exemptions are contained in § 80.59.

(b) *Posting.* Communications Act, Safety Convention and Great Lakes Radio Agreement certificates or exemptions must be posted in a prominent, accessible place in the ship. Ships subject to the Great Lakes Agreement may, in lieu of a posted certificate, certify compliance in the station log required by section 80.409(f).

[51 FR 31213, Sept. 2, 1986, as amended at 61 FR 25807, May 23, 1996]

§ 80.413 On-board station equipment records.

(a) The licensee of an on-board station must keep equipment records which show:

(1) The ship name and identification of the on-board station;

(2) The number and type of repeater and mobile units used on-board the vessel; and

(3) The date and type of equipment which is added or removed from the on-board station.

§ 80.415 ITU publications.

(a) The following publications listed in the table contained in § 80.401 are published by the International Telecommunications Union (ITU):

(1) Manual for Use of the Maritime Mobile and Maritime Mobile-Satellite Services.

(2) List IV—List of Coast Stations.

(3) List V—List of Ship Stations.

(4) List VI—List of Radiodetermination and Special Services Stations.

(5) List VII A—Alphabetical List of Call Signs of Stations Used by the Maritime Mobile Service, Ship Station Selective Call Numbers or Signals and Coast Station Identification Numbers or Signals.

(b) The publications listed in paragraph (a) of this section may be purchased from:

International Telecommunication Union, General Secretariat—Sales Section, Place des Nations, CH–1211 Geneva 20, Switzerland

§80.417 FCC Rules and Regulations.

The Commission's printed publications are described in subpart C of part 0 of this chapter. These publications may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. The Commission does not furnish copies of these publications but will furnish a price list, Information Services and Publications-Bulletin No. 1, upon request. Requests for copies of this list should be directed to the Office of Public Affairs, Public Service Division, Federal Communications Commission, Washington, DC 20554.

[51 FR 31213, Sept. 2, 1986, as amended at 60 FR 50122, Sept. 28, 1995]

STATIONS ON LAND

Subpart J—Public Coast Stations

§80.451 Supplemental eligibility requirements.

A public coast station license may be granted to any person meeting the citizenship provisions of §80.15(b).

§80.453 Scope of communications.

Public coast stations provide ship/shore radiotelephone and radiotelegraph services.

(a) Public coast stations are authorized to communicate:

(1) With any ship or aircraft station operating in the maritime mobile service, for the transmission or reception of safety communication;

(2) With any land station to exchange safety communications to or from a ship or aircraft station;

(3) With Government and non-Government ship and aircraft stations to exchange public correspondence;

(b) Public coast stations are authorized to communicate with a designated station at a remote fixed location where other communication facilities are not available.

(c) Public coast stations are authorized to transmit meteorological and navigational information of benefit to mariners.

(d) Each public coast telegraphy station is authorized to communicate with other public coast telegraphy stations to exchange message traffic destined to or originated at mobile stations:

(1) To exchange operating signals, brief service messages or safety communication;

(2) To exchange message traffic destined for a mobile station when the coast station initially concerned is unable to communicate directly with the mobile station;

(3) In the Great Lakes region, to exchange message traffic originated at a mobile station when the use of available point-to-point communication facilities would delay the delivery of such message traffic;

(4) Utilization of radiotelegraphy must not incur additional charges or replace available point-to-point communication facilities;

(5) Only authorized working frequencies within the band 415 kHz to 5000 kHz must be employed for communications between coast stations;

(6) Harmful interference must not be caused to communication between mobile stations and coast stations or between mobile stations.

USE OF TELEGRAPHY

§80.455 Assignment and use of frequencies for manual Morse code telegraphy.

(a) The frequencies designated in §§80.355 and 80.357 may be licensed for use by coast stations employing telegraphy.

§80.459 Digital selective calling.

Subpart H of this part lists frequencies assignable for DSC.

§ 80.461 Narrow-band direct-printing.

Subpart H of this part lists the frequencies assignable to public coast stations for operations with ship stations. Operating procedures are listed in subpart C of this part.

USE OF TELEPHONY

§ 80.465 Assignment and use of frequencies for telephony.

Subpart H of this part lists the frequencies available for assignment to public coast stations for telephony operations.

§ 80.467 Duplication of VHF service.

No duplication of service areas as determined by subpart P of this part will be permitted by public coast stations operating on the same VHF public correspondence channel. Within the service area of a station, the ratio of desired to undesired co-channel signal strengths on public correspondence channels must be at least 12dB.

§ 80.469 Maritime mobile repeater stations in Alaska.

(a) Maritime mobile repeater stations are authorized to extend the range of communication between a VHF public coast station located in Alaska and ship stations.

(b) On a secondary basis, maritime mobile repeater stations may be authorized to extend the range of a private coast station:

(1) In an area where VHF common carrier service is not available;

(2) A maritime mobile repeater station license expires 60 days after a public coast station in the area begins service.

(c) Each application for a maritime mobile repeater station must include a statement showing why operational fixed frequencies cannot be employed.

(d) The provisions relating to duplication of service described in subpart P apply to maritime mobile repeater stations.

(e) The frequencies 157.275 and 161.875 MHz are assignable to maritime mobile repeater stations.

(f) Each maritime mobile repeater station must:

(1) Deactivate automatically within 5 seconds after the signals controlling the station cease; and

(2) During periods when it is not controlled from a manned control point, deactivate automatically not more than 20 minutes after its activation by a mobile unit.

§ 80.471 Discontinuance or impairment of service.

A public coast station must not discontinue or impair service unless authorized to do so by the Commission.

[51 FR 31213, Sept. 2, 1986; 52 FR 35245, Sept. 18, 1987]

AUTOMATED SYSTEMS

§ 80.475 Scope of service of the Automated Maritime Telecommunications System (AMTS).

(a) AMTS applicants proposing to serve inland waterways must show how the proposed system will provide continuity of service along more than 60% of each of one or more navigable inland waterways. Inland waterways less than 240 kilometers (150 miles) long must be served in their entirety. AMTS applicants proposing to serve portions of the Atlantic, Pacific or Gulf of Mexico coastline must define a substantial navigational area and show how the proposed system will provide continuity of service for it. A separate Form 503 is not required for each coast station in a system. However, the applicant must provide the technical characteristics for each proposed coast station, including transmitter type, operating frequencies, emissions, transmitter output power, antenna arrangement and location.

(1) Applicants proposing to locate a coast station transmitter within 169 kilometers (105 miles) of a channel 13 television station or within 129 kilometers (80 miles) of a channel 10 television station or with an antenna height greater than 61 meters (200 feet) must submit an engineering study clearly showing the means of avoiding interference with television reception within the grade B contour. See § 80.215(h).

(2) Additionally, applicants required to submit the above specified must give written notice of the filing of such

application(s) to the television stations which may be affected. A list of the notified television stations must be submitted with the subject applications.

(b) In lieu of public correspondence service an AMTS system may provide private coast station communications related to the operational requirements of ships including transmissions of fuel, weather, position and supply reports. However, such communications may be provided only to ship stations whose licensees make cooperative arrangements with the AMTS coast station licensees. In emergency and distress situations, services must be provided without prior arrangements.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35245, Sept. 18, 1987; 56 FR 3783, Jan. 31, 1991]

§80.477 Points of communications.

(a) AMTS coast stations may communicate with fixed platform stations located in the offshore waters of the Gulf of Mexico and with ship stations.

(b) AMTS licensees in the offshore waters of the Gulf of Mexico may use AMTS coast and ship station frequencies on a secondary basis for fixed service communications to support offshore AMTS operations.

(c) AMTS service may be provided to any vessel within communication service range of an AMTS station even though the vessel may not be operating within the confines of a served waterway.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35245, Sept. 18, 1987]

§80.479 Assignment and use of frequencies for AMTS.

(a) The frequencies assignable to AMTS stations are listed in subpart H of this part. These frequencies are assignable to ship and public coast stations for voice, facsimile and radioteletypewriter communications.

(b) [Reserved]

Subpart K—Private Coast Stations and Marine Utility Stations

§80.501 Supplemental eligibility requirements.

(a) A private coast station or a marine utility station may be granted only to a person who is:

(1) Regularly engaged in the operation, docking, direction, construction, repair, servicing or management of one or more commercial transport vessels or United States, state or local government vessels; or is

(2) Responsible for the operation, control, maintenance or development of a harbor, port or waterway used by commercial transport vessels; or is

(3) Engaged in furnishing a ship arrival and departure service, and will employ the station only for the purpose of obtaining the information essential to that service; or is

(4) A corporation proposing to furnish a nonprofit radio communication service to its parent corporation, to another subsidiary of the same parent, or to its own subsidiary where the party to be served performs any of the eligibility activities described in this section; or is

(5) A nonprofit corporation or association, organized to furnish a maritime mobile service solely to persons who operate one or more commercial transport vessels; or is

(6) Responsible for the operation of bridges, structures or other installations that area part of, or directly related to, a harbor, port or waterway when the operation of such facilities requires radio communications with vessels for safety or navigation; or is

(7) A person controlling public moorage facilities; or is

(8) A person servicing or supplying vessels other than commercial transport vessels; or is

(9) An organized yacht club with moorage facilities; or is

(10) A nonprofit organization providing noncommercial communications to

vessels other than commercial transport vessels.

(b) Each application for station authorization for a private coast station or a marine utility station must be accompanied by a statement indicating eligibility under paragraph (a) of this section.

§ 80.503 Cooperative use of facilities.

(a) A person engaged in the operation of one or more commercial transport vessels or government vessels may receive maritime mobile service from a private coast station or a marine utility station on shore even though not the licensee of the private coast station or the marine utility station. Restrictions on cooperative arrangements are as follows:

(1) Foreign persons must be the licensees of the radio stations installed on board their vessels.

(2) The licensee of a private coast station or marine utility station on shore may install ship radio stations on board United States commercial transport vessels of other persons. In each case these persons must enter into a written agreement verifying that the ship station licensee has the sole right of control of the ship stations, that the vessel operators must use the ship stations subject to the orders and instructions of the coast station or marine utility station on shore, and that the ship station licensee will have sufficient control of the ship station to enable it to carry out its responsibilities under the ship station license.

(b) Cooperative arrangements are limited concerning cost and charges as follows:

(1) The arrangement must be established on a non-profit, cost-sharing basis by written contract. A copy of the contract must be kept with the station records and made available for inspection by Commission representatives.

(2) Contributions to capital and operating expenses are to be prorated on an equitable basis among all persons who are parties to the cooperative arrangement. Records which reflect the cost of the service and its nonprofit, cost-sharing nature must be maintained by the licensee of the station and made available for inspection by Commission representatives.

§ 80.505 Points of communication.

(a) Private coast stations and marine utility stations are authorized to communicate:

(1) With any mobile station in the maritime mobile service for the exchange of safety communications;

(2) With any land station for the purpose of aiding the exchange of safety communications;

(3) With ship stations.

(b) Private coast stations of the same licensee may be authorized to communicate on a secondary basis between themselves if:

(1) The communications are confined exclusively to those for which authority has been granted the coast station, and concerns ships with which one or both of the coast stations are authorized to communicate; and

(2) Other satisfactory point-to-point communication facilities between the coast stations are unavailable; and

(3) Coast stations which communicate with each other are not more than 160 km (100 miles) apart; and

(4) Harmful interference is not cause to mobile stations.

(c) A private coast station and associated marine utility stations serving and located on a shipyard regularly engaged in construction or repair of commercial transport vessels or Government vessels are authorize to communicate between stations when they are licensed to the same entity and communications are limited to serving the needs of ships on a non-interference basis to other stations in the maritime mobile service. A separate showing is required.

§ 80.507 Scope of service.

(a) A private coast station or marine utility station using telephony serves the operational and business needs of ships including the transmission of safety communication.

(b) In areas where environmental communications are provided by U.S. Government stations or by public coast stations, private coast stations and marine utility stations on shore must not duplicate that service. In other

areas, private coast stations and marine utility stations on shore may transmit weather and hydrographic information required for the ships with which they normally communicate. Private coast stations may provide environmental communication service in areas where adequate service is not available.

(c) Each marine utility station on shore must be operated as a private coast station except that it may be operated at temporary unspecified locations. Marine utility stations on ships are operated as ship stations.

§80.509 Frequency assignment.

Frequencies assignable to private coast stations and marine utility stations are listed in subpart H.

§80.511 Assignment limitations.

(a) Only one port operation, one commercial and one non-commerical frequency will be assigned to a private coast station or marine utility station. Applications for authority to use more than one frequency in any one of the above three categories must include a showing of need as specified below.

(b) An application for an additional frequency by a person who services vessels, must include a description of the vessels with which communication is planned and a statement that the applicant has personal knowledge that the ship radio stations are not capable of operating on working frequencies already assigned to the coast station.

(c) An application for an additional frequency based on congestion of the assigned frequency must show that for any four periods of 5 consecutive days each, in the preceeding 6 months, the assigned frequency was in use at least 25 percent of the time during 3 hours of daily peak activity. If the application for an additional frequency is based on the congestion by other nearby stations, the showing must include the call signs and locations of such stations.

§80.513 Frequency coordination.

(a) Except as provided in paragraphs (b) and (c) of this section each application for a new VHF private coast station license or modification of an existing license to be located in an area having a recognized frequency coordinating committee must be accompanied by:

(1) A report based on a field study, indicating the degree of probable interference to existing stations operating in the same area. The applicant must consider all stations operating on the working frequency or frequencies requested or assigned within 80 km (50 miles) of the proposed station location, and

(2) The report must include a statement that all existing licensees on the frequency within 80 km (50 miles) and the frequency coordinating committee have been notified of the applicant's intention to file an application. The notice of intention to file must provide the licensees concerned and the advisory committee with the following information: The frequency and emission; transmitter location and power; and the antenna height proposed by the applicant.

(b) Applications for modification need not be accompanied by the field study where the modification does not involve any change in frequency(ies), power, emission, antenna height, antenna location or area of operation.

(c)(1) In lieu of the field study, a statement from a frequency coordinating committee may be submitted with the application. The committee must comment on the requested frequency or the proposed changes in the authorized station and give an opinion regarding the probable interference to existing stations. The committee must consider all stations operating on the requested frequency within 80 km (50 miles) of the proposed station location. The frequency coordinating committee statement must also recommend a frequency which will result in the least amount of interference to proposed and existing stations. Committee recommendations may also include comments on technical factors and may recommend restrictions to minimize interference.

(2) A frequency coordinating committee must be representative of all persons who are eligible for VHF private coast stations within the service area of the recognized frequency coordinating committee. A statement of organization, service area and composition of

the committee must be submitted to the Commission for approval. The functions of any coordinating committee are purely advisory to the applicant and the Commission. Its recommendations are not binding upon either the applicant or the Commission.

§ 80.514 Marine VHF frequency coordinating committee(s).

This section contains the names of organizations that have been recognized by the Commission to serve as marine VHF frequency coordinating committees for their respective areas. For frequency advisory committee mailing address information, write or call: FCC, Wireless Telecommunications Bureau, Customer Services Division, Consumer Assistance Branch, Gettysburg, PA 17326. Phone: 800–322–1117.

(a) The Southern California Marine Radio Council serves the California counties of Santa Barbara, Kern, San Bernardino, Ventura, Los Angeles, Orange, Riverside, San Diego, Imperial and the Channel Islands.

(b) The North Pacific Marine Radio Council serves the following counties in the State of Washington: Clallam, Island, Jefferson, King, Kitsap, Mason, Pierce, San Juan, Skagit, Snohomish, Thurston, and Whatcom.

[52 FR 35246, Sept. 18, 1987, as amended at 56 FR 6583, Feb. 19, 1991; 60 FR 50122, Sept. 28, 1995]

§ 80.515 Limitations on use.

A private coast station or marine utility station using telephony must:

(a) Not be used for public correspondence;

(b) Not be used to transmit program material for radio broadcasting; and

(c) Not be used to transmit press material or news items which are not required to serve the needs of ships.

§ 80.517 Time limitation on communication.

All communication engaged in by private coast stations and marine utility stations must be limited to the minimum practicable transmission time. Each station licensee must employ standardized operating practices and procedures.

§ 80.519 Station identification.

(a) Stations must identify transmissions by announcing in the English language the station's assigned call sign. In lieu of the identification of the station by voice, the official call sign may be transmitted by tone-modulated telegraphy in international Morse Code manually or by means of an automatic device approved by the Commission. Transmissions on the navigation frequency (156.650 MHz) by stations on drawbridges may be identified by use of the name of the bridge in lieu of the call sign. Identification must be made:

(1) At the beginning and end of each exchange of communications and;

(2) At intervals not exceeding 15 minutes whenever transmissions or communications are sustained for more than 15 minutes.

(b) Marine utility stations or private coast stations when exchanging communications with marine utility stations may be identified by a unit identifier in lieu of the call sign. Identification by transmission of the assigned call sign must be at the end of the exchange of communications or at least once each 15 minutes.

Subpart L—Operational Fixed Stations

§ 80.551 Applicability.

This subpart contains rules applicable to operational fixed stations.

§ 80.553 Supplemental eligibility requirements.

An applicant for an operational fixed station must show that:

(a) The applicant is the licensee of a coast station;

(b) Other suitable telecommunications facilities are not available to satisfy coast station requirements.

§ 80.555 Scope of communication.

An operational fixed station provides control, repeater or relay functions for its associated coast station.

§ 80.557 Assignment and use of frequencies.

The specific frequencies for these stations are listed in subpart H of this part.

§80.559 Licensing limitations.

Operational fixed stations are subject to the following licensing limitations:

(a) A maximum of four frequencies will be assigned.

(b) Stations will not be authorized when applications indicate less than 16 km (10 miles) separation between a proposed station and a TV transmitter operating on either Channel 4 or 5, or from the post office of a community in which either channel is assigned but not in operation.

(c) Stations located between 16 km (10 miles) and 128 km (80 miles) of a TV transmitter operating on either Channel 4 or 5, or from the post office of a community in which either channel is assigned but not in operation, are secondary to TV operations within the Grade B service contour.[1]

[51 FR 31213, Sept. 2, 1986; 51 FR 34984, Oct. 1, 1986; as amended at 54 FR 40059, Sept. 29, 1989]

Subpart M—Stations in the Radiodetermination Service

§80.601 Scope of communications.

Stations on land in the Maritime Radiodetermination Service provide a radionavigation or radiolocation service for ships.

§80.603 Assignment and use of frequencies.

The frequencies available for assignment to shore radionavigation/radiolocation stations are contained in subpart H of this part.

§80.605 U.S. Coast Guard coordination.

(a) Radionavigation coast stations operated to provide information to aid in the movement of any ship are private aids to navigation. Before submitting an application for an radionavigation station, an applicant must obtain written permission from the cognizant Coast Guard District Commander at the area in which the device will be located. Documentation of the Coast Guard approval must be submitted with the application.

NOTE: Surveillance radar coast stations do not require U.S. Coast Guard approval.

(b) Applications for type acceptance of coast and ship station transponders must include a description of the technical characteristics of the equipment including the scheme of interrogation and the characteristics of the transponder response. When a type acceptance application in submitted to the Commission a copy of such application must be submitted concurrently to: Commandant (G–TTS–3), U.S. Coast Guard, Washington, DC 20593.

(c) Prior to submitting an application for a non-selectable transponder coast station license in the 2920–3100 MHz or 9320–9500 MHz band the applicant must submit a letter requesting written approval of the proposed station to the cognizant Coast Guard District Commander of the area in which the device will be located. The letter must include:

(1) The necessity for the station;

(2) The latitude and longitude of its position;

(3) The transponder antenna height above sea level;

(4) The antenna azimuth response (angle of directivity);

(5) The manufacturer and model number of the transponder;

(6) The identifying Morse character for transponders used as racons;

(7) The name and address of the person responsible for the operation and maintenance of the station;

(8) The time and date during which it is proposed to operate the station; and

(9) The maximum station e.i.r.p. if it would exceed 5 watts.

A copy of the request and the U.S. Coast Guard approval must be submitted to the Commission with the station license application.

(d) Prior to submitting an application for a non-selectable transponder ship station license in the 2920–3100

[1] OET Bulletin No. 67, March 1988, entitled ''Potential Interference from Operational Fixed Stations in the 72–76 MHz Band to Television Channels 4 and 5'' describes an analytical model that can be used to calculate the potential interference that might result from a given fixed station operation. Copies of the bulletin may be obtained from the Commission's current duplication contractor. Information concerning the current duplication contractor may be obtained from the Office of Public Affairs, Consumer Assistance and Small Business Division, Telephone (202) 632–7000.

MHz or 9320–9500 MHz band the applicant must submit a letter requesting approval of the proposed station to: Commandant (G–NSR), U.S. Coast Guard, Washington, DC 20593. The letter must include the name, address and telephone number of a person or a point of contact responsible for the operation of the device, the specific need for the station, the name of the associated ship, the area in which the transponder will be used, and the hours of operation. A copy of the request and the U.S. Coast Guard approval must be submitted to the Commission with the station license application.

[52 FR 7419, Mar. 11, 1987]

Subpart N—Maritime Support Stations

§ 80.651 Supplemental eligibility requirements.

(a) An applicant for a maritime support station must demonstrate a requirement for training personnel associated with the maritime service or for the testing, demonstration or maintenance of ship or coast radio equipment.

(b) [Reserved]

§ 80.653 Scope of communications.

(a) Maritime support stations are land stations authorized to operate at permanent locations or temporary unspecified locations.

(b) Maritime support stations are authorized to conduct the following operations:

(1) Training of personnel in maritime telecommunications;

(2) Transmissions necessary for the test and maintenance of maritime radio equipment at repair shops; and

(3) Transmissions necessary to test the technical performance of the licensee's public coast station(s) radiotelephone receiver(s); and

(4) Transmissions necessary for radar/racon equipment demonstration.

§ 80.655 Use of frequencies.

(a) The frequencies available for assignment to maritime support stations are described or listed in:

(1) Section 80.373 for scope of communications described in § 80.653(b)(1);

(2) Sections 80.373 and 80.385 for scope of communications described in § 80.653(b)(2); and

(3) Section 80.389 for scope of communications described in § 80.653 (b)(3) and (4).

(b) Frequencies must be used only on a secondary, non-interference basis to operational maritime communications.

(c) Use of frequencies assigned to services other than the maritime radiolocation service is limited to one hour per twenty four hour period.

[51 FR 31213, Sept. 2, 1986, as amended at 52 FR 35245, Sept. 18, 1987]

§ 80.659 Technical requirements.

The authorized frequency tolerance, class of emission, bandwidth, and transmitter power for maritime support stations are contained in subpart E of this part under the category associated with the intended use except for power limitations imposed upon stations operating within the scope of § 80.653(b)(3), which are further limited by the provisions of § 80.215(f).

Subpart O—Alaska Fixed Stations

§ 80.701 Scope of service.

There are two classes of Alaska Fixed stations. Alaska-public fixed stations are common carriers, open to public correspondence, which operate on the paired duplex channels listed in subpart H of this part. Alaska-private fixed stations may operate on simplex frequencies listed in subpart H of this part to communicate with other Alaska private fixed stations or with ship stations, and on duplex frequencies listed in subpart H of this part when communicating with the Alaska-public fixed stations. Alaska-private fixed stations must not charge for service, although third party traffic may be transmitted. Only Alaska-public fixed stations are authorized to charge for communication services.

§ 80.703 Priority of distress and other signals.

Alaska-public fixed stations, when operating on an authorized carrier frequency which is also used by the maritime mobile service, must give priority to distress, urgency or safety signals,

or to any communication preceded by one of these signals.

§80.705 Hours of service of Alaska-public fixed stations.

Each Alaska-public fixed station whose hours of service are not continuous must not suspend operations before having concluded all communications of an emergency nature.

§80.707 Cooperative use of frequency assignments.

(a) Only one Alaska-public fixed station will be authorized to serve any area whose point-to-point communication needs can be adequately served by a single radio communication facility.

(b) Each radio channel authorized for use by an Alaska-private fixed station is available on a shared basis only. All station licensees must cooperate in the use of their respective frequency assignments to minimize interference.

§80.709 Frequencies available.

Frequencies assignable to Alaska fixed stations are listed in subpart H of this part.

§80.711 Use of U.S. Government frequencies.

Alaska-public fixed stations may be authorized to use frequencies assigned to U.S. Government radio stations for communications with Government stations or for coordination of Government activities.

Subpart P—Standards for Computing Public Coast Station VHF Coverage

§80.751 Scope.

This subpart specifies receiver antenna terminal requirements in terms of power, and relates the power available at the receiver antenna terminals to transmitter power and antenna height and gain.

§80.753 Signal strength requirements at the service area contour.

(a) The requirements for reception by a marine VHF shipboard receiver are satisfied if the field strength from the coast station, calculated in accordance with §80.771 is at least +17 dBu above one microvolt.

(b) These field strengths, voltages and powers at the receiver input are equivalent:

(1) −132 dBW (decibels referred to 1 watt).

(2) 1.8 microvolts across 50 ohms.

(3) +17 dBu (decibels referred to 1 microvolt per meter).

(4) 7 microvolts per meter.

§80.755 Applicability.

Applications for maritime frequencies in the 156–162 MHz band must include a map showing the proposed service area contour. The service area contour must be computed in accordance with the following procedures.

§80.757 Topographical data.

(a) In the preparation of profile graphs and in determining the location and height above sea level of the antenna site, the elevations or contour intervals must be taken from U.S. Geological Survey topographic quadrangle maps, U.S. Army Corps of Engineers maps or Tennessee Valley Authority maps, whichever is the latest, for all areas for which maps are available. If such maps are not published for the area in question, the next best topographic information must be used. The maps used must include the principal area to be served. U.S. Geological Survey topographic quadrangle maps may be obtained from the Eastern Distribution Branch, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202, for maps of areas east of the Mississippi River, including Minnesota, Puerto Rico, and the Virgin Islands, and from the Western Distribution Branch, U.S. Geological Survey, Federal Center, Denver CO 80225, for maps of areas west of the Mississippi River, including Alaska, Hawaii, Louisiana, Guam and American Samoa. Sectional aeronautical charts are available from the Distribution Division, National Ocean Service, Riverdale, MD 20840.

(b) In lieu of maps, the average terrain elevation may be computer generated, using elevations from a 30 second point or better topographic data file such as those available for the U.S. Geological Survey's National Geographic Information Center or the National Oceanic and Atmospheric Administration's National Geophysical

Data Center. In case of dispute maps will be used to determine the correct value.

§ 80.759 Average terrain elevation.

(a)(1) Draw radials from the antenna site for each 45 degrees of azimuth starting with true north. Any such radial which extends entirely over land from the antenna site to the point of +17 dBu field strength need not be drawn.

(2) If the distance from the antenna site to the point of +17 dBu field strength between any of the 45 degrees radials would be less than the distances calculated along these radials, an additional radial between such adjacent radials must be plotted and calculations made in each case. Each additional radial must be that radial along which it appears by inspection that transmission loss would be greatest.

(b) Draw a circle of 16 km (10 statute mile) radius using the antenna site as the center. Divide each radial into 320 meter (0.2 statute mile) increments inside the circumference to the 3.2 km (2 statute mile) point.

(c) Calculate the height above sea level of each 320 meter (0.2 statute mile) division by interpolating the contour intervals of the map, and record the value.

(d) Average the values by adding them and dividing by the number of readings along each radial.

(e) Calculate the height above average terrain by averaging the values calculated for each radial.

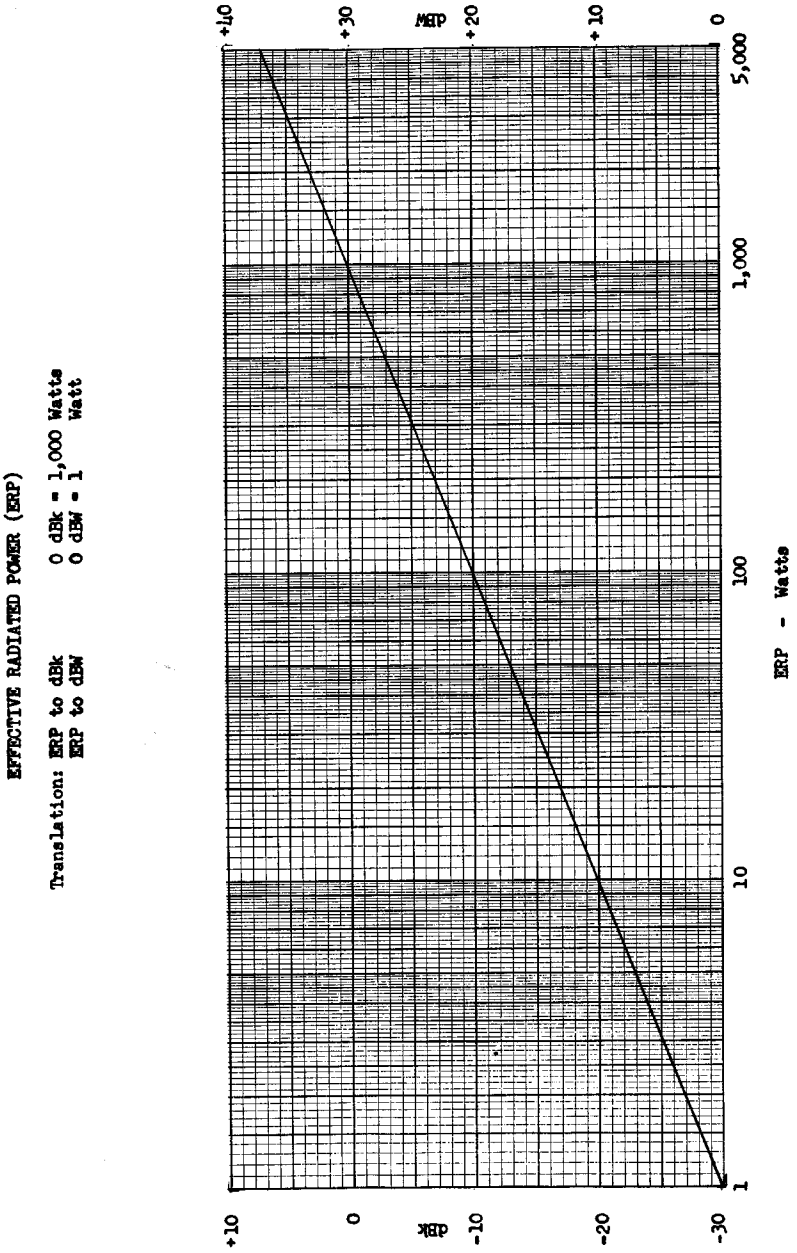
[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44953, Aug. 25, 1993]

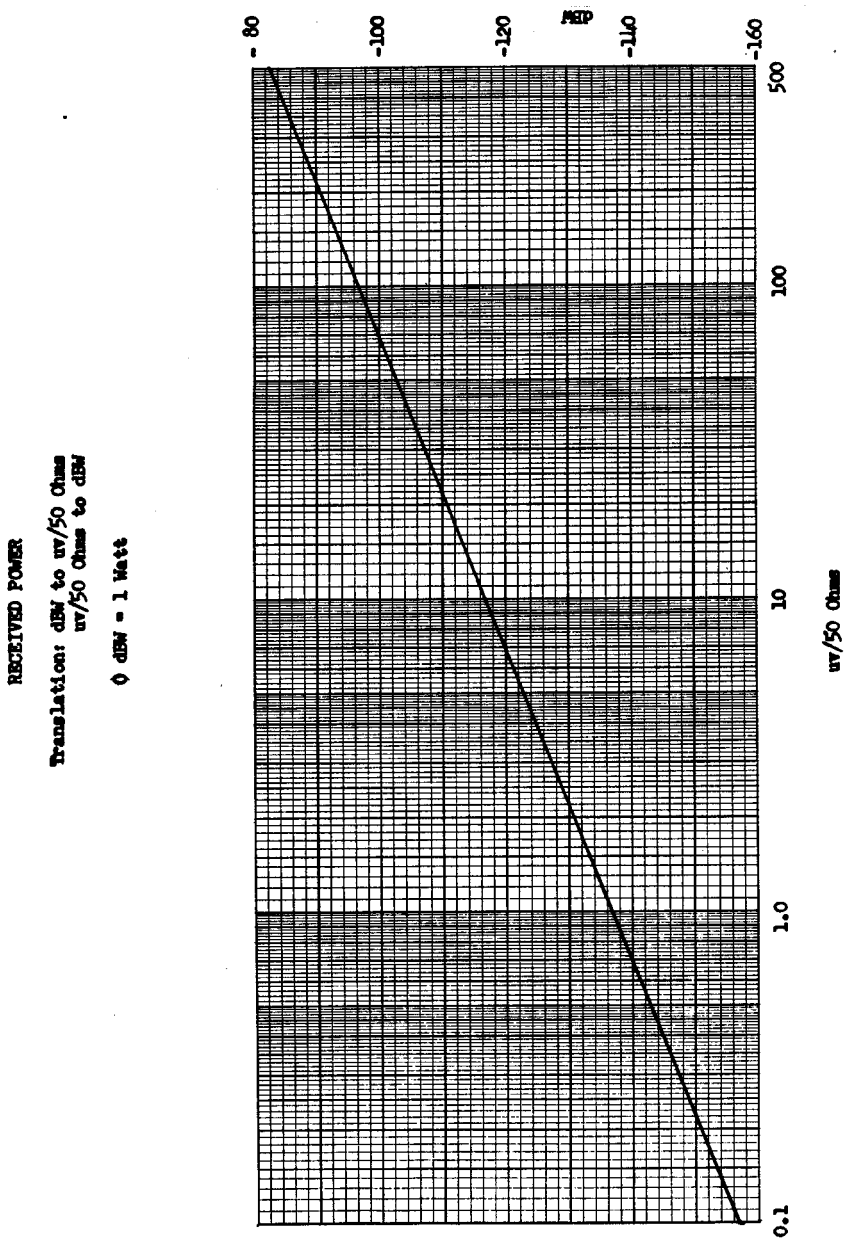
§ 80.761 Conversion graphs.

The following graphs must be employed where conversion from one to the other of the indicated types of units is required.

(a) *Graph 1.* To convert effective radiated power in watts to dBk or to dBW, find the power in watts on the horizontal axis. Move vertically along the line representing the power to the diagonal line. Move horizontally from the diagonal to the right side to read dBW and to the left to read dBk.

(b) *Graph 2.* To convert microvolts across 50 ohms to received power in dBW, find the signal in microvolts on the horizontal axis. Move vertically to the diagonal line, then move right horizontally to read dBW.


EFFECTIVE RADIATED POWER (ERP)
Translation: ERP to dBk 0 dBk = 1,000 Watts
ERP to dBW 0 dBW = 1 Watt
+40
+30
dBW
+20
+10
0
+10
0
dBk
-10
-20
-30
1
10
100
1,000
5,000
ERP - Watts


RECEIVED POWER
Translation: dBW to uv/50 Ohms
uv/50 Ohms to dBW
0 dBW = 1 Watt
- 80
-100
-120
-140
-160
MEP
0.1
1.0
10
100
500
uv/50 Ohms

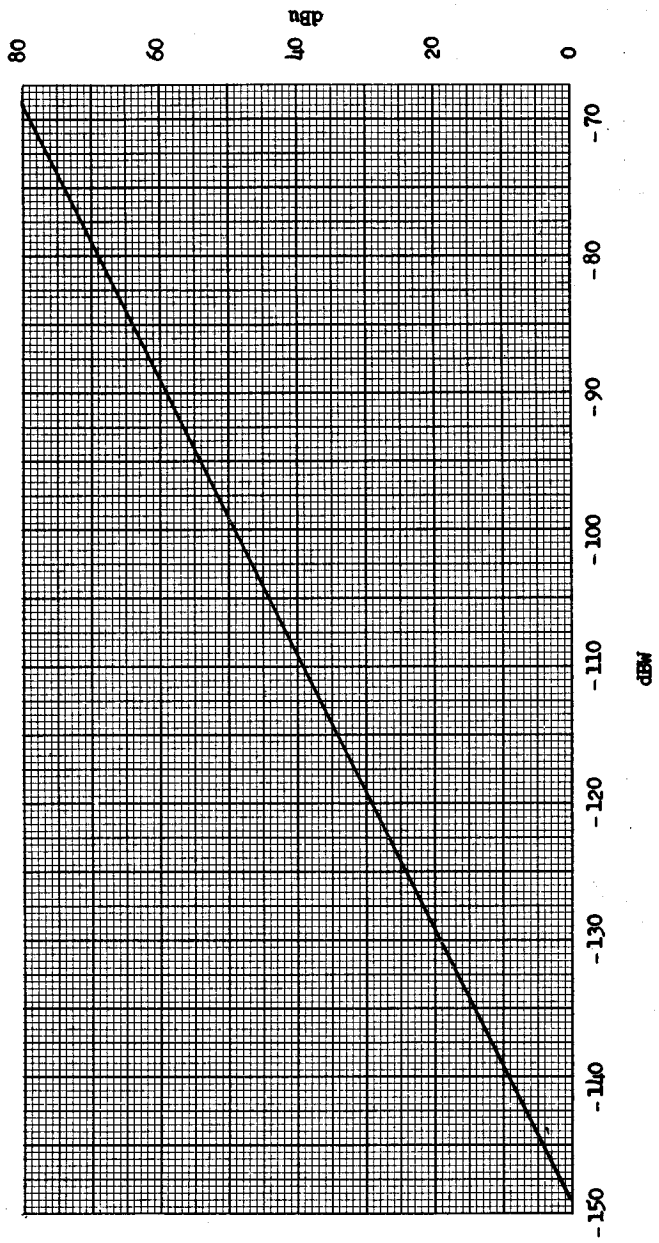
(c) *Graph 3.* To convert received power in dBW to field intensity in dBu find the received power in dBW on the horizontal axis. Move vertically to the diagonal line, then move right horizontally to read dBu.

FIELD INTENSITY VS RECEIVED POWER

For Half-Wave Dipole

Received Power in uv/50 Ohms

0 dBW = 1 Watt
0 dBu = 1 microvolt /meter



§80.763 Effective antenna height.

The effective height of the antenna is the vertical distance between the center of the radiating system above the mean sea level and the average terrain elevation.

§80.765 Effective radiated power.

Effective radiated power is used in computing the service area contour. The effective radiated power is derived from the transmitter output power, loss in the transmission system including duplexers, cavities, circulators, switches and filters, and the gain relative to a half-wave dipole of the antenna system.

§80.767 Propagation curve.

The propagation graph, §80.767 Graph 1, must be used in computing the service area contour. The graph provides data for field strengths in dBu for an effective radiated power of 1 kW, over sea water, fresh water or land (smooth earth); transmitting antena heights of 4,800, 3,200, 1,600, 800, 400, 200, and 100 feet; based on a receiving antenna height of 9 meters (30 feet), for the 156–162 MHz band. The use of this is described in this section.

(a) Calculate the effective radiated power of the coast station, Ps in dB referred to 1 kW (dBk), as follows:

$$P_s = Pt + G - L$$

where,

Pt=Transmitter output power in dB referred to 1 kW: Transmitter output power in watts is converted to dBk by Pt=10 [log10 (Power in watts)]−30. Also see §80.761 Graph 1 for a conversion graph.

G=Antenna gain in dB referred to a standard half-wave dipole, in the direction of each plotted radial, and

L=Line losses between the transmitter and the antenna, in dB.

NOTES:

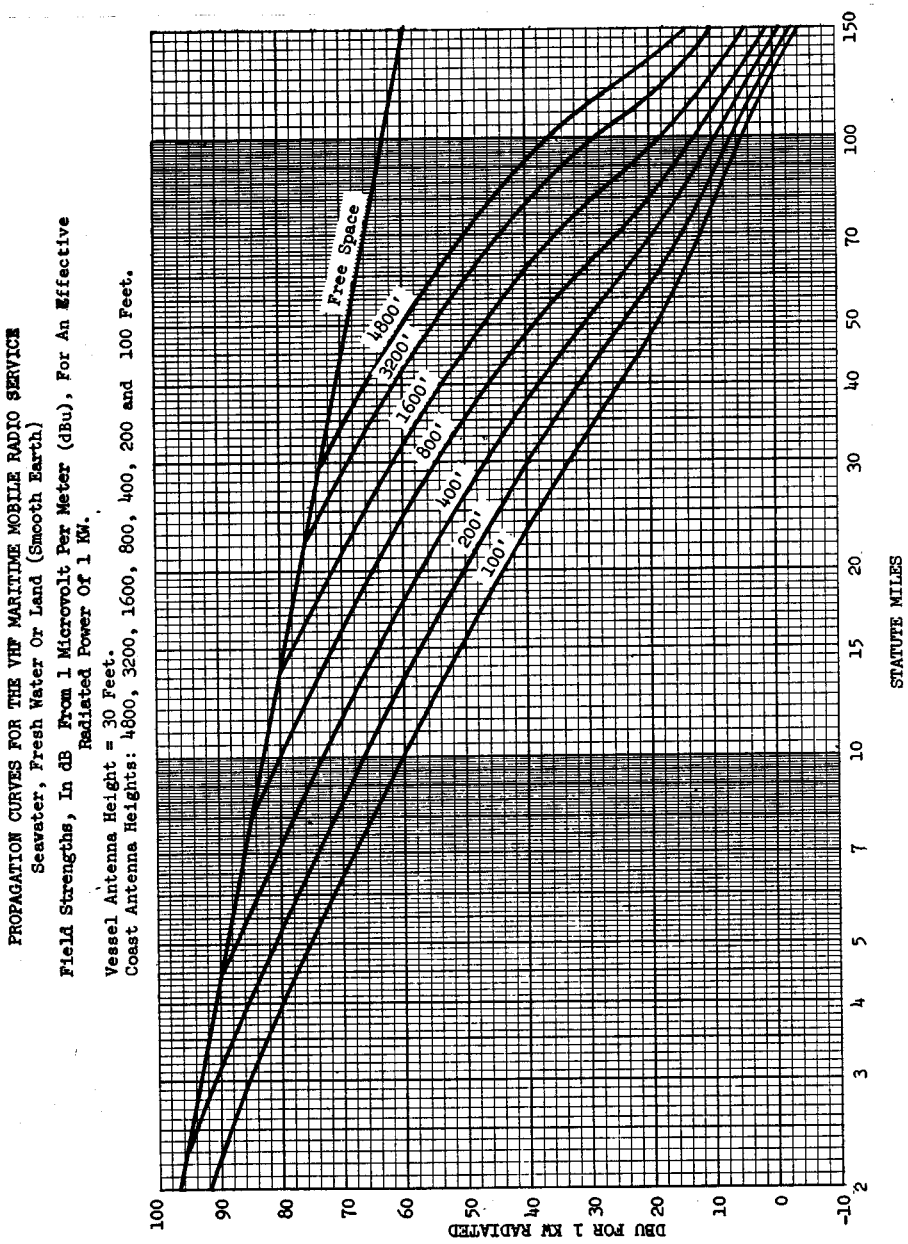
1. To determine field strengths where the distance is known, for effective radiated powers other than 1kW (0 dBk): Enter the graph from the ''statute miles'' scale at the known distance, read up to intersection with the curve for the antenna height, read left to the ''dBu for 1 kW radiated'' scale and note the referenced field strength (Fe). The value of the actual field strength (F) in dBu will be F=Fe+Ps where Ps is the effective radiated power calculated above.

2. To determine distance, where the actual field strength is specified, for effective radiated powers other than 0 dBk: The value of the field referenced strength will be Fe=F−Ps in dBu. Enter the graph, from the ''dBu for 1 kW radiated'' scale at the corrected value of Fe, read right to intersection with the antenna height, read down to ''statute miles'' scale.

(b) Determine the antenna height. For antenna heights between the heights for which this graph is drawn, use linear interpolation; assume linear height-gain for antennas higher than 4,800 feet.

(c) For receiver antenna heights lower than 9 meters (30 feet), assume that the field strength is the same as at 9 meters (30 feet).

(d) Assume that propagation over fresh water or over land is the same as that over sea water.


PROPAGATION CURVES FOR THE VHF MARITIME MOBILE RADIO SERVICE
Seawater, Fresh Water Or Land (Smooth Earth)
Field Strengths, In dB From 1 Microvolt Per Meter (dBu), For An Effective Radiated Power Of 1 KW.
Vessel Antenna Height = 30 Feet.
Coast Antenna Heights: 4800, 3200, 1600, 800, 400, 200 and 100 Feet.
Free Space
4800'
3200'
1600'
800'
400'
200'
100'
DBU FOR 1 KW RADIATED
100
90
80
70
60
50
40
30
20
10
0
-10
2
3
4
5
7
10
15
20
30
40
50
70
100
150
STATUTE MILES

§80.769 Shadow loss.

Where the transmission path is obstructed the received signal must be adjusted to include shadow loss. Attenuation due to shadowing must be taken from §80.769 Graph 1, as follows:

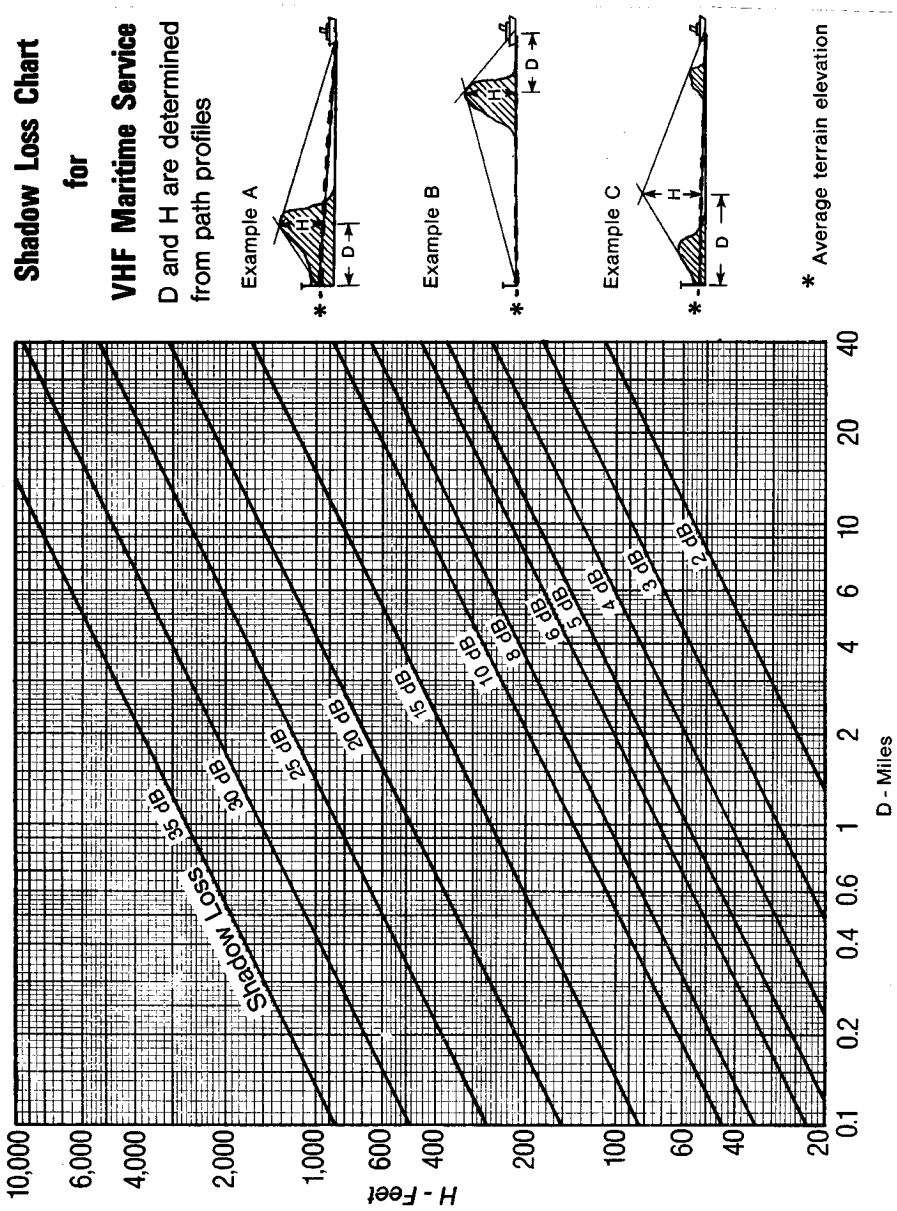
(a) Inspect the map(s) to determine if a hill(s) obstructs an imaginary line of sight (dashed line on illustrative profiles of §80.769 Graph 1 from the average terrain elevation at the coast station antenna to the water level at the ship location. If average terrain elevation exceeds the actual ground elevation at the antenna site, the latter elevation must be used as the average terrain elevation.

(b) If a hill appears to obstruct the radio path, plot the antenna site elevation, the obstruction elevation and the height of the ship station on rectangular coordinate paper using elevation above mean sea level as the vertical scale and distance in statute miles as the horizontal scale. Then draw a straight line between the antenna and the ship.

(c) If a hill obstructs the imaginary line of sight, determine its height (H) above the imaginary line and its distance (D) from either the coast or ship station, whichever is nearer, as illustrated by examples ''A'' and ''B'' on Graph 1.

(d) Read the shadow loss from this Graph 1 and subtract that loss from the computed received signal.

(e) Where more than one hill obstructs the transmission path, determine the height and position of a single equivalent hill, as illustrated by example ''C'' on this graph. Read the shadow loss from this graph for the equivalent hill.


Shadow Loss Chart
for
VHF Maritime Service
D and H are determined
from path profiles
Example A
Example B
Example C
* Average terrain elevation
Shadow Loss
35 dB
30 dB
25 dB
20 dB
15 dB
10 dB
8 dB
6 dB
5 dB
4 dB
3 dB
2 dB
H - Feet
10,000
6,000
4,000
2,000
1,000
600
400
200
100
60
40
20
0.1
0.2
0.4
0.6
1
2
4
6
10
20
40
D - Miles

§80.771 Method of computing coverage.

Compute the +17 dBu contour as follows:

(a) Determine the effective antenna height above mean sea level according to the procedures in §§80.757–80.761.

(b) Determine the effective radiated power according to §80,765. Determine for each radial the distance from the antenna site to the +17 dBu point of field strength using procedures of §§80.765 and 80.767.

(c) Plot on a suitable map each point of +17 dBu field strength for all radials and draw the contour by connecting the adjacent points by a smooth curve.

§80.773 Ratio of desired to undesired signal strengths.

Where a frequency is shared the ratio of desired to undesired signal strengths must be at least 12 dB within the service area of a station.

STATIONS ON SHIPBOARD

Subpart Q—Compulsory Radiotelegraph Installations for Vessels 1600 Gross Tons

§80.801 Applicability.

The radiotelegraph requirements of Part II of Title III of the Communications Act apply to all passenger ships irrespective of size and cargo ships of 1600 gross tons and upward. The Safety Convention applies to such ships on international voyages. These ships are required to carry a radiotelegraph installation complying with this subpart.

§80.802 Inspection of station.

(a) Every ship of the United States subject to Part II of Title III of the Communications Act or the radio provisions of the Safety Convention must have the required equipment inspected at least once every 12 months. If the ship is in compliance with the requirements of the Safety Convention, a Safety Certificate will be issued; if in compliance with the Communications Act, the license will be endorsed accordingly.

(1) The effective date of ship safety certificates is the date the station is found to be in compliance or not later than one business day later.

(2) At inspection, the minimum field strength capability of the main installation and reserve installation when connected to the main antenna may be shown by the licensee by one of the following methods:

(i) Producing a record of communications on 500 kHz over a minimum distance of 370 kilometers (200 nautical miles) for the main installation and 185 kilometers (100 nautical miles) for the reserve installation which demonstrates the transmission and reception of clearly perceptible signals from ship to ship by day and under normal conditions and circumstances, or

(ii) Provide documentation by a professional engineer, or a person holding a first or second class radiotelegraph operator's certificate, or a general radiotelephone operator license, that the installation produces at 1.85 kilometers (one nautical mile) a minimum field strength of thirty (30) millivolts per meter for the main installation and ten (10) millivolts per meter for the reserve installation. The licensee shall provide, at a minimum, the name and license number of the individual making the measurements or record of communications.

(b) Certificates issued in accordance with the Safety Convention must be posted in a prominent and accessible place in the ship.

[51 FR 31213, Sept. 2, 1986, as amended at 57 FR 26779, June 16, 1992]

§80.804 Radio station.

The required radio station must comply with the provisions of this subpart in addition to all other applicable requirements of this part. The radio station consists of a radiotelegraph station and a ship radar station. The radiotelegraph station comprises a main and a reserve radiotelegraph installation, electrically separate and electrically independent of each other except as otherwise provided in paragraph (b) of §80.805, a radiotelephone installation and such other equipment as may be necessary for the proper operation of these installations. The ship radar station comprises a radar installation and such other equipment and

facilities as may be necessary for its proper operation.

§ 80.805 Radio installations.

(a) The main radiotelegraph installation includes a main transmitter, a main receiver, a main power supply, a main antenna system and a 2182 kHz radiotelephone distress frequency watch receiver.

(b) The reserve radiotelegraph installation includes a reserve transmitter, a reserve receiver, a reserve power supply, emergency electric lights and reserve antenna system: except that:

(1) In installations on cargo ships of 300 gross tons and upwards but less than 1,600 gross tons, and in installations on cargo ships of 1,600 gross tons and upwards installed prior to November 19, 1952, if the main transmitter complies with all the requirements for the reserve transmitter, the latter may be omitted.

(2) A cargo ship the keel of which was laid prior to June 1, 1954, may either be equipped with a reserve antenna or provided a spare antenna consisting of a single-wire transmitting antenna (including suitable insulators) completely assembled for immediate installation.

(c) The medium frequency radiotelephone installation includes a radiotelephone transmitter, a radiotelephone receiver and an appropriate antenna system.

§ 80.806 Requirements of main installation.

All main radiotelegraph installations must meet the following requirements:

(a) The main antenna must be installed and protected to ensure proper operation of the station. Effective October 14, 1986, the main antenna energized by the main transmitter on the frequency 500 kHz must produce at one nautical mile a minimum field strength of thirty (30) millivolts per meter. If the main antenna is suspended between masts or other supports liable to whipping, a safety link must be installed which, under heavy stress, will reduce breakage of the antenna, the halyards, or any other antenna-supporting elements.

(b) The main transmitter must be capable of meeting the requirements of § 80.253.

(c) The main receiver must efficiently receive A1A and A2A emission on all frequencies within the bands 100–200 kHz and 405–535 kHz. It must have headphones capable of effective operation. The main receiver must have sufficient sensitivity to effectively operate headphones or a loudspeaker when the receiver input is 50 microvolts.

(d) The main power supply must simultaneously (1) energize the main transmitter at its required antenna power, and the main receiver, (2) charge at any required rate all batteries forming part of the radiotelegraph station, and (3) charge the main power supply for this purpose at all times including times of inspection. Under this load condition the voltage of the main power supply at the radio room terminals must not deviate from its rated value by more than 10 percent on vessels completed on or after July 1, 1941, nor by more than 15 percent on vessels completed before that date. While at sea, batteries forming part of the main installation must be fully charged daily.

(e) To measure voltage(s) of the main power supply at its radio room terminals, voltmeter(s) must be permanently installed in the radiotelegraph operating room.

(f) The main installation must be provided with a device permitting changeover from transmission to reception and vice versa without manual switching.

(g) The main installation must be capable of being quickly connected with and tuned to the main antenna and the reserve antenna if one is installed.

§ 80.807 Requirements of radiotelephone installation.

All radiotelephone installations in radiotelegraph equipped vessels must meet the following conditions.

(a) The radiotelephone transmitter must be capable of transmission of A3E or H3E emission on 2182 kHz and must be capable of transmitting clearly perceptible signals from ship to ship during daytime, under normal conditions over a range of 150 nautical miles when used with an antenna system in accordance with paragraph (c) of this section. The transmitter must:

(1) Have a duty cycle which allows for transmission of the radiotelephone alarm signal described in §80.221.

(2) Provide 25 watts carrier power for A3E emission or 60 watts peak power on H3E emission into an artificial antenna consisting of 10 ohms resistance and 200 picofarads capacitance or 50 ohms nominal impedance to demonstrate compliance with the 150 nautical mile range requirement.

(3) Have a visual indication whenever the transmitter is supplying power to the antenna.

(4) Have a two-tone alarm signal generator that meets §80.221.

(5) The radiotelephone transmitter required by this paragraph may be contained in the same enclosure as the receiver required by paragraph (b) of this section. Additionally, these transmitters may have the capability to transmit J3E emissions.

(b)(1) The radiotelephone receiver must receive A3E and H3E emissions when connected to the antenna system specified in paragraph (c) this section and must be preset to 2182 kHz. The receiver must additionally:

(i) Provide an audio output of 50 milliwatts to a loudspeaker when the RF input is 50 microvolts. The 50 microvolt input signal must be modulated 30 percent at 400 Hertz and provide at least a 6 dB signal-to-noise ratio when measured in the rated audio bandwidth.

(ii) Be equipped with one or more loudspeakers capable of being used to maintain a watch on 2182 kHz at the principal operating position or in the room from which the vessel is normally steered.

(2) The receiver required by §80.805 may be used instead of this receiver. If the watch is stood at the place from which the ship is normally steered, a radiotelephone distress frequency watch receiver must be used for this purpose.

(3) This receiver may be contained in the same enclosure as the transmitter required by paragraph (a) of this section. Additionally, these receivers may have the capability to receive J3E emissions.

(c) The antenna system must be as nondirectional and efficient as is practicable for the transmission and reception of radio ground waves over seawater. The installation and construction of the required antenna must ensure, insofar as is practicable, proper operation in time of emergency. If the required antenna is suspended between masts or other supports subject to whipping, a safety link must be installed which under heavy stress will reduce breakage of the antenna, the halyards, or any other supporting elements.

(d) The radiotelephone installation must be provided with a device for permitting changeover from transmission to reception and vice versa without manual switching.

(e) An artificial antenna must be provided to permit weekly checks, without causing interference, of the automatic device for generating the radiotelephone alarm signal on frequencies other than the radiotelephone distress frequency.

(f) The radiotelephone installation must be located in the radiotelegraph operating room or in the room from which the ship is normally steered.

(g) Demonstration of the radiotelephone installation may be required by Commission representatives to show compliance with applicable regulations.

(h) The radiotelephone installation must be protected from excessive currents and voltages.

(i) The radiotelephone installation must be maintained in an efficient condition.

§80.808 Requirements of reserve installation.

(a) All reserve radiotelegraph installations must comply with the following conditions, in addition to all other requirements:

(1) The reserve installation must be capable of being placed in operation within a maximum time of 1 minute.

(2) The reserve antenna must be installed and protected to ensure proper operation in time of an emergency.

(3) Effective October 14, 1986, the main antenna energized by the reserve transmitter on 500 kHz must produce at one nautical mile a minimum field strength of ten (10) millivolts per meter.

(4) The reserve transmitter must meet the requirements of § 80.255.

(5) The reserve receiver must receive A1A and A2B emissions on all frequencies within the band 405–535 kHz. It must have headphones. Additionally a loudspeaker may be provided for use in accordance with the provisions of § 80.313. The reserve receiver must be able to operate headphones or a loudspeaker when the receiver RF input is 100 microvolts.

(6) The reserve installation must be capable of being quickly connected with and tuned to the main antenna, and the reserve antenna if one is installed.

(7) Emergency electric lights, energized solely by the reserve power supply and connected to it through individual fuses must be provided. The emergency electric lights must illuminate the operating controls of the main and reserve radiotelegraph installations and the radio station clock. The emergency lighting circuits must avoid excessive voltage to the emergency lights during the charging of any batteries forming part of the reserve installation. The provisions of this paragraph do not preclude the use of any other power supply for energizing these lights solely as an additional provision. If a separate emergency radiotelegraph operating room is provided, the requirements of this paragraph apply to it.

(8) The emergency electric lights must be controlled by two-way switches placed near the main entrance to the radiotelegraph operating room and at the radiotelegraph operating position, in all cases where the distance between these points is greater than 2.4 meters (8 feet). This requirement applies to stations which replace, or initially install the main or reserve radiotelegraph transmitter on and after May 26, 1965.

(9) There must be readily available under normal load conditions a reserve power supply for the reserve installation which must be independent of the propelling power of the ship and of any other electrical system. The reserve power supply must simultaneously energize the reserve transmitter at its required antenna power and the reserve receiver for at least 6 hours continuously under normal working conditions, and energize the automatic-alarm-signal keying device continuously for a period of 1 hour.

(10) The reserve power supply may be used to energize the following apparatus provided it has adequate capacity:

(i) The audible warning apparatus included as a component of an approved radiotelegraph auto alarm;

(ii) The VHF installation required by subpart R of this chapter simultaneously with the reserve transmitter in the case of distress, urgency and safety communications;

(iii) The VHF installation required by subpart R of this chapter alternately with the reserve transmitter. A switching device must be fitted to ensure alternate operation only in the case of distress, urgency and safety communications;

(iv) The radiotelephone alarm signal generator;

(v) The bridge-to-bridge VHF radiotelephone installation required by subpart U of this chapter.

(11) The reserve power supply must be located as near to the reserve transmitter and reserve receiver as is practicable and must comply with all applicable rules and regulations of the United States Coast Guard. The switchboard of the reserve power supply must wherever possible, be situated in the radiotelegraph operating room. If it is not, it must be illuminated.

(12) All reserve power supply circuits must be protected from overloads.

(13) Means must be provided for charging any batteries forming a part of the reserve installation, and such batteries must be maintained in a fully charged condition daily while at sea. There must be a device which, during charging of the batteries, gives a continuous indication of the rate and polarity of the charging current.

(14) The cooling system of each internal combustion engine used as a part of the reserve power supply must be protected to prevent freezing or overheating consistent with the season and route to be traveled by the particular vessel.

(b)(1) The shipowner, operating company, or station licensee, if directed by the Commission or its authorized representative must demonstrate that the

reserve installation satisfies the 6-hour operating requirement of law.

(2) When the reserve power supply includes a battery, proof of the ability of such battery to operate continuously and effectively for 6 hours can be established by a discharge test over a prescribed period of time, when supplying power at the voltage required for normal operation to an electrical load as prescribed by paragraph (b)(4) of this section.

(3) When the reserve power supply includes an engine-driven generator, proof of the adequacy of the engine fuel supply to operate the unit continuously and effectively for 6 hours may be established by measuring the fuel consumption during 1 hour when supplying power, at the voltage required for normal operation, to an electrical load as prescribed by paragraph (b)(4) of this section.

(4) To determine the electrical load to be supplied by the reserve power supply, the following formula must be used:

(i) One-half of the reserve transmitter current with the key closed; plus

(ii) One-half of the reserve transmitter current with the key open; plus

(iii) One sixth of the current of the automatic radiotelegraph alarm signal keying device when this device is energized; plus

(iv) Current of the reserve receiver; plus

(v) Current of emergency lights; plus

(vi) Current of the bridge-to-bridge transceiver when connected.

(5) At the conclusion of the tests specified in paragraphs (b) (2) and (3) of this section, no part of the reserve power supply must have an excessive temperature rise, nor must the specific gravity or voltage of the battery be below the 90 percent discharge point.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44953, Aug. 25, 1993]

§80.809 Routing of power supply wiring.

The conductors connecting the main power supply to the main installation, the reserve supply to reserve installation and the radar power supply to the ship radar station, must be routed to ensure adequate protection from overload, mechanical injury and be kept clear of electrical grounds.

§80.810 Use of reserve installation.

The reserve transmitter, and the reserve power supply for the reserve transmitter, are primarily for safety and test communication. This equipment may be used for other communication for a period not to exceed 1 hour per day in the aggregate. The reserve receiver, and the reserve power supply for the reserve receiver if a battery, may be used at any time to maintain a safety watch if such use will not reduce the capabilities of the reserve power supply to energize the associated component or components of the reserve installation for at least 6 consecutive hours.

§80.811 Tests of reserve installation and automatic-alarm-signal keying device.

(a) The condition of the reserve installation and of the automatic alarm signal keying device must be determined (with the exception noted in paragraph (b) of this section) prior to the vessel's departure from each port and on each day the vessel is outside of a harbor or port. If the vessel is in two or more ports within one day, the required tests need be made only once. If the vessel is in port for less than one day, the required test for that day may be made before arrival or after departure. The following tests must be made and the results entered in the radiotelegraph station log:

(1) Check the reserve power supply as follows:

(i) Test battery charging circuits for correct polarity and charging rate:

(ii) In the case of lead-acid batteries, determine the specific gravity of the electrolyte.

(iii) In the case of other types of batteries, take voltage readings under normal battery load.

(iv) When an engine-driven generator is used, check the quantity of fuel in the fuel tank;

(2) Test the emergency lighting circuits and emergency electric lights by actual operation;

(3) Test the reserve receiver, while energized by the reserve power supply, by actual operation and comparison of

received signals with similar signals received by the main receiver;

(4) On days when not used for communication, the reserve transmitter energized by the reserve power supply must be tested by actual operation when connected to the main antenna, an artificial antenna or a reserve antenna.

(5) If installed, the reserve antenna must be used at least once each voyage, noting antenna currents;

(6) Test the automatic-alarm-signal keying device for correct timing adjustment of the keying mechanism. *Do not transmit when making this test.*

(b) In the case of vessels loading or discharging flammable, unstable or dangerous cargo, or while berthed at oil terminals or in other comparable areas, predeparture transmitter tests need not be made. In such cases, the provisions of paragraph (a)(4) of this section, in connection with predeparture tests, do not apply if a suitable explanation is entered in the radio station log.

§ 80.812 Automatic-alarm-signal keying device.

The required radiotelegraph station includes one or more devices, of a type accepted by the Commission in accordance with subpart F of this part capable of automatically operating the normal keying circuits of a required radiotelegraph transmitter to transmit the international radiotelegraph alarm signal.

§ 80.813 Installation of automatic-alarm-signal keying device.

(a) The automatic radiotelegraph alarm signal keyer must be installed in the radiotelegraph operating room. It must be possible to key, nonsimultaneously, the main transmitter and the reserve transmitter, and to permit the device to be taken out of operation at any time in order to permit immediate manual transmitter operation. Only one control must be provided for each automatic alarm signal keying device. This control must be located in the radiotelegraph operating room.

(b) The required automatic radiotelegraph alarm signal keying device must be capable of operating efficiently for a continuous period of 1 hour when energized solely by the reserve power supply.

§ 80.814 Radiotelegraph auto alarm.

An auto alarm which is installed and used on board a cargo ship of the United States pursuant to the provisions of § 80.315 comprises a complete receiving, selecting and warning device of a type accepted by the Commission in accordance with section 3(x) of the Communications Act, capable of being actuated automatically by intercepted radio frequency waves forming the international radiotelegraph alarm signal.

§ 80.815 Installation of radiotelegraph auto alarm.

Installation of a radiotelegraph auto alarm must comply with the following conditions.

(a) The auto alarm must be located in the radiotelegraph operating room and be installed and protected to insure proper operation. The radiotelegraph auto alarm system must be operated from the radiotelegraph operating room. A switch must be provided to:

(1) Transfer the main antenna from all other equipment and connect it to the radiotelegraph auto alarm receiver and place the auto alarm in service and, back to the original configuration A voltmeter must be provided for the determining that the supply voltages are within the operating limits.

(b) The auto alarm must give an audible warning in the radiotelegraph operating room, in the radio officer's cabin, and on the navigating bridge. The alarm must operate continuously after the alarm has been actuated by a radiotelegraph alarm signal or by failure of the system, until manually turned off. Only one switch for stopping the alarm is authorized, and this must be located in the radiotelegraph operating room and be capable of manual operation only. However ships operating under the general exemption of § 80.836(c) may install an additional switch on the bridge for stopping the warning apparatus.

(c) Failure of the auto alarm if of a type approved prior to July 23, 1951, to

function normally due to prolonged interference must operate a visual indicator on the bridge. The type and method of installation of such visual indicator must comply with the requirements of the U.S. Coast Guard.

(d) The power supply voltage of an auto alarm must be maintained within definite upper and lower limits. The power supply must have an auxiliary device which:

(1) Will energize the alarm if this power supply fails or its voltage exceeds the limits specified for the particular type of auto alarm involved; or

(2) Will automatically connect the auto alarm to an auxiliary power supply, the voltage of which is within the specified limits.

§80.817 Tests of radiotelegraph auto alarm.

(a) The radio officer must at least once every 24 hours while the ship is in the open sea:

(1) Test the auto alarm by using the testing device to determine whether the auto alarm will respond to not less than 4 nor more than 12 consecutive dashes having an approximate duration of 4 seconds and an approximate spacing of 1 second.

(2) Determine the proper functioning of the auto alarm receiver while connected to its normal antenna, by actual operation and comparison of received signals with similar signals received on 500 kHz by the main receiver.

(b) If the auto alarm is not in proper operating condition, the radio officer must report that fact to the master or officer on watch on the bridge.

(c) A statement that the tests specified in this section have been made, and the results of such tests, must be inserted in the radiotelegraph station log.

§80.818 Direction finding and homing equipment.

Each compulsory ship of 1,600 gross tons or over whose keel was laid:

(a) *Prior to May 25, 1980,* must be equipped with radio direction finding apparatus in operating condition and approved by the Commission during an inspection.

(b) *On or after May 25, 1980,* must be equipped with radio direction finding apparatus having a homing capability in operating condition and approved by the Commission during an inspection.

§80.819 Requirements for radio direction finder.

(a) To be approved by the Commission during an inspection the radio direction finding apparatus must:

(1) Be capable of receiving signals A1A, A2B and R2B emission, on each frequency within the band 285–515 kHz assigned by the Radio Regulations for distress and direction finding and for maritime radio beacons, and be calibrated to take bearings on such signals from which the true bearing and direction may be determined; and

(2) Possess a sensitivity, sufficient to permit the taking of bearings on a signal having a field strength of 50 microvolts per meter.

(b) The calibration of the direction finder must be verified by check bearings or by a further calibration whenever any changes are made in the physical or electrical characteristics or the position of any antennas, and whenever any changes are made in the position of any deck structures which might affect the accuracy of the direction finder. In addition, the calibration must be verified by check bearings at yearly intervals. A record of the calibrations, and of the check bearings made of their accuracy and the accuracy of the check bearings must be kept on board the ship for a period of not less than 1 year.

§80.820 Auxiliary receiving antenna.

An auxiliary receiving antenna must be provided when necessary to avoid unauthorized interruption or reduced efficiency of the required watch because the normal receiving antenna is not available because a radio direction finder on board the vessel is operated.

§80.821 Installation of direction finder.

(a) The direction finder must be located to minimize interference from noise.

(b) The direction finder antenna system must be erected so that the determination of bearings will not be hindered by the proximity of other antennas, cranes, wire halyards, or large metal objects.

§ 80.822 Contingent acceptance of direction finder calibration.

(a) When the required calibration can not be made before departure from a harbor or port for a voyage in the open sea, the direction finder may be tentatively approved on condition that the master certifies in writing that the direction finder will be calibrated by a competent technician; and

(b) In the absence of acceptable calibration at the time of the subsequent inspection the Commission may withdraw approval of the direction finder until such evidence is available.

§ 80.823 Check bearings by authorized ship personnel.

The requirement for calibration by check bearings is met if:

(a) The required verification by check bearings are made not more than 90 days prior to the date of the annual detailed inspection of the radiotelegraph station;

(b) The verification consists of a comparison of simultaneous visual and radio direction finder bearings. At least one comparison bearing must be taken in each quadrant, within plus or minus 20 degrees from the following bearings relative to the ship's heading: 45 degrees; 135 degrees; 225 degrees; 315 degrees;

(c) The verification shows the visual bearing relative to the ship's heading and the difference between the visual and radio direction finder bearing, and the date each check bearing is taken.

§ 80.824 Homing facility requirements.

(a) Direction finding equipment used on compulsory vessels whose keel was laid on or after May 25, 1980, must additionally have a homing facility which is:

(1) Capable of operating with A1A, A2B, H2B and H8E emission on any frequency in the band 2167–2197 kHz;

(2) Capable of taking direction finding bearings on the radiotelephone distress frequency 2182 kHz without ambiguity of sense within an arc of 30 degrees on either side of the bow;

(3) Installed with due regard to CCIR Recommendation 428–2:

(4) Sufficiently sensitive, in the absence of interference, to take bearings on a signal having a field strength of 25 microvolts per meter;

(5) Capable of determining its accuracy by comparison of visual or calculated bearings and homing facility bearings. Comparisons must be made at −30, 0 and +30 degrees relative to the ships heading to show that the correct sense is indicated.

(b) [Reserved]

§ 80.825 Radar installation requirements and specifications.

(a) Radar installations on board ships that are required by the Safety Convention or the U.S. Coast Guard to be equipped with radar must comply with either the document referenced in paragraph (a)(1) of this section or the applicable document referenced in paragraphs (a)(2) through (a)(4) of this section. These documents are incorporated by reference in accordance with 5 U.S.C. 552(a). The documents contain specifications, standards and general requirements applicable to shipboard radar equipment and shipboard radar installations. For purposes of this part, the specifications, standards and general requirements stated in these documents are mandatory irrespective of discretionary language. Radar documents are available for inspection at the Commission Headquarters in Washington, DC, or may be obtained from the Radio Technical Commission for Maritime Services (RTCM), P.O. Box 19087, Washington, DC 20036.

(1) Radar installed on ships of 500 gross tons and upwards on or after July 1, 1988, must comply with the provisions of RTCM Paper 133–87/SC 103–33 including Appendix A. Title: ''RTCM Recommended Performance Specification for a General Purpose Navigational Radar Set for Oceangoing Ships of 500 Gross Tons and Upwards for New Radar Installations.'' Title of Appendix A: ''General Purpose Shipborne Navigational Radar Set for Oceangoing Ships *Design and Testing Specifications.*'' Document originally approved by RTCM August 15, 1985 and revised May 15, 1987.

(2) Radar installed on ships of 1,600 gross tons and upwards on or before April 27, 1981, must comply with the provisions of Volume II of RTCM Special Committee No. 65 Final Report;

Part II. Title: ''Performance Specification for a General Purpose Navigational Radar Set for Oceangoing Ships of 1,600 Tons Gross Tonnage and Upwards for Ships Already Fitted.'' Document approved by RTCM July 18, 1978; effective as FCC requirement on April 27, 1981.

(3) Radar installed on ships of 1,600 gross tons and upwards after April 27, 1981 and before July 1, 1988, must comply with the provisions of Volume II of RTCM Special Committee No. 65 Final Report with Change 1 entered; Part I including Appendix A. Title: ''Performance Specification for a General Purpose Navigational Radar Set for Oceangoing Vessels of 1,600 Tons Gross Tonnage and Upwards for New Radar Installations.'' Title of Appendix A: ''General Purpose Shipborne Navigational Radar Set for Oceangoing Ships *Design and Testing Specifications.*'' Document approved by RTCM July 18, 1978; effective as FCC requirement on April 27, 1981.

(4) Ships between 500 and 1,600 gross tons constructed on or after September 1, 1984, with radar installed before July 1, 1988, must comply with Regulation 12, Chapter V of the Safety Convention and with the provisions of Inter-Governmental Maritime Consultative Organization (IMCO) [Now International Maritime Organization (IMO)] Resolution A.477(XII). Title: ''Performance Standards for Radar Equipment.'' Adopted by IMCO November 19, 1981.

(b) For ships of 10,000 gross tons or more and any other ship that is required to be equipped with two radar systems, each of these systems must be capable of operating independently and must comply with the specifications, standards and general requirements established by paragraph (a) of this section. One of the systems must provide a display with an effective diameter of not less than 340 millimeters (13.4 inches) (16-inch cathode ray tube). The other system must provide a display with an effective diameter of not less than 250 millimeters (9.8 inches) (12-inch cathode ray tube).

(c) Recommendations for tools, test equipment, spares and technical manuals are contained in Part IV of Volume III of the RTCM SC–65 Final Report approved by RTCM July 18, 1978.

[52 FR 35247, Sept. 18, 1987]

§80.826 Interior communication systems.

(a) An interior communication system must be provided between the bridge of the ship and the radiotelegraph operating room in all cases where the radiotelegraph operating room does not adjoin or open onto the navigating bridge structure. An interior communication system must also be provided between the bridge and the location of the radio direction finding apparatus whenever the latter is not located on the bridge or within any compartment adjoining or opening onto the navigating bridge structure. If the operating position of the reserve radio installation is not located in the room normally used for operating the main radio installation, an interior communication system must be separately provided between the bridge and each of these radio operating positions.

(b) If a vessel has more than one location from which it is normally controlled and steered, the interior communication system between the radiotelegraph operating room and bridge must include communication to each such location. The existence at a location of all of the following factors will require that a point of communication be established there: (1) A steering wheel; (2) a compass; (3) an engine order telegraph; (4) control of the whistle; and (5) a wheelhouse enclosure.

(c) Paragraph (b) of this section does not apply to locations established solely for emergency use in event of failure of the normal steering facilities or locations used solely while docking or maneuvering a ship while in port or for brief periods while navigating the ship in close quarters on inland waters.

§80.827 Requirements for interior communication systems.

The interior communication systems required by §80.826 must provide two-way calling and voice communication, be independent of any other communication system in the ship, and be of a type approved by the United States

Coast Guard. The location and termination of individual systems is subject to approval by the Commission.

§ 80.828 Radiotelegraph station clock.

A working clock equipped with a sweep seconds hand and having a dial not less than 12.7 cm (5 inches) in diameter, the face of which is marked to indicate the silence periods prescribed for the radiotelegraph service by the International Radio Regulations, must be provided. It must be securely mounted in the radiotelegraph operating room in such a position that the entire dial can be clearly observed by the radio officer from the normal radiotelegraph operating position, from the operating position where the international radiotelegraph alarm signal would ordinarily be transmitted by hand, and from the position used for testing the auto alarm (if installed). If a separate emergency radiotelegraph operating room is provided, the requirements of this section apply to it also.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44953, Aug. 25, 1993]

§ 80.829 Survival craft nonportable radiotelegraph installation.

(a) A survival craft nonportable radiotelegraph installation required by law to be provided in a motor lifeboat must include the following components as a minimum:

(1) A transmitting and receiving antenna and antenna accessories,

(2) An artificial antenna for testing purposes;

(3) A transmitter with keying arrangements for use of radiotelegraphy, an associated radio receiver with headphones, and a suitable device for converting from the power supply battery voltage to the voltages used by the transmitter and receiver;

(4) A power supply;

(5) A device for a ground connection to the water when the lifeboat is afloat.

(b) Components of a survival craft nonportable radiotelegraph installation specified in paragraph (a)(2) of this section must be type accepted of §§ 80.263 and 80.265.

(c) The radiotelegraph equipment must be installed in a cabin large enough to accommodate both the equipment and the person using it. The operation of the radiotelegraph installation must not be interfered with by the survival craft engine while it is running, whether or not a battery is on charge.

(d) The antenna must be a single wire inverted L type with a horizontal section of the maximum practicable length and a height above the mean waterline of not less than 6 meters (20 feet), and must be so designed that it can be quickly erected and utilized by a person in the lifeboat while afloat.

(e) The ground system must comply with the following requirements:

(1) The radio installation when installed in a metal hull lifeboat must be grounded to the hull of the lifeboat. The ground connection must be physically located in a position where it is inaccessible to the normal movement of occupants or accessories in the lifeboat;

(2) The radio installation when installed in a lifeboat having a nonmetallic hull must be grounded to a bare plate or strips of corrosion resistant metal having a total area of at least 6 square feet and located on the hull of the lifeboat below the waterline.

(f) When the lifeboat is afloat the installation must be capable of developing an antenna current such that the product of the maximum height of the antenna above the mean surface of the water, expressed in meters, and the r.m.s. antenna current on the frequency 500 kHz, expressed in amperes, is not less than 9.6.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44953, Aug. 25, 1993]

§ 80.830 Power supply for survival craft nonportable radiotelegraph installation.

(a) The power supply for the survival craft nonportable radiotelegraph installation must consist of a battery capable of operating the survival craft radiotelegraph installation for at least 6 hours continuously under normal working conditions.

(b) The battery may power equipment other than the radiotelegraph installation (except that it must not be used to supply power to any engine

starting motor or ignition system) provided such additional use will not adversely affect the required capabilities of the battery. All circuits connected to the battery must be independently fused.

(c) The battery must be kept charged at all times while at sea. The charging of the battery must not require its removal from the survival craft in which it is installed. The necessary charging equipment must not interfere with the launching of the survival craft, and must be easily and quickly removable. The charging circuit for the battery must be routed through the radiotelegraph operating room, and include a device located in the radiotelegraph operating room which will give continuous indication of the polarity and the rate of charge.

(d) Installation must provide for charging of the battery by means of a generator on the survival craft engine.

(e) Subject to approval of the United States Coast Guard, the battery must be mounted in a suitable container that will provide protection from salt water spray and also allow proper ventilation.

§80.831 Survival craft portable radiotelegraph equipment.

(a) Survival craft portable radiotelegraph equipment required by law to be provided must be type accepted by the Commission as capable of meeting the provisions of §§80.263 and 80.265.

(b) The equipment must be stowed in the radio room, bridge or a protected location near a lifeboat and be readily accessible for transfer to a lifeboat. However, in tankers of 3,000 gross tons and over in which lifeboats are fitted amidships and aft, this equipment must be kept in a suitable place in the vicinity of those lifeboats which are farthest away from the ship's main transmitter.

(c) Equipment for totally enclosed lifeboats must meet the extra requirements specified in §80.265.

§80.832 Tests of survival craft radio equipment.

(a) Except for emergency position indicating radio beacons and two-way radiotelephone equipment, inspections and tests of survival craft radio equipment must be conducted by the licensee at weekly intervals while the ship is at sea or, if a test or inspection has not been conducted within a week prior to its departure, within 24 hours prior to the ship's departure from a port. The inspection and tests must include operation of the transmitter connected to an artificial antenna and determination of the specific gravity or voltage under normal load of any batteries.

(b) When the ship is in a harbor or port of the United States an authorized representative of the Commission may require:

(1) Inspection and test of the survival craft radio equipment in the survival craft afloat, including an operational test of the transmitter and receiver connected to the required antenna to determine that the equipment is in operating condition;

(2) Demonstration in accordance with §80.808 that a battery used as a part of the survival craft nonportable radio installation is capable of energizing the installation for the required 6 hours.

(c) The results of the inspections and test must be made known to the master, and be entered in the ship's radio station log, or in the ship's log if the ship is not provided with a radio station.

§80.833 Class S survival craft emergency position indicating radiobeacons (EPIRB's).

(a) Survival craft emergency position indicating radiobeacons, Class S, required to comply with title 46 of the Code of Federal Regulations must be type accepted to meet the provisions of §80.1059.

(b) The Class S EPIRB must be stowed in the survival craft.

(c) The Class S EPIRB must be tested at intervals not to exceed twelve months.

(d) Batteries must be replaced after the date specified in §80.1053(e), or after the transmitter has been used in an emergency situation, whichever is earlier.

§ 80.834 Survival craft portable two-way radiotelephone.

(a) Survival craft portable two-way radiotelephone transceivers must meet the provisions of § 80.271.

(b) The equipment must be stowed in the radio room, on the bridge or in a location readily accessible for transfer to life boats when not being used by shipboard personnel to satisfy the vessel's operational requirements.

(c) When not in routine use the survival craft two-way radiotelephone transceivers must be operationally tested once a week. Operational test should be conducted with equipment separated as far as practical and in the case of UHF equipment must include tests on the frequency 457.525 MHz.

(d) All survival craft two-way radiotelephones associated with a ship must operate in the same frequency band (VHF or UHF).

§ 80.835 Ship and survival craft station spare parts, tools, instruction books, circuit diagrams and testing equipment.

(a) Each ship station must be provided with such spare parts, tools, testing equipment, instruction books and circuit diagrams as will enable the radiotelegraph installation and survival craft station to be maintained in working condition while at sea. Each ship station licensee must compile a list of spare parts, tools, test equipment and circuit diagrams it considers necessary for compliance with this requirement. This list must be available at inspection. The Commission may consider equipment manufacturer lists of recommended spare parts, tools, test equipment and repair circuit diagrams in determining compliance with this sub-section. Spare parts for the survival craft station must be kept with that station. Other items must be located convenient to the radio room.

(b) The testing equipment must include an instrument or instruments for measuring A.C. volts, D.C. volts and ohms.

§ 80.836 General exemptions.

(a) General small passenger vessel exemptions, applicable to certain U.S. passenger vessels of less than 100 gross tons, are contained in subpart S of this part.

(b) All newly constructed U.S. cargo vessels of 1600 gross tons and upward are exempt from the radiotelegraph and radio direction finding provisions of Part II of Title III of the Communications Act when navigated on sea trials, not more than 150 nautical miles from the nearest land, if the following conditions are met:

(1) The vessel is equipped with a radiotelephone capable of operation on 2182 kHz and equipped with a radiotelephone alarm signal generator. The vessel may carry an additional portable radiotelephone, located in the wheelhouse, equipped with a radiotelephone alarm signal generator to satisfy the radiotelephone alarm signal generator requirement;

(2) The radio direction-finding apparatus is calibrated during the sea trials;

(3) A continous watch is maintained in 2182 kHz whenever the radiotelephone is not being used for authorized traffic during the sea trials; and

(4) The local FCC Engineer in Charge is advised of the dates and routes of the sea trials.

(c) Prior to February 1, 1999, cargo ships of 1600 gross tons and upward are exempt from the radiotelegraph requirements of Part II of Title III of the Communications Act, if the following criteria are met:

(1) The ship operates on domestic voyages only. For purposes of this paragraph, the term domestic voyages includes ports in Alaska, U.S. possessions in the Caribbean, and along the coasts of the 48 contiguous states, so long as the vessel does not make port at a foreign destination;

(2) The routes of the voyage are never more than 150 nautical miles from the nearest land; and,

(3) The ship complies fully with all of the following conditions. The ship must:

(i) Be equipped with a satellite ship earth station providing both voice and telex, which has been type accepted for GMDSS use;

(ii) Be equipped with a VHF and MF radiotelephone installation which complies fully with subpart R of this part

and has the additional capability of operating on the HF frequencies listed in §80.369(b) for distress and safety communications (this capability may be added to the MF radiotelephone installation);

(iii) Be equipped with a narrow-band direct-printing radiotelegraph system with SITOR meeting the requirements of §80.219;

(iv) Be equipped with at least two VHF transceivers capable of being powered by the reserve power supply (one of the VHF transceivers may be the VHF required by paragraph (c)(3)(ii) of this section);

(v) Be equipped with a Category 1, 406 MHz EPIRB meeting the requirements of §80.1061;

(vi) Be equipped with a NAVTEX receiver meeting the requirements of §80.1101(c)(1);

(vii) Be equipped with three two-way VHF radiotelephone apparatus and two radar transponders in accordance with §80.1095;

(viii) In addition to the main power source, be equipped with an emergency power source which complies with all applicable rules and regulations of the U.S. Coast Guard (the satellite earth station, the narrow-band direct-printing equipment and the 500 kHz autoalarm receiver must be capable of being powered by the main and emergency power sources);

(ix) Be equipped with a 500 kHz autoalarm receiver and a means of recording or decoding any distress signal received for relay to the Coast Guard or a public coast station;

(x) Participate in the AMVER system when on voyages of more than twenty-four hours and have the capability of operating on at least four of the AMVER HF duplex channels;

(xi) Carry at least one licensed operator to operate and maintain all the ship's distress and safety radio communications equipment in accordance with §§80.159(c) and 80.169; and,

(xii) Maintain a continuous watch on 2182 kHz and 156.8 MHz, in accordance with §80.305(b), when navigated.

(d) Subject to a determination by the United States Coast Guard pursuant to Public Law No. 104–104, 110 Stat. 56 (1996) at Section 206, each U.S. passenger vessel and each U.S. cargo vessel of 1,600 gross tons and upward is exempt from the radiotelegraph provisions of part II of title III of the Communications Act, provided that the vessel complies fully with the requirements for the Global Maritime Distress & Safety System (GMDSS) contained in subpart W of this part and obtains either a Safety Certificate or endorsement as described in §80.1067.

NOTE TO PARAGRAPH (d): In a letter to the Commission, dated March 13, 1996, the United States Coast Guard noted that it may rely on the Safety Certificate or endorsement described in §80.1067 as prima facie evidence that the GMDSS has been installed and found to be operating properly. The Coast Guard also stated that it retains the authority for ensuring overall vessel safety and compliance with all applicable domestic and international laws, regulations and treaties.

(e) These exemptions may be terminated at any time without hearing if, in the Commission's discretion, the need for such action arises.

[51 FR 31213, Sept. 2, 1986, as amended at 56 FR 19301, Apr. 26, 1991; 60 FR 58244, Nov. 27, 1995; 61 FR 19559, May 2, 1996]

Subpart R—Compulsory Radiotelephone Installations for Vessels 300 Gross Tons

§80.851 Applicability.

The radiotelephone requirements of Part II of Title III of the Communications Act apply to cargo ships of 300 gross tons and upward but less than 1600 gross tons. The radiotelephone requirements of the Safety Convention apply to passenger ships irrespective of size and cargo ships of 300 gross tons and upward on international voyages. These ships are required to carry a radiotelephone installation complying with this subpart.

§80.853 Radiotelephone station.

(a) The radiotelephone station is a radiotelephone installation and other equipment necessary for the proper operation of the installation.

(b) The radiotelephone station must be installed to insure safe and effective operation of the equipment and to facilitate repair. Adequate protection must be provided against the effects of vibration, moisture, and temperature.

(c) The radiotelephone station and all necessary controls must be located at the level of the main wheelhouse or at least one deck above the ship's main deck.

(d) The principal operating position of the radiotelephone station must be in the room from which the ship is normally steered while at sea. In installations on cargo ships of 300 gross tons and upwards but less than 500 gross tons on which the keel was laid prior to January 1, 1965, the location of the principal operating controls may be in a room adjoining and opening into the room from which the vessel is normally steered while at sea. If the station can be operated from any location other than the principal operating position, a positive means must be provided at the principal operating position to take full control of the station.

(e) The use of a independent communication system between the principal operating position and all other operating locations is acceptable as a method for taking control at the principal operating position. For stations first placed in service on or after June 1, 1956 the use of this method for taking control at the principal operating position is acceptable only for operating locations in the chartroom or master's quarters.

§ 80.854 Radiotelephone installation.

The radiotelephone installation includes:

(a) A radiotelephone transmitter;

(b) A receiver as specified in § 80.858(a);

(c) A radiotelephone distress frequency watch receiver specified in § 80.269;

(d) A main source of energy;

(e) A reserve source of energy, when required by § 80.860(a);

(f) An antenna system.

§ 80.855 Radiotelephone transmitter.

(a) The transmitter must be capable of transmission of H3E and J3E emission on 2182 kHz, and J3E emission on 2638 kHz and at least two other frequencies within the band 1605 to 3500 kHz available for ship-to-shore or ship-to-ship communication.

(b) The duty cycle of the transmitter must permit transmission of the international radiotelephone alarm signal.

(c) The transmitter must be capable of transmitting clearly perceptible signals from ship to ship during daytime under normal conditions over a range of 150 nautical miles.

(d) The transmitter complies with the range requirement specified in paragraph (c) of this section if:

(1) The transmitter is capable of being matched to actual ship station transmitting antenna meeting the requirements of § 80.863; and

(2) The output power is not less than 60 watts peak envelope power for H3E and J3E emission on the frequency 2182 kHz and for J3E emission on the frequency 2638 kHz into either an artificial antenna consisting of a series network of 10 ohms resistance and 200 picofarads capacitance, or an artificial antenna of 50 ohms nominal impedance. An individual demonstration of the power output capability of the transmitter, with the radiotelephone installation normally installed on board ship, may be required.

(e) The transmitter must provide visual indication whenever the transmitter is supplying power to the antenna.

(f) The transmitter must be protected from excessive currents and voltages.

(g) A durable nameplate must be mounted on the transmitter or made an integral part of it showing clearly the name of the transmitter manufacturer and the type or model of the transmitter.

(h) An artificial antenna must be provided to permit weekly checks of the automatic device for generating the radiotelephone alarm signal on frequencies other than the radiotelephone distress frequency.

§ 80.856 Automatic radiotelephone alarm signal generator.

The transmitter must be equipped with an international radiotelephone alarm signal generator type accepted by the Commission. See § 80.221.

§80.857 Installation of automatic radiotelephone alarm signal generator.

The controls of the automatic radiotelephone alarm signal generator required by §80.856 must be located at the principal radiotelephone operating position only. The controls must permit instant use of this device to modulate the required transmitter and permit the device to be taken out of operation at any time so that the transmitter may be immediately voice modulated for transmission of a distress call and message.

§80.858 Radiotelephone receiver.

(a) The receiver required by §80.854(a) of this part must be capable of reception of H3E and J3E emissions on the radiotelephone distress frequency. The receiver must be capable of reception of J3E emissions on 2638 kHz and the receiving frequencies associated with the transmitting frequencies authorized pursuant to §80.855(a).

(b) In addition to the receiver required by paragraph (a) of this section, a radiotelephone distress frequency watch receiver meeting the technical standards of §80.269 must be provided.

(c) One or more loudspeakers capable of being used to maintain the distress frequency (2182 kHz) watch at the principal operating position and at any other place where the listening watch is performed must be provided.

(d) The receiver required by paragraph (a) of the section must:

(1) Have a sensitivity of 50 microvolts;

(2) Be capable of operation when energized by the main source of energy, and by the reserve source of energy if a reserve source is required by §80.860(a);

(3) Be protected from excessive currents and voltages;

(4) Be provided with a nameplate showing the name of the receiver manufacturer and the type or model.

(e) The sensitivity of a receiver is the strength in microvolts of a signal, modulated 30 percent at 400 cycles per second, required at the receiver input to produce an audio output of 50 milliwatts to the loudspeaker with a signal-to-noise ratio of at least 6 decibels. Evidence of a manufacturer's rating or a demonstration of the sensitivity of a required receiver computed on this basis must be furnished upon request of a Commission representative.

§80.859 Main power supply.

(a) The main power supply must simultaneously energize the radiotelephone transmitter at its required antenna power and the required receivers. Under this load condition the voltage of the main power supply at the radiotelephone input terminals must not deviate from its rated potential by more than 10 percent on ships completed on or after July 1, 1941, nor by more than 15 percent on ships completed before that date.

(b) Means must be provided for charging any batteries used as a main power supply. A continuous indication of the rate and polarity of the charging current must be provided during charging of the batteries.

§80.860 Reserve power supply.

(a) When the main power supply is not on the same deck as the main wheelhouse or at least one deck above the vessel's main deck, a reserve power supply must be provided and must be so situated. The location of the reserve power supply must be located as near to the required transmitter and receivers as practicable and meet all applicable rules and regulations of the United States Coast Guard.

(b) The reserve power supply must be independent of the propelling power of the ship and of any other electrical system, and must simultaneously energize the radiotelephone transmitter at its required antenna power, the required receivers, the emergency light and the automatic radiotelephone alarm signal generator. The reserve power supply must be available at all times.

(c) The reserve power supply may be used to energize the bridge-to-bridge radiotelephone and the VHF radiotelephone installation required by §80.871.

(d) All circuits connected to the reserve power supply must be protected from overloads.

(e) Means must be provided for charging any batteries used as a reserve power supply. A continuous indication of the rate and polarity of the charging

current during charging of the batteries must be provided.

(f) The cooling system of each internal combustion engine used as a part of the reserve power supply must be adequately treated to prevent freezing or overheating consistent with the season and route to be traveled by the particular vessel involved.

(g) The reserve power supply must be available within 1 minute.

[51 FR 31213, Sept. 2, 1986; 52 FR 35246, Sept. 18, 1987]

§ 80.861 Required capacity.

If the main power supply or the reserve power supply provided for the purpose of complying with §§ 80.859 and 80.860 consists of batteries, the batteries must have sufficient reserve capacity available at all times while the vessel is leaving or attempting to leave a harbor or port for a voyage in the open sea, and while being navigated in the open sea outside of a harbor or port, to permit operation of the radiotelephone transmitter and the required receivers for at least 6 hours continuously under normal working conditions.

§ 80.862 Proof of capacity.

(a) When directed by the Commission or its authorized representative, the station licensee must prove that the requirements of § 80.861 are met.

(b) Proof of the ability of a battery used as a main or reserve source to operate continuously for 6 hours can be established by a discharge test over a prescribed period of time, when supplying power at the voltage required for normal and operation to an electrical load as prescribed by paragraph (d) of this section.

(c) When the reserve power supply is an engine-driven generator, proof of the adequacy of the engine fuel supply to operate the unit contiuously for 6 hours can be established by measuring the fuel consumption for 1 hour when supplying power, at the voltage required for normal operation, to an electrical load as prescribed by paragraph (d) of this section.

(d) In determining the electrical load to be supplied, the following formula must be used:

(1) One-half of the current of the required transmitter at its rated power output.

(2) One fourth of the current of the automatic radiotelephone alarm signal generator; plus

(3) Current of receiver; plus

(4) Current of emergency light(s); plus

(5) Current of the bridge-to-bridge transceiver when connected.

(e) At the conclusion of the test specified in paragraphs (b) and (c) of this section, no part of the main or reserve power supply must have an excessive temperature rise, nor must the specific gravity or voltage of any battery be below 90 percent discharge point of the fully charged value.

§ 80.863 Antenna system.

(a) An antenna system must be installed which is as nondirectional and as efficient as is practicable for the transmission and reception of radio ground waves over seawater. The installation and construction of the required antenna must insure operation in time of emergency.

(b) If the required antenna is suspended between masts or other supports liable to whipping, a safety link which, under heavy stress, will operate to greatly reduce such stress without breakage of the antenna, the halyards, or other antenna-supporting elements, must be installed.

(c) When an electrical ground connection is used as an element of the antenna system, the connection must be efficient.

§ 80.864 Emergency electric lights.

(a) Emergency electric light(s) must be installed to illuminate the operating controls of the radiotelephone installation at the principal operating position, the card of instructions, and the radiotelephone station clock if the latter is not self-illuminated.

(b) The emergency electric light(s) must be energized from the reserve power supply, if a reserve power supply is required. In cases where a reserve power supply is not required, the emergency lights must be energized independently of the system which supplies the normal lighting.

§80.865 Radiotelephone station clock.

A clock having a face of at least 12.7 cm (5 in.) in diameter must be mounted in a position that can be observed from the principal operating position.

[58 FR 44953, Aug. 25, 1993]

§80.866 Spare antenna.

A spare transmitting antenna completely assembled for immediate erection must be provided. If the installed transmitting antenna is suspended between supports, this spare antenna must be a single-wire transmitting antenna of the same length and must also include suitable insulators.

§80.867 Ship station tools, instruction books, circuit diagrams and testing equipment.

(a) Each ship station must be provided with such tools, testing equipment, instruction books and circuit diagrams to enable the radiotelephone installation to be maintained in efficient working condition while at sea. Each ship station licensee must compile a list of spare parts, tools, test equipment and circuit diagrams it considers necessary for compliance with this requirement. This list must be available at inspection. The Commission may consider equipment manufacturer lists of recommended spare parts, tools, test equipment, and repair circuit diagrams in determining compliance with this subsection. These items must be located convenient to the radio room.

(b) The testing equipment must include an instrument or instruments for measuring A.C. volts, D.C. volts and ohms.

§80.868 Card of instructions.

A card of instructions giving a clear summary of the radiotelephone distress procedure must be securely mounted and displayed in full view of the principal operating position.

§80.869 Test of radiotelephone station.

Unless the normal use of the required radiotelephone station demonstrates that the equipment is operating, a test communication on a required or working frequency must be made each day the ship is navigated. When this test is performed by a person other than the master and the equipment is found to be defective the master must be promptly notified.

§80.870 Survival craft radio equipment.

(a) A Class S survival craft emergency position indicating radiobeacon, (EPIRB) required to be carried to comply with title 46 of the Code of Federal Regulations must meet the provisions of §80.833.

(b) A survival craft two-way radiotelephone apparatus must meet the provisions of §80.834.

§80.871 VHF radiotelephone station.

(a) All passenger ships irrespective of size and all cargo ships of 300 gross tons and upwards subject to part II of title III of the Communications Act or to the Safety Convention are required to carry a VHF radiotelephone station complying with this subpart. Ships subject only to the Communications Act may use a VHF radiotelephone installation meeting the technical standards of the Bridge-to-Bridge Act to satisfy the watch requirements of §80.305(a)(3) if the equipment can transmit and receive on 156.800 MHz.

(b) The VHF radiotelephone station must be installed to insure safe and effective operation of the equipment and facilitate repair. It must be protected against vibration, moisture and temperature.

(c) The principal operating position of the radiotelephone station must be in the room from which the ship is normally steered while at sea.

(d) The radiotelephone stations on ships subject to Part II of Title III of the Communications Act must be capable of operating on the frequency 156.800 MHz and in other respects meet the requirements of §80.143. The radiotelephone stations on ships subject to the Safety Convention must be capable of operating in the simplex mode on the ship station transmitting frequencies specified in the frequency band 156.025 MHz to 157.425 MHz and in the semiduplex mode on the two frequency channels specified in the following table:

Channel designators	Transmitting frequencies (MHz)	
	Ship station	Coast station
60	156.025	160.625
01	156.050	160.650
61	156.075	160.675
02	156.100	160.700
62	156.125	160.725
03	156.150	160.750
63	156.175	160.775
04	156.200	160.800
64	156.225	160.825
05	156.250	160.850
65	156.275	160.875
06	156.300	.....
66	156.325	160.925
07	156.350	160.950
67	156.375	156.375
08	156.400	.....
68	156.425	156.425
09	156.450	156.450
69	156.475	156.475
10	156.500	156.500
11	156.550	156.550
71	156.575	156.575
12	156.600	156.600
72	156.625	.....
13	156.650	156.650
73	156.675	156.675
14	156.700	156.700
74	156.725	156.725
15	156.750	156.750
75	(1)	(1)
16	156.800	156.800
76	(1)	(1)
17	156.850	156.850
77	156.875	.....
18	156.900	161.500
78	156.925	161.525
19	156.950	161.550
79	156.975	161.575
20	157.000	161.600
80	157.025	161.625
21	157.050	161.650
81	157.075	161.675
22	157.100	161.700
82	157.125	161.725
23	157.150	161.750
83	157.175	161.775
24	157.200	161.800
84	157.225	161.825
25	157.250	161.850
85	157.275	161.875
26	157.300	161.900
86	157.325	161.925
27	157.350	161.950
87	157.375	161.975
28	157.400	162.000
88	157.425	162.025

[1] Guard band.

[51 FR 31213, Sept. 2, 1986; 52 FR 35246, Sept. 18, 1987, as amended at 54 FR 40059, Sept. 29, 1989]

§ 80.872 The VHF radiotelephone installation.

The VHF radiotelephone installation includes:

(a) A VHF radiotelephone transmitter,

(b) A VHF radiotelephone receiver,

(c) A power supply,

(d) An antenna system.

§ 80.873 VHF radiotelephone transmitter.

(a) The transmitter must be capable of transmission of G3E emission on 156.300 MHz and 156.800 MHz, and on frequencies which have been specified for use in a system established to promote safety of navigation. Vessels in waters of other Administrations are required to communicate on any channel designated by that Administration for navigational safety in the bands specified in § 80.871(d).

(b) The transmitter must be adjusted so that the transmission of speech normally produces peak modulation within the limits of 75 percent and 100 percent.

(c) The transmitter must deliver a carrier power between 8 and 25 watts into a 50 ohm effective resistance. Provision must be made for reducing the carrier power to a value between 0.1 and 1.0 watts.

(d) The transmitter complies with the power output requirements specified in paragraph (c) of this section when:

(1) The transmitter is capable of being adjusted for efficient use with an actual ship station transmitting antenna meeting the requirements of § 80.876; and

(2) The transmitter has been demonstrated capable, with normal operating voltages applied, of delivering not less than 8 watts of carrier power into 50 ohms effective resistance over the frequency band specified in § 80.871(d). An individual demonstration of the power output capability of the transmitter, with the radiotelephone installation normally installed on board ship, may be required; and

(3) It is type accepted as required by subpart F of this part.

§ 80.874 VHF radiotelephone receiver.

(a) The receiver used for providing the watch for navaigational safety required by § 80.313 must be type accepted by the Commission and capable of effective reception of G3E emission on the frequencies required by § 80.871(d)

when connected to the antenna specified in §80.876.

(b) The receiver must have a usable sensitivity of 0.5 microvolts.

(c) The receiver must deliver adequate audio output power to be heard in the ambient noise level likely to be expected on board ships with a loudspeaker and/or a telephone handset.

(d) In the simplex mode when the transmitter is activated the receiver output must be muted.

§80.875 VHF radiotelephone power supply.

(a) There must be readily available for use under normal load conditions a power supply sufficient to simultaneously energize the VHF transmitter at its required antenna power, and the VHF receiver. Under this load condition the voltage of the source of energy at the power input terminals of the VHF radiotelephone installation must not deviate from its rated value by more than 10 percent on ships completed on or after March 1, 1957, nor by more than 15 percent on ships completed before that date.

(b) When the power supply for the VHF radiotelephone installation consists of batteries, they must be installed in the upper part of the ship, secured against shifting with motion of the ship, capable of operating the installation for 6 hours, and accessible with not less than 26 cm (10 in.) head room.

(c) Means must be provided for charging any rechargeable batteries used in the ship's VHF radiotelephone installation. There must be provided a device which, during charging of the batteries, will give a continuous indication of the charging current.

(d) The VHF radiotelephone installation may be connected to the reserve power supply of a compulsorily fitted radiotelephone or radiotelegraph installation.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44953, Aug. 25, 1993]

§80.876 VHF radiotelephone antenna system.

A vertically polarized nondirectional antenna must be provided for VHF radiotelephone installations. The construction and installation of this antenna must insure proper operation in an emergency.

§80.877 Controls and indicators required for VHF radiotelephone installation.

The controls and indicators used on equipment of the VHF radiotelephone installation must meet the following standards:

(a) The size of controls must easily permit normal adjustment. The function and the setting of the controls must be clearly indicated.d

(b) Controls must be illuminated to permit satisfactory operation of the equipment.

(c) Means must be provided to reduce to extinction any light output from the equipment which could affect safety of navigation.

(d) An on/off switch must be provided for the entire installation with a visual indication that the installation is switched on.

(e) The equipment must indicate the channel number, as given in the Radio Regulations, to which it is tuned. It must allow the determination of the channel number under all conditions of external lighting. Channel 16 must be distinctively marked.

(f) The receiver must have a manual volume control and a squelch control.

(g) If the external controls are on a separate control unit and more than one such control unit is provided, the one on the bridge must have priority over the others. When there is more than one control unit, indication must be given to the other(s) that the transmitter is in operation.

§80.879 Radar installation requirements and specifications.

Ships of 500 gross tons and upwards that are constructed on or after September 1, 1984, must comply with the radar installation requirements and specifications contained in §80.825 of this part.

[52 FR 35246, Sept. 18, 1987]

Subpart S—Compulsory Radiotelephone Installations for Small Passenger Boats

§ 80.901 Applicability.

The provisions of Part III of Title III of the Communication Act require United States vessels which transport more than six passengers for hire while such vessels are being navigated on any tidewater within the jurisdiction of the United States adjacent or contiguous to the open sea, or in the open sea to carry a radiotelephone installation complying with this subpart. The provisions of Part III do not apply to vessels which are equipped with a radio installation for compliance with Part II of Title III of the Act, or for compliance with the Safety Convention, or to vessels navigating on the Great Lakes.

§ 80.903 Inspection of radiotelephone installation.

Every vessel subject to Part III of Title III of the Communications Act must have a detailed inspection by the Commission of the prescribed installation once every five years. If after inspection the Commission determines that all relevant provisions of Part III of Title III of the Communications Act, the rules of the Commission, and the station license are met a Communications Act Safety Radiotelephone Certificate will be issued. The effective date of this certificate is the date the installation is found to be in compliance, or not more than one business day later.

§ 80.905 Vessel radio equipment.

(a) Vessels subject to part III of title III of the Communications Act that operate in the waters described in § 80.901 of this section must, at a minimum, be equipped as follows:

(1) Vessels operated solely within the communications range of a VHF public coast station or U.S. Coast Guard station that maintains a watch on 156.800 MHz while the vessel is navigated must be equipped with a VHF radiotelephone installation. Vessels in this category must not operate more than 20 nautical miles from land.

(2) Vessels operated beyond the 20 nautical mile limitation specified in paragraph (a)(1) of this section, but not more than 100 nautical miles from the nearest land, must be equipped with a medium frequency transmitter capable of transmitting J3E emission and a receiver capable of reception of J3E emission within the band 1710 to 2850 kHz, in addition to the VHF radiotelephone installation required by paragraph (a)(1) of this section. The medium frequency transmitter and receiver must be capable of operation on 2670 kHz.

(3) Vessels operated more than 100 nautical miles but not more than 200 nautical miles from the nearest land must:

(i) Be equipped with a VHF radiotelephone installation;

(ii) Be equipped with an MF radiotelephone transmitter and receiver meeting the requirements of paragraph (a)(2) of this section; and

(iii) Be equipped with either:

(A) a single sideband radiotelephone capable of operating on all distress and safety frequencies in the medium frequency and high frequency bands listed in §§ 80.369 (a) and (b), on all the ship-to-shore calling frequencies in the high frequency bands listed in § 80.369(d), and on at least four of the automated mutual-assistance vessel rescue (AMVER) system HF duplex channels (this requirement may be met by the addition of such frequencies to the radiotelephone installation required by paragraph (a)(2) of this section); or

(B) if operated in an area within the coverage of an INMARSAT maritime mobile geostationary satellite in which continuous alerting is available, an INMARSAT ship earth station meeting the equipment authorization rules of parts 2 and 80 of this chapter;

(iv) Be equipped with a reserve power supply meeting the requirements of §§ 80.917(b), 80.919, and 80.921, and capable of powering the single sideband radiotelephone or the ship earth station (including associated peripheral equipment) required by paragraph (a)(3)(iii) of this section;

(v) Be equipped with a NAVTEX receiver conforming to the following performance standards: IMO Resolution A.525(13) and CCIR Recommendation 540;

(vi) Be equipped with a Category I, 406 MHz satellite emergency position-

indicating radiobeacon (EPIRB) meeting the requirements of § 80.1061; and,

(vii) Participate in the AMVER system while engaged on any voyage where the vessel is navigated in the open sea for more than 24 hours. Copies of the AMVER Bulletin are available at: AMVER Maritime Relations (G–NRS–3/AMR), U.S. Coast Guard, Building 110, Box 26, Governor's Island, N.Y. 10004–5034, telephone number (212) 668–7764.

(4) Vessels operated more than 200 nautical miles from the nearest land must:

(i) Be equipped with two VHF radiotelephone installations;

(ii) Be equipped with an MF radiotelephone transmitter and receiver meeting the requirements of paragraph (a)(2) of this section;

(iii) Be equipped with either:

(A) an independent single sideband radiotelephone capable of operating on all distress and safety frequencies in the medium frequency and high frequency bands listed in §§ 80.369(a) and (b), on all of the ship-to-shore calling frequencies in the high frequency bands listed in § 80.369(d), and on at least four of the automated mutual-assistance vessel rescue (AMVER) system HF duplex channels; or

(B) If operated in an area within the coverage of an INMARSAT maritime mobile geostationary satellite in which continuous alerting is available, an INMARSAT ship earth station meeting the equipment authorization rules of parts 2 and 80 of this chapter;

(iv) Be equipped with a reserve power supply meeting the requirements of §§ 80.917(b), 80.919, and 80.921, and capable of powering the single sideband radiotelephone or the ship earth station (including associated peripheral equipment) required by paragraph (a)(4)(iii) of this section;

(v) Be equipped with a NAVTEX receiver conforming to the following performance standards: IMO Resolution A.525(13) and CCIR Recommendation 540;

(vi) Be equipped with a Category I, 406 MHz satellite emergency position-indicating radiobeacon (EPIRB) meeting the requirements of § 80.1061;

(vii) Be equipped with a radiotelephone distress frequency watch receiver meeting the requirements of § 80.269;

(viii) Be equipped with an automatic radiotelephone alarm signal generator meeting the requirements of § 80.221; and

(ix) Participate in the AMVER system while engaged on any voyage where the vessel is navigated in the open sea for more than 24 hours. Copies of the AMVER Bulletin are available at: AMVER Maritime Relations (G–NRS–3/AMR), U.S. Coast Guard, Building 110, Box 26, Governor's Island, N.Y. 10004–5034, telephone number (212) 668–7764.

(b) For a vessel that is navigated within the communication range of a VHF public coast station or U.S. Coast Guard station, but beyond the 20-nautical mile limitation specified in paragraph (a)(1) of this section, an exemption from the band 1605 to 2850 kHz installation requirements may be granted if the vessel is equipped with a VHF transmitter and receiver. An application for exemption must include a chart showing the route of the voyage or the area of operation of the vessel, and the receiving service area of the VHF public coast or U.S. Coast Guard station. The coverage area of the U.S. Coast Guard station must be based on written information from the District Commander, U.S. Coast Guard, a copy of which must be furnished with the application. The coverage area of a public coast station must be computed by the method specified in subpart P of this part.

(c) The radiotelephone installation must be installed to insure safe operation of the equipment and to facilitate repair. It must be protected against the vibration, moisture, temperature, and excessive currents and voltages.

(d) A VHF radiotelephone installation or a remote unit must be located at each steering station except those auxiliary steering stations which are used only during brief periods for docking or for close-in maneuvering. A single portable radiotelephone set meets the requirements of this paragraph if adequate permanent mounting arrangements with suitable power provision and antenna feed are installed at

each operator steering station. Additionally, for vessels of more than 100 gross tons, the radiotelephone installation must be located at the level of the main wheelhouse or at least one deck above the vessel's main deck.

[51 FR 31213, Sept. 2, 1986, as amended at 56 FR 19301, Apr. 26, 1991; 57 FR 34262, Aug. 4, 1992]

§ 80.907 Principal operating position.

The principal operating position of the radiotelephone installation on vessels over 100 gross tons must be in the room from which the vessel is normally steered while at sea. If the station can be operated from any location other than the principal operating position, a positive means must be provided at the principal operating position to take full control of the station.

§ 80.909 Radiotelephone transmitter.

(a) The medium frequency transmitter must have a peak envelope output power of at least 60 watts for J3E emission on 2182 kHz and at least one ship-to-shore working frequency within the band 1605 to 2850 kHz enabling communication with a public coast station if the region in which the vessel is navigated is served by a public coast station operating in this band.

(b) The single sideband radiotelephone must be capable of operating on maritime frequencies in the band 1710 to 27500 kHz with a peak envelope output power of at least 120 watts for J3E emission and H3E emission on 2182 kHz and J3E emission on the distress and safety frequencies listed in § 80.369(b). Single sideband radios installed on or before February 2, 1992, may be used until February 2, 1997, provided such radios are capable of operating on the frequencies listed in §§ 80.369 (a) and (b), and at least half of the frequencies listed in § 80.369(d).

(c) The transmitter complies with the power output requirements specified in paragraphs (a) or (b) of this section when:

(1) The transmitter can be adjusted for efficient use with an actual ship station transmitting antenna meeting the requirements of § 80.923 of this part; and

(2) The transmitter, with normal operating voltages applied, has been demonstrated to deliver its required output power on the frequencies specified in paragraphs (a) or (b) of this section into either an artificial antenna consisting of a series network of 10 ohms effective resistance and 200 picofarads capacitance or an artificial antenna of 50 ohms nominal impedance. An individual demonstration of power output capability of the transmitter, with the radiotelephone installation normally installed on board ship, may be required.

(d) The single sideband radiotelephone must be capable of transmitting clearly perceptible signals from ship to shore. The transmitter complies with this requirement if it is capable of enabling communication with a public coast station on working frequencies in the 4000 to 27500 kHz band specified in § 80.371(b) of this part under normal daytime operating conditions.

[56 FR 19302, Apr. 26, 1991, as amended at 57 FR 34262, Aug. 4, 1992]

§ 80.911 VHF transmitter.

(a) The transmitter must be capable of transmission of G3E emission on 156.800 MHz, 156.300 MHz, and on the ship-to-shore working frequencies necessary to communicate with public coast stations serving the area in which the vessel is navigated.

(b) The transmitter must be adjusted so that the transmission of speech normally produces peak modulation within the limits 75 percent and 100 percent.

(c) The transmitter must be type accepted to transmit between 20 watts and 25 watts, on each of the frequencies 156.300 MHz, 156.800 MHz and on ship-to-shore public correspondence channels, into 50 ohms effective resistance when operated with a primary supply voltage of 13.6 volts DC.

(d) When an individual demonstration of the capability of the transmitter is necessary the output power requirements prescribed in this paragraph must be met as follows:

(1) Measurements of primary supply voltage and transmitter output power must be made with the equipment drawing energy only from ship's battery;

(2) The primary supply voltage, measured at the power input terminals to the transmitter, and the output

power of the transmitter, terminated in a matching artificial load, must be measured at the end of 10 minutes of continuous operation of the transmitter at its full power output.

(3) The primary supply voltage must not be less than 11.5 volts.

(4) The transmitter output power must be not less than 15 watts.

(5) For primary supply voltages, measured in accordance with the procedures of this paragraph, greater than 11.5 volts, but less than 12.6 volts, the required transmitter output power shall be equal to or greater than the value calculated from the formula

$$P=4.375(V)-35.313$$

where V equals the measured primary voltage and P is the calculated output power in watts.''

[51 FR 31213, Sept. 2, 1986, as amended at 54 FR 40059, Sept. 29, 1989]

§80.913 Radiotelephone receivers.

(a) If a medium frequency radiotelephone installation is provided, the watch receiver must be capable of effective reception of J3E emissions, be connected to the antenna system specified by §80.923, and be preset to, and capable of accurate and convenient selection of, the frequencies 2182 kHz, 2638 kHz, and the receiving frequency(s) of public coast stations serving the area in which the vessel is navigated.

(b) If a single sideband radiotelephone installation is provided, the receiver must be capable of reception of H3E and J3E emissions on 2182 kHz and J3E emission on any receiving frequency authorized pursuant to §80.909 of this part.

(c) If a very high frequency radiotelephone installation is provided, the receiver used for maintaining the watch required by §80.303 must be capable of effective reception of G3E emission, be connected to the antenna system specified by §80.923 and be preset to, and capable of selection of, the frequencies 156.300 MHz, 156.800 MHz, and the receiving frequency(s) of public coast stations serving the area in which the vessel is navigated.

(d) One or more loudspeakers must be provided to permit reception on 2182 kHz or 156.800 MHz at the principal operating position and at any other place where listening is performed.

(e) Any receiver provided as a part of the radiotelephone installation must have a sensitivity of at least 50 microvolts in the case of MF equipment, and 1 microvolt in the case of HF or VHF equipment.

(f) The receiver required in paragraphs (a), (b) or (c) of this section must be capable of efficient operation when energized by the main source of energy. When a reserve source of energy is required pursuant to §80.905 or §80.917 of this part, the receiver must also be capable of efficient operation when energized by the reserve source of energy.

(g) The sensitivity of a receiver is the strength in microvolts of a signal, modulated 30 percent at 400 Hertz, required at the receiver input to produce an audio output of 50 milliwatts to the loudspeaker with a signal-to-noise ratio of at least 6 decibels. Evidence of a manufacturer's rating or a demonstration of the sensitivity of a required receiver computed on this basis must be furnished upon request of the Commission.

[51 FR 31213, Sept. 2, 1986, as amended at 56 FR 19302, Apr. 26, 1991]

§80.915 Main power supply.

(a) There must be readily available for use under normal load conditions a main power supply sufficient to simultaneously energize the radiotelephone transmitter at its required antenna power, and the required receiver. Under this load condition the potential of the main power supply at the power input terminals of the radiotelephone installation must not deviate from its rated potential by more than 10 percent on vessels completed on or after March 1, 1957, nor by more than 15 percent on vessels completed before that date.

(b) When the main power supply consists of batteries, they must be installed as high above the bilge as practicable, secured against shifting with motion of the vessel, and accessible with not less than 26 cm (10 in.) head room.

(c) Means must be provided for adequately charging any batteries used as a main power supply. There must be a

device which gives a continuous indication of the rate and polarity of the charging current during charging.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44953, Aug. 25, 1993]

§ 80.917 Reserve power supply.

(a) A vessel of more than 100 gross tons the keel of which was laid after March 1, 1957, must have a reserve power supply located on the same deck as the main wheel house or at least one deck above the vessel's main deck, unless the main power supply is so situated.

(b) The reserve power supply must be independent of the ship's propulsion and of any other electrical system, and be sufficient to simulataneously energize the radiotelephone transmitter at its required output power, and the receiver. The reserve power supply must be available for use at all times.

(c) When the reserve power supply consists of batteries, they must be installed as high above the bilge as practicable, secured against shifting with motion of the vessel, and accessible with not less than 26 cm (10 in.) head room.

(d) The reserve power supply must be located as near the required transmitter and receiver as practicable.

(e) All reserve power supply circuits must be protected from overloads.

(f) Means must be provided for charging any storage batteries used as a reserve power supply for the required radiotelephone installation. There must be a device which will give continuous indication of the rate and polarity of the charging current during charging.

(g) The cooling system of each internal combustion engine used as a part of the reserve power supply must be adequately treated to prevent freezing or overheating consistent with the season and route to be travelled by the particular vessel involved.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44954, Aug. 25, 1993]

§ 80.919 Required capacity.

If either the main or reserve power supply includes batteries, these batteries must have sufficient reserve capacity to permit proper operation of the required transmitter and receiver for at least 3 hours under normal working conditions.

§ 80.921 Proof of capacity.

(a) When directed by a representative of the Commission the vessel must prove by demonstration as prescribed in paragraphs (b), (c), (d) and (e) of this section, that the requirements of § 80.919 are met.

(b) Proof of the ability of a storage battery used as a main or reserve power supply to operate over the 3-hour period established by a discharge test over the prescribed period of time, when supplying power at the voltage required for an electrical loss as prescribed by paragraph (d) of this section.

(c) When the required power supply consists of an engine-driven generator, proof of the adequacy of the engine fuel supply to operate the unit over the 3-hour period of time may be established by using as a basis the fuel consumption during a 1 hour period when supplying power, at the voltage required for operating an electrical load as prescribed by paragraph (d) of this section.

(d) In determining the required electrical load the following formula must be used:

(1) One-half of the current of the required transmitter at its rated output power; plus

(2) Current of the required receiver; plus

(3) Current of electric light, if required by § 80.925; plus

(4) The sum of the current of all other loads the reserve power supply may provide in time of emergency.

(e) At the conclusion of the test specified in paragraphs (b) and (c) of this section, no part of the main or reserve power supply must have an excessive temperature rise, nor must the specific gravity or voltage of any storage battery be below the 90 percent discharge point.

§ 80.923 Antenna system.

An antenna must be provided in accordance with the applicable requirements of § 80.81 of this part which is as efficient as practicable for the transmission and reception of radio waves. The construction and installation of

this antenna must insure proper emergency operation.

[51 FR 31213, Sept. 2, 1986, as amended at 56 FR 19302, Apr. 26, 1991]

§80.925 Electric light.

(a) If the vessel is navigated at night an electric light or dial lights which clearly illuminate the operating controls must be installed to provide illumination of the operating controls at the principal operating position.

(b) The electric light must be energized from the main power supply and, if a reserve power supply for the radiotelephone installation is required, from the reserve power supply.

§80.927 Antenna radio frequency indicator.

The transmitter must be equipped with a device which provides visual indication whenever the transmitter is supplying power to the antenna.

§80.929 Nameplate.

A durable nameplate must be mounted on the required radiotelephone equipment. When the transmitter and receiver comprise a single unit, one nameplate is sufficient. The nameplate must show the name of the manufacturer and the type or model number.

§80.931 Test of radiotelephone installation.

Unless normal use of the radiotelephone installation demonstrates that the equipment is in proper operating condition, a test communication on a required frequency in the 1605 to 27500 kHz band or the 156 to 162 MHz band must be made by a qualified operator each day the vessel is navigated. If the equipment is not in proper operating condition, the master must be promptly notified.

[51 FR 31213, Sept. 2, 1986, as amended at 56 FR 19302, Apr. 26, 1991]

§80.933 General small passenger vessel exemptions.

(a) Subject U.S. vessels less than 50 gross tons which are navigated not more than 300 meters (1,000 feet) from the nearest land at mean low tide are exempt from the provisions of title III, part III of the Communications Act.

(b) All U.S. passenger vessels of less than 100 gross tons, not subject to the radio provisions of the Safety Convention, are exempt from the radiotelegraph provisions of Part II of Title III of the Communications Act, provided that the vessels are equipped with a radiotelephone installation fully complying with subpart S of this part.

(c) Prior to February 1, 1999, U.S. passenger vessels of less than 100 gross tons are exempt from the radiotelepraph requirements of Part II of Title III of the Communications Act and the MF radiotelephone requirements of this subpart as well as Regulations 7 to 11 of Chapter IV of the Safety Convention if the following criteria are fully met:

(1) The ship is equipped with a VHF radiotelephone installation meeting the requirements of this subpart;

(2) While navigating more than three nautical miles from the nearest land, the ship is equipped with:

(i) A Category 1, 406 MHz EPIRB meeting the requirements of §80.1061;

(ii) A NAVTEX receiver meeting the requirements of §80.1101(c)(1); and

(iii) Three two-way VHF radiotelephone apparatus and two radar transponders meeting the requirements of §80.1095.

(3) The ship remains within communications range of U.S. Coast Guard or public coast stations operating in the band 156–162 MHz;

(4) The routes of the voyage are never more than 20 nautical miles from the nearest land or, alternatively, not more than 200 nautical miles between two consecutive ports, and are limited to the following domestic and international voyages:

(i) In waters contiguous to Hawaii, the Bahama Islands and the islands in the Caribbean Sea, including the Greater Antilles, Lesser Antilles, and the coastal waters of Venezuela between the Mouth of the Orinoco River and the Gulf of Venezuela;

(ii) In waters contiguous to the coast of Southern California from Point Conception south to Cape San Lucas, Mexico; the islands of San Miguel, Santa Rosa, Santa Cruz, Anacopa, San Nicolas, Santa Barbara, Santa Catalina,

and San Clemente are considered to be within these waters; and,

(iii) In waters of the Pacific Northwest between Tacoma, Washington and the waters of British Columbia, Canada, as far north as Queen Charlotte Strait, never in the open sea.

(d) Prior to February 1, 1999, U.S. passenger vessels of less than 100 gross tons are exempt from the radiotelegraph requirements of Part II of Title III of the Communications Act, as well as Regulations 7 to 11 of Chapter IV of the Safety Convention, if the following criteria are fully met:

(1) The ship is equipped in accordance with paragraphs (c)(1) and (c)(2) of this section;

(2) The ship is equipped with a MF radiotelephone installation meeting the requirements of this subpart;

(3) The routes of the voyage are never more than 20 nautical miles from the nearest land or, alternatively, not more than 100 nautical miles between two consecutive ports, and are limited to international voyages between Florida and the Bahama Islands.

(e) These exemptions may be terminated at any time without hearing, if in the Commission's discretion, the need for such action arises.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44954, Aug. 25, 1993; 60 FR 58245, Nov. 27, 1995]

§ 80.935 Station clock.

Each station subject to this subpart must have a working clock or timepiece readily available to the operator.

Subpart T—Radiotelephone Installation Required for Vessels on the Great Lakes

§ 80.951 Applicability.

The Agreement Between the United States of America and Canada for Promotion of Safety on the Great Lakes by Means of Radio, 1973, applies to vessels of all countries when navigated on the Great Lakes. The Great Lakes Radio Agreement defines the Great Lakes as ''all waters of Lakes Ontario, Erie, Huron (including Georgian Bay), Michigan, Superior, their connecting and tributary waters and the River St. Lawrence as far east as the lower exit of the St. Lambert Lock at Montreal in the Province of Quebec, Canada,'' but does not include such of the connecting and tributary waters as may be specified in the Technical Regulations. The Technical Regulations do not include any connecting and tributary waters except the St. Mary's River, the St. Clair River, Lake St. Clair, the Detroit River and the Welland Canal. A vessel to which the Great Lakes Radio Agreement applies and which falls into the specific categories by paragraph (a), (b) or (c) of this section and not excepted by paragraph (d) or (e) of this section must comply with this subpart while navigated on the Great Lakes.

(a) Every vessel 20 meters (65 feet) or over in length (measured from end to end over the deck, exclusive of sheer).

(b) Every vessel engaged in towing another vessel or floating object, except:

(1) Where the maximum length of the towing vessel, measured from end to end over the deck exclusive of sheer, is less than 8 meters (26 feet) and the length or breadth of the tow, exclusive of the towing line, is less than 20 meters (65 feet);

(2) Where the vessel towed complies with this subpart;

(3) Where the towing vessel and tow are located within a booming ground (an area in which logs are confined); or

(4) Where the tow has been undertaken in an emergency and neither the towing vessel nor the tow can comply with this part.

(c) Any vessel carrying more than six passengers for hire.

(d) The requirements of the Great Lakes Radio Agreement do not apply to:

(1) Ships of war and troop ships;

(2) Vessels owned and operated by any national government and not engaged in trade.

(e) The Commission may if it considers that the conditions of the voyage or voyages affecting safety (including but not necessarily limited to the regularity, frequency and nature of the voyages, or other circumstances) are such as to render full application of the Great Lakes Agreement unreasonable or unnecessary, exempt partially, conditionally or completely, any individual vessel for one or more voyages or

for any period of time not exceeding one year.

§80.953 Inspection and certification.

(a) Each U.S. flag vessel subject to the Great Lakes Agreement must have an inspection of the required radiotelephone installation at least once every 13 months. This inspection must be made while the vessel is in active service or within not more than one month before the date on which it is placed in service.

(b) An inspection and certification of a ship subject to the Great Lakes Agreement must be made by a technician holding one of the following: a General Radiotelephone Operator License, a GMDSS Radio Maintainer's License, a Second Class Radiotelegraph Operator's Certificate, or a First Class Radiotelegraph Operator's Certificate. Additionally, the technician must not be the vessel's owner, operator, master, or an employee of any of them. The results of the inspection must be recorded in the ship's radiotelephone log and include:

(1) The date the inspection was conducted;

(2) The date by which the next inspection needs to be completed;

(3) The inspector's printed name, address, class of FCC license (including the serial number);

(4) The results of the inspection, including any repairs made; and

(5) The inspector's signed and dated certification that the vessel meets the requirements of the Great Lakes Agreement and the Bridge-to-Bridge Act contained in subparts T and U of this part and has successfully passed the inspection.

(c) The vessel owner, operator, or ship's master must certify that the inspection required by paragraph (b) was satisfactory.

(d) The ship's log must be retained on-board the vessel for at least two years from the date of the inspection.

[61 FR 25807, May 23, 1996]

§80.955 Radiotelephone installation.

(a) Each U.S. flag vessel of less than 38 meters (124 feet) in length while subject to the Great Lakes Agreement must have a radiotelephone meeting the provisions of this subpart in addition to the other rules in this part governing ship stations using telephony.

(b) Each U.S. flag vessel of 38 meters (124 feet) or more in length while subject to the Great Lakes Agreement must have a minimum of two VHF radiotelephone installations in operating condition meeting the provisions of this subpart. The second VHF installation must be electrically separate from the first VHF installation. However, both may be connected to the main power supply provided one installation can be operated from a separate power supply located as high as practicable on the vessel.

(c) This paragraph does not require or prohibit the use of other frequencies for use by the same ''radiotelephone installation'' for communication authorized by this part.

§80.956 Required frequencies and uses.

(a) Each VHF radiotelephone installation must be capable of transmitting and receiving G3E emission as follows:

(1) Channel 16—156.800 MHz-Distress, Safety and Calling; and

(2) Channel 6—156.300 MHz—Primary intership.

(b) The radiotelephone station must have additional frequencies as follows:

(1) Those ship movement frequencies appropriate to the vessel's area of operation: Channel 11—156.550 MHz, Channel 12—156.600 MHz, or Channel 14—156.700 MHz.

(2) The navigational bridge-to-bridge frequency, 156.650 MHz (channel 13).

(3) Such other frequencies as required for the vessel's service.

(4) One channel for receiving marine navigational warnings for the area of operation.

(c) Every radiotelephone station must include one or more transmitters, one or more receivers, one or more sources of energy and associated antennas and control equipment. The radiotelephone station, exclusive of the antennas and source of energy, must be located as high as practicable on the vessel, preferably on the bridge, and protected from water, temperature, and electrical and mechanical noise.

[51 FR 31213, Sept. 2, 1986, as amended at 53 FR 17052, May 13, 1988]

§ 80.957 Principal operating position.

(a) The principal operating position of the radiotelephone installation must be on the bridge, convenient to the conning position.

(b) When the radiotelephone station is not located on the bridge, operational control of the equipment must be provided at the location of the radiotelephone station and at the bridge operating position. Complete control of the equipment at the bridge operating position must be provided.

§ 80.959 Radiotelephone transmitter.

(a) The transmitter must be capable of transmission of G3E emission on the required frequencies.

(b) The transmitter must deliver a carrier power of between 10 watts and 25 watts into 50 ohms nominal resistance when operated with its rated supply voltage. The transmitter must be capable of readily reducing the carrier power to one watt or less.

(c) To demonstrate the capability of the transmitter, measurements of primary supply voltage and transmitter output power must be made with the equipment operating on the vessel's main power supply, as follows:

(1) The primary supply voltage measured at the power input terminals to the transmitter terminated in a matching artificial load, must be measured at the end of 10 minutes of continuous operation of the transmitter at its rated power output.

(2) The primary supply voltage, measured in accordance with the procedures of this paragraph, must be not less than 11.5 volts.

(3) The transmitter at full output power measured in accordance with the procedure of this paragraph must not be less than 10 watts.

§ 80.961 Radiotelephone receiver.

(a) The receiver must be capable of reception of G3E emission on the required frequencies.

(b) The receiver must have a sensitivity of at least 2 microvolts across 50 ohms for a 20 decibel signal-to-noise ratio.

§ 80.963 Main power supply.

(a) A main power supply must be available at all times while the vessel is subject to the requirements of the Great Lakes Radio Agreement.

(b) Means must be provided for charging any batteries used as a source of energy. A device which during charging of the batteries gives a continuous indication of charging current must be provided.

§ 80.965 Reserve power supply.

(a) Each passenger vessel of more than 100 gross tons and each cargo vessel of more than 300 gross tons must be provided with a reserve power supply independent of the vessel's normal electrical system and capable of energizing the radiotelephone installation and illuminating the operating controls at the principal operating position for at least 2 continuous hours under normal operating conditions. When meeting this 2 hour requirement, such reserve power supply must be located on the bridge level or at least one deck above the vessel's main deck.

(b) Instead of the independent power supply specified in paragraph (a) of this section, the vessel may be provided with an auxiliary radiotelephone installation having a power source independent of the vessel's normal electrical system. Any such installation must comply with §§ 80.955, 80.956, 80.957, 80.959, 80.961, 80.969 and 80.971, as well as the general technical standards contained in this part. Additionally, the power supply for any such auxiliary radiotelephone must be a ''reserve power supply'' for the purposes of paragraphs (c), (d) and (e) of this section.

(c) Means must be provided for adequately charging any batteries used as a reserve power supply for the required radiotelephone installation. A device must be provided which, during charging of the batteries, gives a continuous indication of charging.

(d) The reserve power supply must be available within one minute.

(e) The station licensee, when directed by the Commission, must prove by demonstration as prescribed in paragraphs (e)(1), (2), (3) and (4) of this section that the reserve power supply is capable of meeting the requirements

of paragraph (a) of this section as follows:

(1) When the reserve power supply includes a battery, proof of the ability of the battery to operate continuously for the required time must be established by a discharge test over the required time, when supplying power at the voltage required for normal operation to an electric load as prescribed by paragraph (e)(3) of this section.

(2) When the reserve power supply includes an engine driven generator, proof of the adequacy of the engine fuel supply to operate the unit continuously for the required time may be established by using as a basis the fuel consumption during a continuous period of one hour when supplying power, at the voltage required for normal operation, to an electrical load as prescribed by paragraph (e)(3) of this section.

(3) For the purposes of determining the electrical load to be supplied, the following formula must be used:

(i) One-half of the current of the radiotelephone while transmitting at its rated output, plus one-half the current while not transmitting; plus

(ii) Current of the required receiver; plus

(iii) Current of the source of illumination provided for the operating controls prescribed by § 80.969; plus

(iv) The sum of the currents of all other loads to which the reserve power supply may provide power in time of emergency or distress.

(4) At the conclusion of the test specified in paragraphs (e)(1) and (2) of this section, no part of the reserve power supply must have excessive temperature rise, nor must the specific gravity or voltage of any battery be below the 90 percent discharge point.

§ 80.967 Antenna system.

The antenna must be omnidirectional, vertically polarized and located as high as practicable on the masts or superstructure of the vessel.

§ 80.969 Illumination of operating controls.

(a) The radiotelephone must have dial lights which illuminate the operating controls at the principal operating position.

(b) Instead of dial lights, a light from an electric lamp may be provided to illuminate the operating controls of the radiotelephone at the principal operating position. If a reserve power supply is required, arrangements must permit the use of that power supply for illumination within one minute.

§ 80.971 Test of radiotelephone installation.

At least once during each calendar day a vessel subject to the Great Lakes Radio Agreement must test communications on 156.800 MHz to demonstrate that the radiotelephone installation is in proper operating condition unless the normal daily use of the equipment demonstrates that this installation is in proper operating condition. If equipment is not in operating condition, the master must have it restored to effective operation as soon as possible.

Subpart U—Radiotelephone Installations Required by the Bridge-To-Bridge Act

§ 80.1001 Applicability.

The Bridge-to-Bridge Act and the regulations of this part apply to the following vessels in the navigable waters of the United States:

(a) Every power-driven vessel of 20 meters or over in length while navigating;

(b) Every vessel of 100 gross tons and upward carrying one or more passengers for hire while navigating;

(c) Every towing vessel of 7.8 meters (26 feet) or over in length, measured from end to end over the deck excluding sheer, while navigating; and

(d) Every dredge and floating plant engaged, in or near a channel or fairway, in operations likely to restrict or affect navigation of other vessels. An unmanned or intermittently manned floating plant under the control of a dredge shall not be required to have a separate radiotelephone capability.

[51 FR 31213, Sept. 2, 1986, as amended at 57 FR 61012, Dec. 23, 1992; 58 FR 44954, Aug. 25, 1993]

§ 80.1003 Station required.

Vessels subject to the Bridge-to-Bridge Act must have a radiotelephone installation to enable the vessel to participate in navigational communications. This radiotelephone installation must be continuously associated with the ship even though a portable installation is used. Foreign vessels coming into U.S. waters where a bridge-to-bridge station is required may fulfill this requirement by use of portable equipment brought a board by the pilot. Non portable equipment, when used, must be arranged to facilitate repair. The equipment must be protected against vibration, moisture, temperature and excessive currents and voltages.

§ 80.1005 Inspection of station.

The bridge-to-bridge radiotelephone station will be inspected on vessels subject to regular inspections pursuant to the requirements of Parts II and III of Title III of the Communications Act, the Safety Convention or the Great Lakes Agreement at the time of the regular inspection. If after such inspection, the Commission determines that the Bridge-to-Bridge Act, the rules of the Commission and the station license are met, an endorsement will be made on the appropriate document. The validity of the endorsement will run concurrently with the period of the regular inspection. Each vessel must carry a certificate with a valid endorsement while subject to the Bridge-to-Bridge Act. All other bridge-to-bridge stations will be inspected from time to time. An inspection of the bridge-to-bridge station on a Great Lakes Agreement vessel must normally be made at the same time as the Great Lakes Agreement inspection is conducted by a technician holding one of the following: a General Radiotelephone Operator License, a GMDSS Radio Maintainer's License, a Second Class Radiotelegraph Operator's Certificate, or a First Class Radiotelegraph Operator's Certificate. Additionally, the technician must not be the vessel's owner, operator, master, or an employee of any of them. Ships subject to the Bridge-to-Bridge Act may, in lieu of an endorsed certificate, certify compliance in the station log required by section 80.409(f).

[51 FR 31213, Sept. 2, 1986, as amended at 61 FR 25807, May 23, 1996]

§ 80.1007 Bridge-to-bridge radiotelephone installation.

Use of the bridge-to-bridge transmitter must be restricted to the master or person in charge of the vessel, or the person designated by the master or person in charge to pilot or direct the movement of the vessel. Communications must be of a navigational nature exclusively.

§ 80.1009 Principal operator and operating position.

The principal operating position of the bridge-to-bridge station must be the vessel's navigational bridge or, in the case of dredges, its main control station. If the radiotelephone installation can be operated from any location other than the principal operating position, the principal operating position must be able to take full control of the installation.

§ 80.1011 Transmitter.

(a) The bridge-to-bridge transmitter must be capable of transmission of G3E emission on the navigational frequency 156.650 MHz (Channel 13) and the Coast Guard liaison frequency 157.100 MHz (Channel 22A). Additionally, the bridge-to-bridge transmitter must be capable of transmission of G3E emission on the navigational frequency of 156.375 MHz (Channel 67) while transiting any of the following waters:

(1) The lower Mississippi River from the territorial sea boundary, and within either the Southwest Pass safety fairway or the South Pass safety fairway specified in § 166.200 of the U.S. Coast Guard's Rules, 33 CFR 166.200, to mile 242.4 AHP (Above Head of Passes) near Baton Rouge;

(2) The Mississippi River-Gulf Outlet from the territorial sea boundary, and within the Mississippi River-Gulf outlet Safety Fairway specified in § 166.200 of the U.S. Coast Guard's Rules, 33 CFR 166.200, to that channel's junction with the Inner Harbor Navigation Canal; and

(3) The full length of the Inner Harbor Navigation Canal from its junction

with the Mississippi River to that canal's entry to Lake Pontchartrain at the New Seabrook vehicular bridge.

(b) [Reserved]

[57 FR 61012, Dec. 23, 1992]

§80.1013 Receiver.

The bridge-to-bridge receiver must be capable of reception of G3E emission on the navigational frequency 156.650 MHz (Channel 13) and the Coast Guard liaison frequency 157.100 MHz (Channel 22A). In addition, the bridge-to-bridge receiver must be capable of reception of G3E emission on the navigational frequency of 156.375 MHz (Channel 67) while transiting in the waters of the lower Mississippi River as described in §§80.1011(a)(1), (a)(2) and (a)(3) of this part.

[57 FR 61012, Dec. 23, 1992]

§80.1015 Power supply.

(a) There must be readily available for use under normal load conditions, a power supply sufficient to simultaneously energize the bridge-to-bridge transmitter at its required antenna power, and the bridge-to-bridge receiver. Under this load condition the voltage of the power supply at the power input terminals of the bridge-to-bridge radiotelephone installation must not deviate from its rated voltage by more than 10 percent on vessels completed on or after March 1, 1957, nor by more than 15 percent on vessels completed before that date.

(b) When the power supply for a nonportable bridge-to-bridge radiotelephone installation consists of or includes batteries, they must be installed as high above the bilge as practicable, secured against shifting with motion of the vessel, and accessible with not less than 26 cm (10 in.) head room.

(c) Means must be provided for adequately charging any rechargeable batteries used in the vessel's bridge-to-bridge radiotelephone installation. There must be provided a device which will give a continuous indication of the charging current during charging.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44954, Aug. 25, 1993]

§80.1017 Antenna system.

(a) An antenna must be provided for nonportable bridge-to-bridge radiotelephone installations which is nondirectional and vertically polarized. The construction and installation of this antenna must insure proper operation in time of an emergency.

(b) In cases where portable bridge-to-bridge equipment is permanently associated with a vessel, the equipment must be provided with a connector for an external antenna of a type capable of meeting requirements of paragraph (a) of this section and §80.71. The vessel must be equipped with an external antenna meeting requirements of paragraph (a) of this section and §80.71, capable of use with the portable equipment during a normal listening watch.

§80.1019 Antenna radio frequency indicator.

Each nonportable bridge-to-bridge transmitter must be equipped, at each point of control, with a carrier operated device which will provide continuous visual indication when the transmitter is supplying power to the antenna transmission line or, in lieu thereof, a pilot lamp or meter which will provide continuous visual indication when the transmitter control circuits have been placed in a condition to activate the transmitter.

[52 FR 35246, Sept. 18, 1987]

§80.1021 Nameplate.

A durable nameplate must be mounted on the required radiotelephone or be an integral part of it. When the transmitter and receiver comprise a single unit, one nameplate is sufficient. The nameplate must show at least the name of the manufacturer and the type or model number.

§80.1023 Test of radiotelephone installation.

Unless normal use of the required radiotelephone installation demonstrates that the equipment is in proper operating condition, a test communication for this purpose must be made by a qualified operator each day the vessel is navigated. If the equipment is not in proper operating condition, the master must be promptly notified. The master

must have it restored to effective operating condition as soon as possible.

Subpart V—Emergency Position Indicating Radiobeacons (EPIRB's)

§ 80.1051 Scope.

This subpart describes the technical and performance requirements for Classes A, B, C, and S, and Categories 1, 2, and 3 EPIRB stations.

[53 FR 37308, Sept. 26, 1988]

§ 80.1053 Special requirements for Class A EPIRB stations.

(a) A Class A EPIRB station must meet the following:

(1) Float free of a sinking ship;

(2) Activate automatically when it floats free of a sinking ship;

(3) Have an antenna that deploys automatically when the EPIRB activates;

(4) Use A3X emission on a mandatory basis and A3E and NON emissions on an optional basis on the frequencies 121.500 MHz and 243.000 MHz;

(5) Transmission of A3E or NON emission must not exceed 90 seconds and must be followed by a transmission of at least three minutes of A3X emission; each transmission of a synthesized and/or pre-recorded voice message must be preceded by the words ''this is a recording'';

(6) The effective radiated power must not be less than 75 milliwatts after 48 hours of continuous operation and without replacement or recharge of batteries.

(7) The mandatory A3X emission must be amplitude modulated with an audio signal swept downward between 1600 and 300 Hz. The sweeping range of the audio signal must be 700 Hz or greater. Its sweep repetition rate must be between 2 and 4 times per second. The modulation factor must be at least 0.85 and the modulation duty cycle must be at least 33%, but not more that 55%.

(8) EPIRBs manufactured on or after October 1, 1988; EPIRBs carried as part of a ship station to satisfy USCG equipment carriage requirements that are newly installed on or after April 1, 1989; EPIRBs carried as part of a ship station to satisfy USCG equipment carriage requirements on or after August 1, 1991; and EPIRBs that are newly installed as part of a voluntarily equipped ship station after August 1, 1991, must have a clearly defined carrier frequency distinct from the modulation sidebands for the mandatory emission, A3X, and if used, the A3E or NON emissions. On 121.500 MHz at least thirty per cent of the total power emitted during any transmission cycle with or without modulation must be contained within plus or minus 30 Hz of the carrier frequency. On 243.000 MHz at least thirty per cent of the toal power emitted during any transmission cycle with or without modulation must be contained within plus or minus 60 Hz of the carrier frequency. Additionally, if the type of emission is changed during transmission the carrier frequency nust not shift more than plus or minus 30 Hz on 121.500 MHz and not more than plus or minus 60 Hz on 243.000 MHz. The long term stability of the carrier frequency must comply with the requirements in § 80.209(a) of this part.

(9) Have a visible or audible indicator which clearly shows that the device is operating. The indicator must be activated by the RF output power. The indicator must be protected from damage due to dropping or contact with other objects;

(10) Float in calm water with at least the upper 5 cm (2 in.) of the EPIRB out of the water and the base of the antenna at least 5 cm (2 in.) above the water, with the antenna in a vertical position completely above the water surface;

(11) Be ballasted to right itself from a position of 90 degrees from its upright position in one second or less;

(12) Meet the requirements of paragraphs (a) (1) through (9) of this section after a free fall into water 3 times from a height of 20 meters (66 ft.);

(13) Bear a designation that indicates it is a ''Class A'' EPIRB;

(14) Have a positive means of turning the equipment off. When an on-off switch is employed a guard must be provided to prevent inadvertent operation.

(b) Class A EPIRB's must have a manually activated test switch which

must be held in position for test operation and when released return the EPIRB to its normal state. A switch guard must be provided to prevent inadvertent activation. Class A EPIRB's must also have an associated test circuit and an RF output power indicator which in the test position must:

(1) Permit the operator to determine that the unit is operative;

(2) Switch the transmitter output to an artificial antenna equivalent to that of the EPIRB antenna;

(3) Reduce radiation to a level not to exceed 100 nanowatts at a distance of 30 meters (98 feet) irrespective of direction.

(c) EPIRBs manufactured on or after October 1, 1988, must be tested in accordance with subpart N, part 2 of this chapter. A report of the measurements must be submitted with each application for type acceptance. EPIRBs that meet the output power characteristics of this section must have a permanent label prominently displayed on the outer casting stating, ''Meets FCC Rules for improved satellite detection.'' This label, however, must not be placed on the equipment without authorization to do so by the Commission. Application for such authorization may be made either by submission of a new application for type acceptance accompanied by the required fee and all information and test data required by parts 2 and 80 of this chapter or, for EPIRBs type accepted prior to October 1, 1988, an application for modification accompanied by the required fee requesting such authorization, including appropriate test data and a showing that all units produced under the original type acceptance authorization comply with the requirements of this paragraph without change to the original circuitry. If the intent is simply to add the proper label to an already approved and compliant EPIRB, a letter of notification prior to implementing the labeling requirements will be needed. This letter request should be sent to the attention of the Authorization and Evaluation Division, 7435 Oakland Mills Road, Columbus, Maryland 21046, attention EAB. The modulation, power and frequency stability requirements specified in paragraphs (a)(6), (a)(7) and (a)(8) of this section must be met under the environmental test conditions specified in subpart N, part 2 of this chapter.

(d) Vacuum tubes are not permitted in EPIRB's. The equipment must meet the requirements after extended periods of inaction while carried in vessels and subjected to the environmental conditions prescribed. Operation into any RF load from open to short must not cause continuing degradation in performance.

(e) EPIRBs must be powered by a battery contained within the transmitter case or in a battery holder that is rigidly attached to the transmitter case. The battery connector must be corrosion resistant and positive in action and must not rely for contact upon spring force alone. The useful life of the battery is the length of time that the battery can be stored under marine environmental conditions without the EPIRB transmitter peak effective radiated power falling below 75 milliwatts prior to 48 hours of continuous operation. The month and year of the battery's manufacture must be permanently marked on the battery and the month and year upon which 50 percent of its useful life will have expired must be permanently marked on both the battery and the outside of the transmitter. The batteries must be replaced if 50 percent of their useful life has expired or if the transmitter has been used in an emergency situation. EPIRBs manufactured after April 27, 1992 must display prominently on the outer case one of the following: The battery installation instructions, the title of the manual that contains such information, or the company name and address where the battery installation can be performed.

(f) The EPIRB must be waterproof and must not be accidentally activated by rain, seaspray, hose wash-down spray or storage in high humidity conditions. Standing water on the outer surface must not significantly affect its performance.

(g) Operating instructions understandable by untrained personnel must be permanently displayed on the equipment.

(h) The exterior of the equipment must have no sharp edges or projections. Means must be provided to fasten the EPIRB to a survival craft or person.

(i) The antenna must be deployable to its designed length and operating position in a foolpoof manner. The antenna must be securely attached to the EPIRB and easy to de-ice. The antenna must be vertically polarized and omnidirectional.

[51 FR 31213, Sept. 2, 1986; 52 FR 35246, Sept. 18, 1987, as amended at 53 FR 8905, Mar. 18, 1988; 56 FR 11516, Mar. 19, 1991]

§ 80.1055 Special requirements for Class B EPIRB stations.

(a) A Class B EPIRB must meet the following:

(1) The EPIRB must be turned on automatically, as by water activated battery, or manually by an on-off switch. A positive means of turning the equipment off must be provided. Where an on-off switch is employed, a guard must be provided to prevent inadvertent operation;

(2) The equipment must be designed to be deployed, its controls actuated, or its antenna erected, each by a single action task which can be performed by either hand;

(3) Meet the requirements in §§ 80.1053(a) (4) through (8), (a)(14), and (c) through (i) of this part. EPIRBs with water activated batteries must, additionally, meet the requirements contained in §§ 80.1053 (a)(10) and (a)(11) of this part,

(4) Bear a designation that indicates it is a ''Class B'' EPIRB.

(b) A Class B EPIRB may have a manually activated test switch which meets the requirements in § 80.1053 (b) and (c).

(c) If testing of an EPIRB with Coast Guard coordination is not possible, brief operational tests are authorized provided the tests are conducted within the first five minutes of any hour and are not longer than three audio sweeps or one second whichever is longer.

[51 FR 31213, Sept. 2, 1986; 52 FR 35246, Sept. 18, 1987, as amended at 53 FR 8906, Mar. 18, 1988; 56 FR 11517, Mar. 19, 1991]

§ 80.1057 Special requirements for Class C EPIRB stations.

Class C EPIRB's shall not be manufactured, imported, or sold in the United States after February 1, 1995. Class C EPIRB stations installed on board vessels before February 1, 1995, may be used until February 1, 1999, and not thereafter.

(a) A Class C EPIRB must operate on the frequencies 156.750 and 156.800 MHz, must use G3N modulation, and employ the international Radiotelephone Two Tone Alarm signal. The EPIRB transmission must be cycled. Each cycle must consist of 6 periods (T1 to T6) as shown in the table below. During T1, T2, T3, and T5 the 156.750 MHz and 156.800 MHz carriers must be modulated alternately by a 2200 Hz and a 1300 Hz tone.

The modulating duration of each tone must be 250 milliseconds. The maximum tolerance of the frequency and modulating duration of each tone must be ±5 percent. During T4 and T6 neither of the RF carriers must be emitted. The T4 and T6 time periods must be varied according to the predetermined schedule shown in the table below. After the last cycle the transmissions must be terminated. The EPIRB must be able to recycle its transmissions in accordance to the schedule shown in the table below by placing the activation switch to the ''off' and then ''on'' position.

Period	Duration in seconds	Transmission frequency in MHz
T_1	1.5	156.800
T_2	14.5	156.750
T_3	1.5	156.800
T_4	40.0 (16 cycles)	None.
T_4	80.0 (32 cycles)	
T_4	160.0 (64.2 cycles)	
T_4	320.0 (83.2 cycles)	
T_5	14.5	156.750
T_6	Sames as T_4 duration	None.

(b) The effective radiated power must not be less than 1 watt. The power must be determined according to FCC Bulletin OCE 45. The EPIRB must meet the power requirements over each of the following temperature ranges for the time period shown below. Batteries may be replaced after completion of tests for each temperature range:

(1) 0 to +50 degrees Celsius for 24 hours continuous operation.

(2) −20 to 0 degrees Celsius for 12 hours continuous operation.

(c) The equipment must have a transmitter, an integral antenna and a power supply. The transmitter and power supply must be in separate compartments in a single watertight case.

(d) The equipment must be provided with a visible or audible indicator which clearly shows the device is operating. The indicator must be activated by the RF output power.

(e) The equipment must operate when hand held or when floating in water after storage for extended periods under marine environmental conditions.

(f) The switch used to activate the EPIRB must indicate the state of the equipment (on-off) by the physical position of the switch. A guard must be provided to prevent inadvertent operation.

(g) The equipment case must be waterproof and resealable without special tools or sealing compounds. EPIRB operation must not be degraded by submersion in sea water for a period of 24 hours.

(h) The EPIRB must float in fresh water with the antenna vertical and completely out of the water.

(i) Vacuum tubes are not permitted in EPIRB's. The EPIRB must meet the requirements after extended periods of inaction while carried in vessels and subjected to marine environmental conditions. Operation into any load from open to short must not result in continuous degradation of performance.

(j) The exterior of the equipment must have no sharp edges or projections. Means must be provided to secure the EPIRB to a survival craft or person.

(k) Operating instructions understandable by untrained personnel must be permanently displayed on the equipment. It must indicate that the device is ''to be used solely for distress purposes.''

(l) The equipment must have no exposed areas or terminals that could ignite flammable gases or materials.

(m) The omndirectional antenna must be securely attached to the case and capable of being stowed without being damaged.

(n) The equipment must meet the technical standards after being dropped into water from a height of 6 meters (20 feet).

(o) The EPIRB must meet the technical standards when plunged into sea water at +20 degrees Celsius after storage at a temperature of +50 degrees Celsius.

(p) If testing of an EPIRB with Coast Guard coordination is not possible, brief operational tests are authorized provided the tests are conducted within the first five minutes of any hour for not more than 10 seconds.

(q) The EPIRB must automatically turn off after 24 hours ±5 percent. It must be possible to restart the transmission sequence by placing the on-off switch momentarily in the off position and returning it to the on position.

(r) The EPIRB must be equipped with a visual indication of a low battery condition.

(s) The EPIRB must have a designation that indicates it is a ''Class C'' EPIRB.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 33344, June 17, 1993]

§80.1059 Special requirements for Class S EPIRB stations.

(a) A Class S EPIRB station must be able to float or be permanently secured to a survival craft.

(b) A Class S EPIRB able to float must meet the following:

(1) Be watertight and float in calm water with at least 5 cm (2 in.) of the EPIRB out of the water and the base of the antenna at least 5 cm (2 in.) above the water, with the antenna in a vertical position completely above the water surface;

(2) Be ballasted to right itself from a position 90 degrees from its upright position in one second or less;

(3) Meet the requirements in §80.1053 (a)(4) through (9) after free fall into water 3 times from a height of 20 meters (67 ft.).

(c) A Class S EPIRB intended to be permanently secured to a survival craft is not required to float in water.

(d) Additionally, all Class S EPIRB's must meet the following:

(1) Be capable only of manual activation by an on-off switch protected by a guard to prevent inadvertent operation;

(2) Be designed to be deployed, its controls actuated, or its antenna erected, each by a single action task which can be performed by either hand;

(3) Meet the requirements in §§ 80.1053 (a)(4) through (a)(8) and (b) through (i) of this part;

(4) Class S EPIRBs may provide either continuous or intermittent operation. If the EPIRB is designed for intermittent operation, the duty cycle must be from 50 to 60 per cent and the period two minutes plus or minus 12 seconds. In either event, the EPIRB must meet the power output characteristics described in § 80.1053(a)(8) of this part;

(5) If testing of an EPIRB with Coast Guard coordination is not possible, brief operational tests are authorized provided the tests are conducted within the first five minutes of any hour and are not longer than three audio sweeps or one second whichever is longer;

(6) Have a designation that indicates it is a ''Class S'' EPIRB.

(e) Applications for type acceptance must include a letter from the manufacturer stating that the EPIRB meets the requirements in paragraphs (b) and (d), or (c) and (d) of this section.

[51 FR 31213, Sept. 2, 1986, as amended at 56 FR 11517, Mar. 19, 1991]

§ 80.1061 Special requirements for 406.025 MHz EPIRBs.

(a) Notwithstanding the provisions in paragraph (b) of this section, 406.025 MHz EPIRBs must meet all the technical and performance standards contained in the Radio Technical Commission for Maritime Services document titled ''RTCM Recommended Standards for 406 MHz Satellite Emergency Position-Indicating Radiobeacons (EPIRBs)'' dated July 31, 1987, with editorial updates of December 31, 1987 (RTCM Recommended Standards). This RTCM document is incorporated by reference in accordance with 5 U.S.C. 552(a). The document is available for inspection at Commission headquarters in Washington, DC or may be obtained from the Radio Technical Commission for Maritime Services, Post Office Box 19087, Washington, DC 20036.

(b) The 406.025 MHz EPIRB must contain as an integral part a ''homing'' beacon operating only on 121.500 MHz that meets all the requirements described in the RTCM Recommended Standards document described in paragraph (a) of this section. The 121.500 MHz ''homing'' beacon must have a continuous duty cycle that may be interrupted during the transmission of the 406.025 MHz signal only. Additionally, at least 30 percent of the total power emitted during any transmission cycle must be contained within plus or minus 30 Hz of the carrier frequency.

(c) Prior to submitting a type acceptance application for a 406 MHz radiobeacon, the radiobeacon must be certified by a test facility recognized by one of the COSPAS/SARSAT Partners that the equipment satisfies the design characteristics associated with the measurement methods described in Appendix B of the RTCM Recommended Standards.

Additionally, the radiobeacon must be certified by a test facility recognized by the U.S. Coast Guard to certify that the equipment complies with the U.S. Coast Guard environmental and operational requirements associated with the test procedures described in Appendix A of the RTCM Recommended Standards. Information regarding the recognized test facilities may be obtained from Commandant (G–MVI), U.S. Coast Guard, 2100 2nd Street SW., Washington, DC 20593–0001.

(1) After a 406.025 MHz EPIRB has been certified by the recognized test facilities the following information must be submitted in duplicate to the Commandant (G–MVI), U.S. Coast Guard, 2100 2nd Street SW., Washington, DC 20593–0001:

(i) The name of the manufacturer or grantee and model number of the EPIRB;

(ii) Copies of the certificate and test data obtained from the test facility recognized by a COSPAS/SARSAT Partner showing that the radiobeacon complies with the COSPAS/SARSAT design characteristics associated with the measurement methods described in Appendix B of the RTCM Recommended Standards;

(iii) Copies of the test report and test data obtained from the test facility recognized by the U.S. Coast Guard showing that the radiobeacon complies

with the U.S. Coast Guard environmental and operational characteristics associated with the measurement methods described in Appendix A of the RTCM Recommended Standards; and

(iv) Instruction manuals associated with the radiobeacon, description of the test characteristics of the radiobeacon including assembly drawings, electrical schematics, description of parts list, specifications of materials and the manufacturer's quality assurance program.

(2) After reviewing the information described in paragraph (c)(1) of this section the U.S. Coast Guard will issue a letter stating whether the radiobeacon satisfies all RTCM Recommended Standards.

(d) A type acceptance application for a 406.025 MHz EPIRB submitted to the Commission must also contain a copy of the U.S. Coast Guard letter that states the radiobeacon satisfies all RTCM Recommended Standards, a copy of the technical test data, and the instruction manual(s).

(e) An identification code, issued by the National Oceanic and Atmospheric Administration (NOAA), the United States Program Manager for the 406.025 MHz COSPAS/SARSAT satellite system, must be programmed in each EPIRB unit to establish a unique identification for each EPIRB station. With each marketable EPIRB unit the manufacturer or grantee must include a postage pre-paid registration card printed with the EPIRB identification code addressed to: NOAA/NESDIS, SARSAT Operations Division, E/SP3, Federal Building 4, Washington, DC 20233. The registration card must request the owner's name, address, telephone number, type of ship, alternate emergency contact and include the following statement: ''WARNING—failure to register this EPIRB with NOAA before installation could result in a monetary forfeiture being issued to the owner.''

(f) To enhance protection of life and property it is mandatory that each 406.025 MHz EPIRB be registered with NOAA before installation and that information be kept up-to-date. Therefore, in addition to the identification plate or label requirements contained in §§2.925, 2.926 and 2.1003 of this chapter, each 406.025 MHz EPIRB must be provided on the outside with a clearly discernable permanent plate or label containing the following statement: ''The owner of this 406.025 MHz EPIRB must register the NOAA identification code contained on this label with the National Oceanic and Atmospheric Administration (NOAA) whose address is: NOAA, NOAA/SARSAT Operations Division, E/SP3, Federal Building 4, Washington, D.C. 20233.'' Vessel owners shall advise NOAA in writing upon change of vessel or EPIRB ownership, transfer of EPIRB to another vessel, or any other change in registration information. NOAA will provide registrants with proof of registration and change of registration postcards.

(g) For 406.025 MHz EPIRBs whose identification code can be changed after manufacture, the identification code shown on the plate or label must be easily replaceable using commonly available tools.

[53 FR 37308, Sept. 26, 1988, as amended at 56 FR 11517, Mar. 19, 1991; 59 FR 35269, July 11, 1994]

Subpart W—Global Maritime Distress and Safety System (GMDSS)

SOURCE: 57 FR 9065, Mar. 16, 1992, unless otherwise noted.

This subpart contains the rules applicable to the Global Maritime Distress and Safety System (GMDSS). Every ship of the United States subject to part II of title III of the Communications Act or the Safety Convention must comply with the provisions of this subpart. The rules in this subpart are to be read in conjunction with the applicable requirements contained elsewhere in this part; however, in case of conflict, the provisions of this subpart shall govern with respect to the GMDSS. For the purposes of this subpart, distress and safety communications include distress, urgency, and safety calls and messages.

NOTE: No provision of this subpart is intended to eliminate, or in anyway modify, other requirements contained in this part with respect to part II of title III of the Communications Act.

GENERAL PROVISIONS

§ 80.1065 Applicability.

(a) The regulations contained in § 80.1119 apply to public coast stations and coast earth stations as of February 1, 1992.

(b) The regulations contained within this subpart apply to all passenger ships regardless of size and cargo ships of 300 tons gross tonnage and upwards as follows:

(1) Ships must comply with §§ 80.1085(a)(4) and 80.1085(a)(6) not later than August 1, 1993.

(2) Ships constructed on or after February 1, 1992, must comply with § 80.1095 as of that date. All other ships must comply with § 80.1095 as of February 1, 1995.

(3) Ships constructed on or after February 1, 1995, must comply with all requirements of this subpart.

(4) Ships constructed before February 1, 1995, must comply with all requirements of this subpart as of February 1, 1999.

(5) During the period between February 1, 1992, and February 1, 1999, all ships must comply with:

(i) The requirements of this subpart;

(ii) The requirements of chapter IV of the International Convention for the Safety of Life at Sea, 1974, in force prior to February 1, 1992 (see subparts Q and R of this part); or

(iii) The requirements of either § 80.836 or § 80.933.

(6) The expression ''ships constructed'' means ''ships the keels of which are laid, or construction identificable with a specific ship begins and assembly of that ship has commenced comprising at least 50 tons gross tonnage or 1% of the estimated mass of all structural material, whichever is less.

(c) The requirements of this subpart do not modify the requirements for ships navigated on the Great Lakes or small passenger boats. The requirements contained in the Agreement Between the United States of America and Canada for Promotion of Safety on the Great Lakes by Means of Radio, 1973, continue to apply (see subpart T of this part). The requirements contained in part III of title III of the Communications Act continue to apply (see subpart S of this part).

(d) No provision in this subpart is intended to prevent the use by any ship, survival craft, or person in distress, of any means at their disposal to attract attention, make known their position and obtain help.

[57 FR 9065, Mar. 16, 1992, as amended at 60 FR 58245, Nov. 27, 1995; 60 FR 62927, Dec. 7, 1995]

§ 80.1067 Inspection of station.

(a) Ships must have the required equipment inspected at least once every 12 months. If the ship is in compliance with the requirements of the Safety Convention, a Safety Certificate will be issued; if in compliance with the Communications Act, the license will be endorsed accordingly. The effective date of the ship safety certificate is the date the station is found to be in compliance or not later than one business day later.

(b) Certificates issued in accordance with the Safety Convention must be posted in a prominent and accessible place on the ship.

§ 80.1069 Maritime sea areas.

(a) For the purpose of this subpart, a ship's area of operation is defined as follows:

(1) *Sea area A1.* An area within the radiotelephone coverage of at least one VHF coast station in which continuous DSC alerting is available as defined by the International Maritime Organization.

(2) *Sea area A2.* An area, excluding sea area A1, within the radiotelephone coverage of at least one MF coast station in which continuous DSC alerting is available as defined by the International Maritime Organization.

(3) *Sea area A3.* An area, excluding sea areas A1 and A2, within the coverage of an INMARSAT geostationary satellite in which continuous alerting is available.

(4) *Sea area A4.* An area outside sea areas A1, A2 and A3.

(b) Maritime sea areas are delineated in the International Maritime Organization Publication GMDSS Master Plan of Shore-Based Facilities. The Master Plan can be purchased from the International Maritime Organization, 4

Albert Embankment, London SE1 7SR, United Kingdom.

§80.1071 Exemptions.

(a) In certain circumstances, partial or conditional exemptions may be granted to individual ships from the requirements of §§80.1085, 80.1087, 80.1089, 80.1091, and 80.1093 provided: such ships comply with the functional requirements of §80.1081 and a showing is made that such an exemption will not have a material effect upon the general efficiency of the service for the safety of all ships.

(b) An exemption may be granted under paragraph (a) of this section only:

(1) If the conditions affecting safety are such as to render the full application of §§80.1085, 80.1087, 80.1089, 80.1091, and 80.1093 unreasonable or unnecessary or otherwise not in the public interest;

(2) In exceptional circumstances, for a single voyage outside the sea area or sea areas for which the ship is equipped; or

(3) Prior to February 1, 1999, when the ship will be taken permanently out of service within two years of a requirement date specified in §80.1065.

§80.1073 Radio operator requirements for ship stations.

(a) Ships must carry at least two persons holding GMDSS Radio Operator's Licenses as specified in §13.2 of this chapter for distress and safety radiocommunications purposes. The GMDSS Radio Operator's License qualifies personnel as GMDSS radio operator for the purposes of operating GMDSS radio installation, including basic equipment adjustments as denoted in knowledge requirements specified in §13.21 of this chapter.

(1) One of the qualified GMDSS radio operators must be designated to have primary responsiblility for radiocommunications during distress incidents.

(2) A second qualified GMDSS radio operator must be designated as backup for distress and safety radiocommunications.

(b) A qualified GMDSS radio operator, and a qualified backup, as specified in paragraph (a) of this section must be:

(1) Available to act as the dedicated radio operator in cases of distress as described in §80.1109(a);

(2) Designated to perform as part of normal routine each of the applicable communications described in §80.1109(b);

(3) Responsible for selecting HF DSC guard channels and receiving scheduled maritime safety information broadcasts;

(4) Designated to perform communications described in §80.1109(c);

(5) Responsible for ensuring that the watches required by §80.1123 are properly maintained; and

(6) Responsible for ensuring that the ship's navigation position is entered, either manually or automatically through a navigation receiver, into all installed DSC equipment at least every four hours while the ship is underway.

§80.1074 Radio maintenance personnel for at-sea maintenance.

(a) Ships that elect the at-sea option for maintenance of GMDSS equipment (see §80.1105) must carry at least one person who qualifies as a GMDSS radio maintainer, as specified in paragraph (b) of this section, for the maintenance and repair of equipment specified in this subpart. This person may be, but need not be, the person designated as GMDSS radio operator as specified in §80.1073.

(b) The following licenses qualify personnel as GMDSS radio maintainers to perform at-sea maintenance of equipment specified in this subpart. For the purposes of this subpart, no order is intended by this listing or the alphanumeric designator.

(1) T–1: First Class Radiotelegraph Operator's Certificate;

(2) T–2: Second Class Radiotelegraph Operator's Certificate;

(3) G: General Radiotelephone Operator License.

(c) While at sea, all adjustments of radio installations, servicing, or maintenance of such installations that may affect the proper operation of the GMDSS station must be performed by, or under the immediate supervision and responsibility of, a qualified

GMDSS radio maintainer as specified in paragraph (b) of this section.

(d) The GMDSS radio maintainer must possess the knowledge covering the requirements set forth in IMO Assembly on Training for Radio Personnel (GMDSS), Annex 5 and IMO Assembly on Radio Maintenance Guidelines for the Global Maritime Distress and Safety System related to Sea Areas A3 and A4.

§ 80.1075 Radio records.

A record must be kept, as required by the Radio Regulations and § 80.409 (a), (b) and (e), of all incidents connected with the radiocommunication service which appear to be of importance to safety of life at sea.

§ 80.1077 Frequencies.

The following table describes the frequencies used in the Global Maritime Distress and Safety System:

Alerting:	
406 EPIRBs	406–406.1 MHz (Earth-tospace). 1544–1545 MHz (space-to-Earth).
INMARSAT A or C SES.	1626.5–1645.5 MHz (Earth-to-space).
VHF DSC Ch. 70.	156.525 MHz [1].
MF/HF DSC [2]	2187.5 kHz [3], 4207.5 kHz, 6312 kHz, 8414.5 kHz, 12577 kHz, and 16804.5 kHz.
On-scene communications:	
VHF Ch. 16	156.8 MHz.
MF radiotelephony.	2182 kHz.
NBDP	2174.5 kHz.
Communications involving aircraft:	
On-scene, including search and rescue.	156.8 MHz [4], 121.5 MHz [5], 123.1 MHz, 156.3 MHz, 2182 kHz, 3023 kHz, 4125 kHz, and 5680 kHz [6].
Locating signals:	
406 MHz EPIRB beacons.	121.5 MHz.
9 GHz radar transponders.	9200–9500 MHz.
Maritime safety information (MSI):	
International NAVTEX.	518 kHz [7].
Warnings	490 kHz [8], 4209.5 kHz [9].
NBDP	4210 kHz, 6314 kHz, 8416.5 kHz, 12579 kHz, 16806.5 kHz, 19680.5 kHz, 22376 kHz, 26100.5 kHz.
Satellite	1530–1545 MHz (space-to-Earth) [10].
General distress and safety communications and calling:	
Satellite	1530–1544 MHz (space-to-Earth) and 1626.5–1645.5 (Earth-to-space) [10].
Radiotelephony.	2182 kHz, 4125 kHz, 6215 kHz, 8291 kHz, 12290 kHz, 16420 kHz, and 156.8 MHz.
NBDP	2174.5 kHz, 4177.5 kHz, 6268 kHz, 8376.5 kHz, 12520 kHz, and 16695 kHz.
DSC	2187.5 kHz, 4207.5 kHz, 6312 kHz, 8414.5 kHz, 12577 kHz, 16804.5 kHz, and 156.525 MHz.
Survival craft:	
VHF radiotelephony.	156.8 MHz and one other 156–174 MHz frequency.
9 GHz radar transponders.	9200–9500 MHz.

[1] Frequency 156.525 MHz can be used for ship-to-ship alerting and, if within sea area A1, for ship-to-shore alerting.

[2] For ships equipped with MF/HF equipment, there is a watch requirement on 2187.5 kHz, 8414.5 kHz, and one other frequency.

[3] Frequency 2187.5 kHz can be used for ship-to-ship alerting and, if within sea areas A2, for ship-to-shore alerting.

[4] Frequency 156.8 MHz may also be used by aircraft for safety purposes only.

[5] Frequency 121.5 MHz may be used by ships for aeronautical distress and urgency purposes.

[6] The priority of use for ship-aircraft communications in 4125 kHz, then 3023 kHz. Additionally, frequencies 123.1 MHz, 3023 kHz, and 5680 kHz can be used by land stations engaged in coordinated search and rescue operations.

[7] The international NAVTEX frequency 518 kHz is the primary frequency for receiving maritime safety information. The other frequencies are used only to augment the coverage or information provided on 518 kHz.

[8] Frequency 490 kHz cannot be used for MSI employing NBDP transmissions until February 2, 1999.

[9] Frequency 4209.5 kHz is not used in the United States (see 47 CFR 2.106 footnote 520A).

[10] In addition to EPIRBs, 1544–1545 MHz can be used for narrowband distress and safety operations and 1645.5–1646.5 MHz can be used for relay of distress alerts between satellites. Feeder links for satellite communications are assigned from the fixed satellite service, see 47 CFR 2.106.

EQUIPMENT REQUIREMENTS FOR SHIP STATIONS

§ 80.1081 Functional requirements.

Ships, while at sea, must be capable:

(a) Except as provided in §§ 80.1087(a)(1) and 80.1091(a)(4)(iii), of transmitting ship-to-shore distress

alerts by at least two separate and independent means, each using a different radiocommunication service;

(b) Of receiving shore-to-ship distress alerts;

(c) Of transmitting and receiving ship-to-ship distress alerts;

(d) Of transmitting and receiving search and rescue co-ordinating communications;

(e) Of transmitting and receiving on-scene communications;

(f) Of transmitting and receiving signals for locating;

(g) Of transmitting and receiving maritime safety information;

(h) Of transmitting and receiving general radiocommunications to and from shore-based radio sytsems or networks; and

(i) Of transmitting and receiving bridge-to-bridge communications.

§80.1083 Ship radio installations.

(a) Ships must be provided with radio installations capable of complying with the functional requirements prescribed by §80.1081 throughout its intended voyage and, unless exempted under §80.1071, complying with the requirements of §80.1085 and, as appropriate for the sea area of areas through which it will pass during its intended voyage, the requirements of either §§80.1087, 80.1089, 80.1091, or 80.1093.

(b) The radio installation must:

(1) Be so located that no harmful interference of mechanical, electrical or other origin affects its proper use, and so as to ensure electromagnetic compatibility and avoidance of harmful interaction with other equipment and systems;

(2) Be so located as to ensure the greatest possible degree of safety and operational availability;

(3) Be protected against harmful effects of water, extremes of temperature and other adverse environmental conditions;

(4) Be provided with reliable, permanently arranged electrical lighting, independent of the main and emergency sources of electrical power, for the adequate illumination of the radio controls for operating the radio installation; and

(5) Be clearly marked with the call sign, the ship station identity and other codes as applicable for the use of the radio installation.

(c) Control of the VHF radiotelephone channels required for navigational safety must be immediately available on the navigating bridge convenient to the conning position and, where necessary, facilities should be available to permit radiocommunications from the wings of the navigating bridge. Portable VHF equipment may be used to meet the latter provision.

§80.1085 Ship radio equipment—General.

This section contains the general equipment requirements for all ships subject to this subpart.

(a) Ships must be provided with:

(1) A VHF radio installation capable of transmitting and receiving:

(i) DSC on the frequency 156.525 MHz (channel 70), and it must be able to initiate the transmission of distress alerts on channel 70 from the position from which the ship is normally navigated; and

(ii) Radiotelephony on the frequencies 156.300 MHz (channel 6), 156.650 MHz (channel 13), and 156.800 MHz (channel 16);

(2) A dedicated, non-scanning radio installation capable of maintaining a continuous DSC watch on VHF channel 70 which may be separate from, or combined with, that required by paragraph (a)(1)(i) of this section;

(3) A radar transponder capable of operating in the 9 GHz band, which must be stowed so that it is easily utilized (this transponder may be one of those required by §80.1095(b) for a survival craft);

(4) A receiver capable of receiving international NAVTEX service broadcasts;

(5) If the ship is engaged on voyages in any area of INMARSAT coverage in which an international NAVTEX service is not provided, a radio facility for reception of maritime safety information by the INMARSAT enhanced group calling system, *i.e.*, SafetyNet, (this requirement does not apply to ships engaged exclusively on voyages in areas where an HF direct-printing telegraphy maritime safety information service, as identified by the IMO

GMDSS Master Plan Publication, is provided and the ship is fitted with equipment capable of receiving such service); and

(6) A satellite emergency position-indicating radio beacon (satellite EPIRB) which must be:

(i) Capable of transmitting a distress alert through the polar orbiting satellite service operating in the 406 MHz band (406 MHz EPIRB); and

(ii) Installed in an easily accessible position, ready to be manually released and capable of being carried by one person into a survival craft, capable of floating free if the ship sinks and of being automatically activated when afloat, and capable of being activated manually.

(b) Until February 1, 1999, all ships must be equipped with a radio installation consisting of a radiotelephone distress frequency 2182 kHz watch receiver prescribed by § 80.807. This requirement does not apply to ships constructed on or after February 1, 1997.

(c) Until February 1, 1999, all ships, except ships engaged on voyages in sea area A1 only, must be equipped with a device for generating the 2182 kHz radiotelephone alarm signal as prescribed by § 80.807. This requirement does not apply to ships constructed on or after February 1, 1997.

(d) Ships must carry the most recent edition of the IMO publication entitled *GMDSS Master Plan of Shore-Based Facilities.* Notice of new editions will be published in the FEDERAL REGISTER and copies may be obtained from: International Maritime Organization, 4 Albert Embankment, London SE1 7SR, United Kingdom.

[51 FR 31213, Sept. 2, 1986, as amended at 60 FR 50122, Sept. 28, 1995]

§ 80.1087 Ship radio equipment—Sea area A1.

This section contains the additional equipment requirements for ships that remain within sea area A1 at all times.

(a) In addition to meeting the requirements of § 80.1085, ships engaged on voyages exclusively in sea area A1 must be provided with a radio installation capable of initiating the transmission of ship-to-shore distress alerts from the position from which the ship is normally navigated, operating either:

(1) On VHF using DSC; or

(2) Through the polar orbiting satellite service on 406 MHz (this requirement may be fulfilled by the 406 MHz EPIRB, required by § 80.1085(a)(6), either by installing the 406 MHz EPIRB close to, or by allowing remote activation from, the position from which the ship is normally navigated); or

(3) On MF using DSC if the ship is engaged on voyages within coverage of MF coast stations equipped with DSC; or

(4) On HF using DSC; or

(5) Through the INMARSAT geostationary satellite service if within INMARSAT coverage. This requirement may be fulfilled by an INMARSAT ship earth station capable of two way communication.

(b) The VHF radio installation, required by § 80.1085(a)(1), must also be capable of transmitting and receiving general radiocommunications using radiotelephony.

§ 80.1089 Ship radio equipment—Sea areas A1 and A2.

This section contains the additional equipment requirements for ships that remain within sea areas A1 or A2 at all times. Ships fitting in accordance with this section satisfy the sea area A1 requirements denoted in § 80.1087.

(a) In addition to meeting the requirements of § 80.1085, ships engaged on voyages beyond sea area A1, but remaining within sea area A2, must be provided with:

(1) An MF radio installation capable of transmitting and receiving, for distress and safety purposes, on the frequencies:

(i) 2187.5 kHz using DSC; and

(ii) 2182 kHz using radiotelephony;

(2) A radio installation capable of maintaining a continuous DSC watch on the frequency 2187.5 kHz which may be separate from or combined with, that required by paragraph (a)(1)(i) of this section; and

(3) Means of initiating the transmission of ship-to-shore distress alerts by a radio service other than MF operating either:

(i) Through the polar orbiting satellite service on 406 MHz (this requirement may be fulfilled by the 406 MHz EPIRB required by §80.1085(a)(6), either by installing the 406 MHz EPIRB close to, or by allowing remote activation from, the position from which the ship is normally navigated); or

(ii) On HF using DSC; or

(iii) Through the INMARSAT geostationary satellite service if within INMARSAT coverage; this requirement may be fulfilled by an INMARSAT ship earth station.

(b) It must be possible to initiate transmission of distress alerts by the radio installations specified in paragraphs (a)(1) and (a)(3) of this section from the position from which the ship is normally navigated.

(c) Ships subject to this section must be capable of transmitting and receiving general radiocommunications using radiotelephony or direct-printing telegraphy by either:

(1) A radio installation operating on working frequencies in the bands between 1605–4000 kHz or between 4000–27500 kHz (this requirement may be fulfilled by the addition of this capability to the equipment required by paragraph (a)(1) of this section); or

(2) An INMARSAT ship earth station.

§80.1091 Ship radio equipment—Sea areas A1, A2, and A3.

This section contains the additional equipment requirements for ships that remain within sea areas A1, A2, or A3 at all times. Ships fitting in accordance with this section satisfy the requirements denoted in §§80.1087 or 80.1089 for sea-areas A1 and A2. Ships fitting in accordance to this section have the option to comply with either the requirements of paragraph (a) or (b) of this section.

(a) In addition to meeting the requirements of §80.1085, ships subject to this section must be provided with:

(1) An INMARSAT ship earth station capable of:

(i) Transmitting and receiving distress and safety communications using direct-printing telegraphy;

(ii) Initiating and receiving distress priority calls;

(iii) Maintaining watch for shore-to-ship distress alert, including those directed to specifically defined geographical areas;

(iv) Transmitting and receiving general radiocommunications, using either radiotelephony or direct-printing telegraphy; and

(2) An MF radio installation capable of transmitting and receiving, for distress and safety purposes, on the frequencies:

(i) 2187.5 kHz using DSC; and

(ii) 2182 kHz using radiotelephony; and

(3) A radio installation capable of maintaining a continuous DSC watch on the frequency 2187.5 kHz which may be separate from or combined with that required by paragraph (a)(2)(i) of this section; and

(4) Means of initiating the transmission of ship-to-shore distress alerts by a radio service operating either:

(i) Through the polar orbiting satellite service on 406 MHz (this requirement may be fulfilled by the 406 MHz EPIRB required by §80.1085(a)(6), either by installing the 406 MHz EPIRB close to, or by allowing remote activation from, the position from which the ship is normally navigated); or

(ii) On HF using DSC: or

(iii) Through the INMARSAT geostationary satellite service, by an additional ship earth station.

(b) In addition to meeting the requirements of §80.1085, ships subject to this section must be provided with:

(1) An MF/HF radio installation capable of transmitting and receiving on all distress and safety frequencies in the bands between 1605–27500 kHz using DSC, radiotelephony, and narrow-band direct-printing telegraphy; and

(2) Equipment capable of maintaining DSC watch on 2187.5 kHz, 8414.5 kHz and on at least one of the distress and safety DSC frequencies 4207.5 kHz, 6312 kHz, 12577 kHz, or 16804.5 kHz although it must be possible to select any of these DSC distress and safety frequencies at any time (this equipment may be separate from, or combined with, the equipment required by paragraph (b)(1) of this section); and

(3) Means of initiating the transmission of ship-to-shore distress alerts by a radiocommunication service other than HF operating either:

(i) Through the polar orbiting satellite service on 406 MHz (this requirement may be fulfilled by the 406 MHz EPIRB required by § 80.1085(a)(6), either by installing the 406 MHz EPIRB close to, or by allowing remote activation from, the position from which the ship is normally navigated; or

(ii) Through the INMARSAT geostationary satellite service (this requirement may be fulfilled by an INMARSAT ship earth station).

(4) In addition, ships must be capable of transmitting and receiving general radiocommunications using radiotelephony or direct-printing telegraphy by an MF/HF radio installation operating on working frequencies in the bands between 1605–4000 kHz and between 4000–27500 kHz (this requirement may be fulfilled by the addition of this capability to the equipment required by paragraph (b)(1) of this section).

(c) It must be possible to initiate transmission of distress alerts by the radio installations specified in paragraphs (a)(1), (a)(2), (a)(4), (b)(1), and (b)(3) of this section from the position from which the ship is normally navigated.

§ 80.1093 Ship radio equipment—Sea areas A1, A2, A3, and A4.

This section contains the additional equipment requirements for ships that sail in all sea areas, *i.e.*, sea areas A1, A2, A3, and A4. Ships fitting in accordance with this section satisfy the requirements denoted in §§ 80.1087, 80.1089, and 80.1091 for sea areas A1, A2, and A3.

(a) In addition to meeting the requirements of § 80.1085, ships engaged on voyages in all sea areas must be provided with the radio installations and equipment required by § 80.1091(b), except that the equipment required by § 80.1091(b)(3)(ii) cannot be accepted as an alternative to that required by regulation § 80.1091(b)(3)(i), which must always be provided.

(b) Ships engaged on voyages in all sea areas also must comply with the requirements of § 80.1091(c).

§ 80.1095 Survival craft equipment.

(a) At least three two-way VHF radiotelephone apparatus must be provided on every passenger ship and on every cargo ship of 500 tons gross tonnage and upwards. At least two two-way VHF radiotelephone apparatus must be provided on every cargo ship of between 300–500 tons gross tonnage. Portable two-way VHF radiotelephones must be stowed in such locations that they can be rapidly placed in any survival craft other than liferafts required by Regulation III/26.1.4 of the SOLAS Convention. Alternatively, survival craft may be fitted with a fixed two-way VHF radiotelephone installation. Two-way VHF radiotelephone apparatus, portable or fixed, must conform to performance standards as specified in § 80.1101. Two-way VHF radiotelephone apparatus provided on board ships prior to February 1, 1992, and not complying fully with the performance standards specified in § 80.1101, may be used until February 1, 1999, provided it is compatible with approved two-way VHF radiotelephone apparatus.

(b) At least one radar transponder must be carried on each side of every passenger ship and every cargo ship of 500 tons gross tonnage and upwards. At least one radar transponder must be carried on every cargo ship of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage. Such radar transponders must conform to performance standards as specified in § 80.1101. The radar transponders must be stowed in such locations that they can be rapidly placed in any survival craft other than liferafts required on cargo ships in forward and aft areas (see Regulation III/26.1.4 of the SOLAS Convention). Alternatively, one radar transponder must be stowed in each survival craft other than those required by Regulation III/26.1.4 of the SOLAS Convention. One of these radar transponders may be radar transponder required by § 80.1085(a)(3).

(c) Survival craft equipment must be tested at intervals not to exceed twelve months. For batteries used for survival craft equipment, the month and year of its manufacture must be permanently marked on the battery. Also, the month and year upon which 50 percent of its useful life will expire must be permanently marked on both the battery and the outside of the transmitter. Batteries must be replaced if 50 percent of their useful life has expired

or if the transmitter has been used in an emergency situation.

§ 80.1099 Ship sources of energy.

(a) There must be available at all times, while the ship is at sea, a supply of electrical energy sufficient to operate the radio installations and to charge any batteries used as part of a reserve source of energy for the radio installations.

(b) A reserve source of energy to supply radio installations must be provided on every ship for the purpose of conducting distress and safety radiocommunications, in the event of failure of the ship's main and emergency sources of electrical power. The reserve sources of energy must be capable of simultaneously operating the VHF radio installation required by § 80.1085(a)(1) and, as appropriate for the sea area or sea areas for which the ship is equipped, either the MF radio installation required by § 80.1089(a)(1), the MF/HF radio installation required by §§ 80.1091(a)(2)(i) or 80.1093(a), or the INMARSAT ship earth station required by § 80.1091(a)(1) and any of the additional loads mentioned in paragraphs (d), (e) and (h) of this section for a period of at least:

(1) One hour, on ships constructed on or after February 1, 1995;

(2) One hour, on ships constructed before February 1, 1995, if the emergency source of electrical power complies fully with all relevant requirements of SOLAS, Chapter II–1, Regulation 42 or 43 (as amended); or

(3) Six hours, on ships constructed before February 1, 1995, and on cargo ships of less than 500 tons gross tonnage, if the emergency source of electrical power is not provided or does not comply fully with all relevant requirements of SOLAS, Chapter II–1, Regulation 42 or 43 (as amended).

(c) The reserve sources of energy need not supply independent HF and MF radio installations at the same time. The reserve sources of energy must be independent of the propelling power of the ship and the ship's electrical system.

(d) Where, in addition to the VHF radio installation, two or more of the other radio installations, referred to in paragraph (b) of this section, can be connected to the reserve sources of energy, they must be capable of simultaneously supplying, for one hour, as specified in paragraph (b) of this section, the VHF radio installation and;

(1) All other radio installations which can be connected to the reserve sources of energy at the same time; or

(2) Whichever of the other radio installations will consume the most power, if only one of the other radio installations can be connected to the reserve sources of energy at the same time as the VHF radio installation.

(e) The reserve sources of energy may be used to supply the electrical lighting required by § 80.1083(b)(4).

(f) Where a reserve source of energy consists of a rechargeable accumulator battery or batteries:

(1) A means of automatically charging such batteries must be provided which must be capable of recharging them to minimum capacity requirements within 10 hours; and

(2) The capacity of the battery or batteries must be checked, using an appropriate method, at intervals not exceeding 12 months. These checks must be performed when the vessel is not at sea.

(g) The accumulator batteries which provide a reserve source of energy must be installed to ensure: The highest degree of service, a reasonable lifetime, reasonable safety; that the battery temperatures remain within the manufacturer's specifications whether under charge or idle; and that when fully charged, the batteries will provide at least the minimum required hours of operation under all weather conditions.

(h) If an uninterrupted input of information from the ship's navigational or other equipment to a radio installation required by this subpart is needed to ensure its proper performance, means must be provided to ensure the continuous supply of such information in the event of failure of the ship's main or emergency source of electrical power.

(i) An uninterruptible power supply or other means of ensuring a continuous supply of electrical power, within equipment tolerances, shall be provided to all GMDSS equipment that could be affected by normal variations and interruptions of ship's power.

§ 80.1101 Performance standards.

(a) The abbreviations used in this section are as follows:

(1) International Maritime Organization (IMO).

(2) International Telegraph and Telephone Consultative Committee (CCITT).

(3) International Electrotechnical Commission (IEC).

(4) International Organization for Standardization (ISO).

(5) International Radio Consultative Committee (CCIR).

(b) All equipment specified in this subpart must meet the general requirements for shipboard equipment listed in this paragraph, which are incorporated by reference.

(1) IMO Resolution A.694(17), ''General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids,'' adopted 6 November 1991.

(2) CCITT Recommendation E.161, ''Arrangement of Figures, Letters and Symbols on Telephones and Other Devices that Can Be Used for Gaining Access to a Telephone Network,'' 1989.

(3) CCITT Recommendation Q.11, ''Numbering Plan for the International Telephone Service,'' 1989.

(4) IEC Publication 92–101, ''Electrical Installations in Ships,'' Third Edition 1980 with amendments through 1984.

(5) IEC Publication 533, ''Electromagnetic Compatibility of Electrical and Electronic Installations in Ships,'' First Edition 1977.

(6) IEC Publication 945, ''Marine Navigational Equipment,'' First Edition 1988.

(7) ISO Standard 3791, ''Office Machines and Data Processing Equipment—Keyboard Layouts for Numeric Applications,'' First Edition 1976(E).

(c) The equipment specified in this subpart must also conform to the appropriate performance standards listed below which are incorporated by reference.

(1) *NAVTEX receivers*: (i) IMO Resolution A.525(13), ''Performance Standards for Narrow-band Direct Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships,'' adopted 17 November 1983.

(ii) CCIR Recommendation 540–2, ''Operational and Technical Characteristics for an Automated Direct-printing Telegraph System for Promulgation of Navigational and Meteorological Warnings and Urgent Information to Ships,'' 1990.

(2) *VHF radio equipment*: (i) IMO Resolution A.609(15), ''Performance Standards for Shipborne VHF Radio Installations Capable of Voice Communication and Digital Selective Calling,'' adopted 19 November 1987.

(ii) CCIR Recommendation 493–4, ''Digital Selective-calling System for use in the Maritime Mobile Service,'' 1990.

(3) *MF radio equipment*: (i) IMO Resolution A. 610(15), ''Performance Standards for Shipborne MF Radio Installations Capable of Voice Communication and Digital Selective Calling,'' adopted 19 November 1987.

(ii) CCIR Recommendation 493–4, ''Digital Selective-calling System for use in the Maritime Mobile Service,'' 1990.

(4) *MF/HF radio equipment:* (i) IMO Resolution A.613(15), ''Performance Standards for Shipborne MF/HF Radio Installations capable of Voice Communication, Narrow-band Direct Printing and digital Selective Calling,'' adopted 19 November 1987.

(ii) CCIR Recommendations 493–4, ''Digital Selective-calling System for use in the Maritime Mobile Service,'' 1990.

(iii) CCIR Recommendation 625–1, ''Direct-printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service,'' 1990. Equipment may conform to CCIR Recommendation 476–4, ''Direct-Printing Telegraph Equipment in the Maritime Mobile Service,'' 1986, in lieu of CCIR Recommendation 625–1, where such equipment was installed on ships prior to February 1, 1993.

(iv) IMO Resolution A.700(17), ''Performance Standards for Narrow-band Direct-printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships (MSI) by HF,'' adopted 6 November 1991.

(5) *406 MHz EPIRBs:* (i) IMO Resolution A.611(15), ''Performance Standards for Float-free Satellite Emergency Position-indicating Radio Beacons Operating on 406 MHz,'' adopted 19 November 1987.

(ii) IMO Resolution A.662(16), ''Performance Standards for Float-free Release and Activation Arrangements for Emergency Radio Equipment,'' adopted 19 October 1989.

(iii) OCIR Recommendation 633–1, ''Transmission Characteristics of a Satellite Emergency Position-indicating Radiobeacon (Satellite EPIRB) System Operating Through a Low Polar-orbiting Satellite System in the 406 MHz Band,'' 1990.

(iv) The 406 MHz EPIRBs must also comply with § 80.1061.

(6) *9 GHz radar transponders:* (i) IMO Resolution A.604(15), ''Performance Standards for Survival Craft Radar Transponders for Use in Search and Rescue Operations,'' adopted 19 November 1987.

(ii) CCIR Recommendation 628–1, Technical Characteristics for Search and Rescue Radar Transponders,'' 1990.

(7) *Two-way VHF radiotelephone:* IMO Resolution A.605(15), ''Performance Standards for Survival Craft Two-way VHF Radiotelephone Apparatus,'' adopted 19 November 1987.

(8) *INMARSAT–A SES:* IMO Resolution A.698(17), ''Performance Standards for Ship Earth Stations Capable of Two-way Communications,'' adopted 6 November 1991.

(9) INMARSAT–C SES: IMO Resolution A.663(16), ''Performance Standards for INMARSAT Standard–C Ship Earth Stations Capable of Transmitting and Receiving Direct-printing Communications,'' adopted 19 October 1989.

(10) *INMARSAT EGC:* IMO Resolution A.664(16), ''Performance Standards for Enhanced Group Call Equipment,'' adopted 19 October 1989.

(d) The above-referenced documents have been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Identification data and place to purchase for each of the above-reference documents are listed as follows:

(1) Copies of IMO Resolutions, the 1974 SOLAS Convention, and the 1983 and 1988 amendments to the 1974 SOLAS Convention can be purchased from Publications, International Maritime Organization, 4 Albert Embankment, London SE1 7SR, United Kingdom.

(i) IMO resolution A.525(13) is contained in the Resolutions and Other Decisions of the Assembly of the International Maritime Organization, 13th Session, 1983, (IMO, London, 1984), Sales Number 073 84.07.E.

(ii) IMO Resolutions A.604(15), A.605(15), A.610(15), A.611(15) and A.613(15) are contained in the Resolutions and Other Decisions of the Assembly of the International Maritime Organization, 15th Session, 1987, (IMO, London, 1988), Sales Number 130 88.03.E.

(iii) IMO Resolutions A.662(16), A.663(16) and A.664(16) are contained in the Resolutions and Other Decisions of the Assembly of the International Maritime Organization, 16th Session, 1989, (IMO, London, 1990), Sales Number 136 90.04.E

(iv) IMO Resolutions A.694(17), A.698(17), and A.700(17) can be ordered from IMO by requesting ''A.694, A.698, or A.700(17) from the seventeenth session.'' IMO Resolutions A.694(17), A.698(17), and A.700(17) will be published in the Resolutions and Other Decisions of the Assembly of the International Maritime Organization, 17th Session, 1991.

(2) CCIR Recommendations, ITU Radio Regulations, and CCITT publications can be purchased from the International Telecommunications Union (ITU), Place des Nations, CH–1211 Geneva 20, Switzerland.

(i) All CCIR Recommendations referenced in this section are contained in Recommendations of the CCIR, 1990, Volume VIII, (ITU, Geneva, 1990), 92–61–0424104.

(ii) CCITT Recommendation E.161 is contained in CCITT Volume II—Telephone and Network ISDN—Operation, Numbering, Routing and Mobile Service, (ITU, Geneva, 1989), ISBN 92–61–03261–3.

(iii) CCITT Recommendation Q.11 is contained in CCITT Blue Book Volume VI, General Recommendation on Telephone Switching and Signalling, (ITU, Geneva, 1989), ISBN 92–61–03451–9.

(3) IEC Publications can be purchased from the International Electrotechnical Commission, 3 Rue de Varembe, CH–1211 Geneva 20, Switzerland, or from the American National Standards Institute (ANSI), 11 West 42nd Street, New York, NY 10036, telephone (212) 642–4900.

(4) ISO Standards can be purchased from the International Organization for Standardization, 1 Rue de Varembe, CH–1211 Geneva 20, Switzerland, or from the American National Standards Institute (ANSI), 11 West 42nd Street, New York, NY 10036, telephone (212) 642–4900.

(5) Copies of the publications listed in this section that are incorporated by reference may be inspected at the Federal Communications Commission, 1919 M Street, NW., Dockets Branch (room 239), Washington, DC or at the Office of the Federal Register, 800 North Capital Street, NW., suite 700, Washington, DC.

[57 FR 44701, Sept. 29, 1992]

§ 80.1103 Equipment authorization.

(a) All equipment specified § 80.1101 must be type accepted in accordance with 47 CFR part 2 specifically for GMDSS use, except for equipment used in the INMARSAT space segment which must be type-approved by INMARSAT and notified in accordance with 47 CFR part 2 specifically for GMDSS use. The technical parameters of the equipment must conform to the performance standards as specified in § 80.1101. For emergency position-indicating radiobeacons operating on 406 MHz (406 MHz EPIRBs) that were authorized prior to April 15, 1992, and meet the requirements of § 80.1101, the manufacturer may attest by letter that the equipment (indicate FCC ID#) meets the requirements of § 80.1101 and request that it be denoted as approved for GMDSS use.

(b) Applicants for type acceptance must submit with their applications measurement data sufficiently complete to ensure compliance with the technical parameters. The application must include the items listed in 47 CFR 2.983. Additional measurement data or information may be requested depending upon the equipment. For items not listed in § 2.983 of this chapter, the applicant must attest that the equipment complies with performance standards as specified in § 80.1101 and, where applicable, that measurements have been made that demonstrate the necessary compliance. Submission of representative data demonstrating compliance is not required unless requested by the Commission.

(c) Applicants for notification must attest that the equipment complies with performance standards as specified in § 80.1101 and, where applicable, that measurements have been made that demonstrate the necessary compliance. Submission of representative data demonstrating compliance is not required unless requested by the Commission. An application must include the items listed in § 2.975 of this chapter and a copy of the INMARSAT type approval certificate indicating that equipment meets GMDSS standards and includes all peripheral equipment associated with the specific unit under review.

(d) Submission of a sample unit is not required unless specifically requested by the Commission.

(e) In addition to the requirements in part 2 of this chapter, equipment specified in § 80.1101 shall be labelled as follows: ''This device complies with the GMDSS provisions of part 80 of the FCC Rules.'' Such a label is not required for emergency position-indicating radiobeacons operating on 406 MHz (406 MHz EPIRBs) that were authorized prior to April 15, 1992.

[57 FR 9065, Mar. 16, 1992, as amended at 57 FR 44702, Sept. 29, 1992]

§ 80.1105 Maintenance requirements.

(a) Equipment must be so designed that the main units can be replaced readily, without elaborate recalibration or readjustment. Where applicable, equipment must be constructed and installed so that it is readily accessible for inspection and on-board maintenance purposes. Adequate information must be provided to enable the equipment to be properly operated and maintained (see IMO Resolution A.569(14)).

(b) Radio equipment required by this subpart must be maintained to provide the availability of the functional requirements specified in § 80.1081 and to

meet the performance standards specified in § 80.1101.

(c) On ships engaged on voyages in sea areas A1 and A2, the availability must be ensured by duplication of equipment, shore-based maintenance, or at-sea electronic maintenance capability, or a combination of these.

(d) On ships engaged on voyages in sea areas A3 and A4, the availability must be ensured by using a combination of at least two of the following methods: duplication of equipment, shore-based maintenance, or at-sea electronic maintenance capability.

(e) Irrespective of the maintenance methods used, a ship must not depart from any port unless and until the ship is capable of performing all distress and safety functions as specified in § 80.1081.

(f) Irrespective of the maintenance methods used, all manufacturers' instruction manuals and maintenance manuals for each piece of equipment required and installed must be available on-board ship. Adequate tools, spare parts, and test equipment appropriate to the methods used by the ship as recommended by the manufacturer should be provided. The manuals, tools, spare parts, and test equipment, as applicable, should be readily accessible.

(g) If the duplication of equipment maintenance method is used, the following radio installations, in addition to other equipment requirements specified in this subpart, must be available on-board ships for their sea areas as applicable. Equipment carried in accordance with this paragraph must comply with §§ 80.1101 and 80.1103. Additionally, each radio installation must be connected to a separate antenna and be installed and be ready for immediate operation.

(1) Ships, equipped in accordance with § 80.1087 for sea area A1, must carry a VHF radio installation complying with the requirements of § 80.1085(a)(1).

(2) Ships, equipped in accordance with § 80.1089 for sea areas A1 and A2, must carry a VHF radio installation complying with the requirements of § 80.1085(a)(1) and an MF radio installation complying with the requirements of § 80.1089(a)(1) and being able to fully comply with watch requirements as specified in § 80.1123(a)(2). The MF radio installation installed for duplication must also comply with the requirements § 80.1089(c).

(3) Ships, equipped in accordance with § 80.1091 for sea areas A1, A2, and A3, must carry a VHF radio installation complying with the requirements of § 80.1085(a)(1) and either an MF/HF radio installation complying with the requirements of § 80.1091(b)(1) and being able to fully comply with watch requirements as specified in § 80.1123(a)(2) or an INMARSAT ship earth station complying with the requirements of § 80.1091(a)(1). The MF/HF radio installation or the INMARSAT ship earth station installed for duplication must also comply with the requirements § 80.1091(c).

(4) Ships, equipped in accordance with § 80.1093 for sea areas A1, A2, A3, and A4, must carry a VHF radio installation complying with the requirement of § 80.1085(a)(1) and an MF/HF radio installation complying with the requirements of § 80.1091(b)(1) and being able to fully comply with watch requirements as specified in § 80.1123(a)(2). The MF/HF radio installation installed for duplication must also comply with the requirements § 80.1091(c).

(h) The radio installations specified in paragraph (g) of this section (referred as ''duplicated equipment''), in addition to the appropriate radio equipment specified in § 80.1099 (referred as ''basic equipment''), must be connected to the reserve sources of energy required by § 80.1099. The capacity of the reserve sources of energy should be sufficient to operate the particular installation (*i.e.*, the basic equipment or the duplicated equipment) with the highest power consumption, for the appropriate period specified in § 80.1099. However, the arrangement for the reserve sources of energy must be such that a single fault in this arrangement cannot affect both the basic and the duplicated equipment.

(i) If the shore-based maintenance method is used, the following requirements apply.

(1) Maintenance services must be completed and performance verified and noted in the ship's record before departure from the first port of call entered after any failure occurs.

(2) Each GMDSS equipment must be tested and performance verified and the results noted in the ship's record before departure from every port. To accomplish this, each ship shall carry a performance checkoff sheet listing each GMDSS equipment carried on a mandatory basis.

(j) If the at-sea maintenance method is used, the following requirements apply.

(1) Adequate additional technical documentation, tools, test equipment, and spare parts must be carried onboard ship to enable a qualified maintainer as specified in § 80.1074 to perform tests and localize and repair faults in the radio equipment.

(2) Only persons that comply with the requirements of § 80.1074 may perform at-sea maintenance on radio installations required by this subpart.

OPERATING PROCEDURES FOR DISTRESS AND SAFETY COMMUNICATIONS

§ 80.1109 Distress, urgency, and safety communications.

(a) Distress traffic consists of all messages relating to the immediate assistance required by the ship in distress, including search and rescue communications and on-scene communications. Distress traffic must as far as possible be on the frequencies contained in § 80.1077.

(b) Urgency and safety communications include: navigational and meteorological warnings and urgent information; ship-to-ship safety navigation communications; ship reporting communications; support communications for search and rescue operations; other urgency and safety messages and communications relating to the navigation, movements and needs of ships and weather observation messages destined for an official meteorological service.

(c) Intership navigation safety communications are those VHF radiotelephone communications conducted between ships for the purpose of contributing to the safe movement of ships. The frequency 156.650 MHz is used for intership navigation safety communications (see § 80.1077).

§ 80.1111 Distress alerting.

(a) The transmission of a distress alert indicates that a mobile unit or person is in distress and requires immediate assistance. The distress alert is a digital selective call using a distress call format in bands used for terrestrial radiocommunication or a distress message format, which is relayed through space stations.

(b) The distress alert must be sent through a satellite either with absolute priority in general communication channels or on exclusive distress and safety frequencies or, alternatively, on the distress and safety frequencies in the MF, HF, and VHF bands using digital selective calling.

(c) The distress alert must be sent only on the authority of the person responsible for the ship, aircraft or other vehicle carrying the mobile station or the mobile earth station.

(d) All stations which receive a distress alert transmitted by digital selective calling must immediately cease any transmission capable of interfering with distress traffic and must continue watch until the call has been acknowledged.

§ 80.1113 Transmission of a distress alert.

(a) The distress alert must identify the station in distress and its position. The distress alert may also contain information regarding the nature of the distress, the type of assistance required, the course and speed of the mobile unit, the time that this information was recorded and any other information which might facilitate rescue.

(b) The format of distress calls and distress messages must be in accordance with CCIR Recommendation 493 as specified in § 80.1101.

(c) Ship-to-shore distress alerts are used to alert Rescue Coordination Centers via coast stations or coast earth stations that a ship is in distress. These alerts are based on the use of transmissions via satellites (from a ship earth station or a satellite EPIRB) and terrestrial services (from ship stations and EPIRBs).

(d) Ship-to-ship distress alerts are used to alert other ships in the vicinity of the ship in distress and are based on

the use of digital selective calling in the VHF, MF, and HF bands.

(e) Shore-to-ship distress alert relays are used by a station or Rescue Coordination Center to relay information about a ship in distress to, as appropriate, all ships, a selected group of ships, or a specific ship by satellite and/or terrestrial means. The distress alert relay must contain the identification of the mobile unit in distress, its position and all other information which might facilitate rescue.

§80.1115 Transmission of a distress alert by a station not itself in distress.

(a) A station in the mobile or mobile-satellite service which learns that a mobile unit is in distress must initiate and transmit a distress alert relay in any of the following cases:

(1) When the mobile unit in distress is not itself in a position to transmit the distress alert; or

(2) When the master or person responsible for the mobile unit not in distress or the person responsible for the land station determines that further help is necessary.

(b) A station transmitting a distress alert relay in accordance with paragraph (a) of this section or §80.1121(c) must indicate that it is not itself in distress.

§80.1117 Procedure for receipt and acknowledgement of distress alerts.

(a) Acknowledgement by digital selective calling of receipt of a distress alert in the terrestrial services must comply with CCIR Recommendation 541, which is incorporated by reference.

(b) Acknowledgement through a satellite of receipt of a distress alert from a ship earth station must be sent immediately (see §80.1119).

(c) Acknowledgement by radiotelephony of receipt of a distress alert from a ship station or a ship earth station must be given in the following form:

(1) The distress signal MAYDAY;

(2) The call sign or other identification of the station sending the distress message, spoken three times;

(3) The words THIS IS (or DE spoken as DELTA ECHO in case of language difficulties);

(4) The call sign or other identification of the station acknowledging receipt, spoken three times;

(5) The word RECEIVED (or RRR spoken as ROMEO ROMEO ROMEO in case of language difficulties);

(6) The distress signal MAYDAY.

(d) The acknowledgement by direct-printing telegraphy of receipt of a distress alert from a ship station must be given in the following form:

(1) The distress signal MAYDAY;

(2) The call sign or other identification of the station sending the distress alert;

(3) The word DE;

(4) The call sign or other identification of the station acknowledging receipt of the distress alert;

(5) The signal RRR;

(6) The distress signal MAYDAY.

(e) The acknowledgement by direct-printing telegraphy of receipt of a distress alert from a ship earth station must be given by the coast earth station receiving the distress alert by retransmitting the ship station identity of the ship transmitting the distress alert.

§80.1119 Receipt and acknowledgement of distress alerts by coast stations and coast earth stations.

(a) Coast stations that receive a distress alert should defer acknowledgement for a short interval so that receipt may be acknowledged by a Rescue Coordination Center. Where an acknowledgement is not forthcoming within 3 minutes, the coast station in receipt of distress alerts must ensure that they are routed to a Rescue Coordination Center as soon as possible. Coast stations must provide assistance for distress communications when requested to do so by the U.S. Coast Guard. (This subpart does not specify any radio watches for coast stations.)

(b) Coast earth stations in receipt of distress alerts must ensure that they are routed as soon as possible to a Rescue Coordination Center. Coast earth stations must relay, as soon as possible, an acknowledgement of a distress alert from a Rescue Coordination Center.

(c) Certain messages must be carried without charge, regardless of the means by which they are transmitted:

(1) Distress alert messages;

(2) Search and rescue coordination messages;

(3) Medical assistance messages where an imminent danger to life is present, or

(4) Urgent meteorological or navigational danger messages passed in the ship-to-shore direction.

§ 80.1121 Receipt and acknowledgement of distress alerts by ship stations and ship earth stations.

(a) Ship or ship earth stations that receive a distress alert must, as soon as possible, inform the master or person responsible for the ship of the contents of the distress alert.

(b) In areas where reliable communications with one or more coast stations are practicable, ship stations in receipt of a distress alert should defer acknowledgement for a short interval so that receipt may be acknowledged by a coast station.

(c) Ship stations operating in areas where reliable communications with a coast station are not practicable that receive a distress alert from a ship station which is, beyond doubt, in their vicinity, must, as soon as possible and if appropriately equipped, acknowledge receipt and inform a Rescue Coordination Center through a coast station or coast earth station (see § 80.1115(a)(2)). However, a ship station receiving an HF distress alert must not acknowledge it but must observe the requirements of § 80.1123, and must, if the alert is not acknowledged by a coast station within 3 minutes, relay the distress alert.

(d) A ship station acknowledging receipt of a distress alert in accordance with paragraphs (b) or (c) of this section should:

(1) Acknowledge receipt of the alert by using radiotelephony on the distress and safety traffic frequency in the band used for the alert;

(2) If acknowledgement by radiotelephony of the distress alert received on the MF or VHF distress alerting frequency is unsuccessful, acknowledge receipt of the distress alert by responding with a digital selective call on the appropriate frequency.

(e) A ship station in receipt of a shore-to-ship distress alert relay (see § 80.1113(e)) should establish communication as directed and render such assistance as required and appropriate.

§ 80.1123 Watch requirements for ship stations.

(a) While at sea, all ships must maintain a continuous watch:

(1) On VHF DSC channel 70, if the ship is fitted with a VHF radio installation in accordance with § 80.1085(a)(2);

(2) On the distress and safety DSC frequency 2187.5 kHz, if the ship is fitted with an MF radio installation in accordance with §§ 80.1089(a)(2) or 80.1091(a)(3);

(3) On the distress and safety DSC frequencies 2187.5 kHz and 8414.5 kHz also on at least one of the distress and safety DSC frequencies 4207.5 kHz, 6312 kHz, 12577 kHz, or 16804.5 kHz appropriate to the time of day and the geographical position of the ship, if the ship is fitted with an MF/HF radio installation in accordance with §§ 80.1091(a)(2)(ii) or 80.1093(a) of this part (this watch may be kept by means of a scanning receiver limited to six distress and safety DSC frequencies); and

(4) For satellite shore-to-ship distress alert, if the ship is fitted with an INMARSAT ship earth station in accordance with § 80.1091(a)(1).

(b) While at sea, all ships must maintain radio watches for broadcasts of maritime safety information on the appropriate frequency or frequencies on which such information is broadcast for the area in which the ship is navigating.

(c) Until February 1, 1999, every ship while at sea must maintain, when practicable, a continuous listening watch on VHF Channel 16. This watch must be kept at the position from which the ship is normally navigated or at a position which is continuously manned.

(d) Until February 1, 1999, every ship required to carry a radiotelephone watch receiver must maintain, while at sea, a continuous watch on the radiotelephone distress frequency 2182 kHz. This watch must be kept at the position from which the ship is normally navigated or at a position which is continuously manned.

(e) On receipt of a distress alert transmitted by use of digital selective

calling techniques, ship stations must set watch on the radiotelephone distress and safety traffic frequency associated with the distress and safety calling frequency on which the distress alert was received.

(f) Ship stations with narrow-band direct printing equipment must set watch on the narrow-band direct-printing frequency associated with the distress alert signal if it indicates that narrow-band direct-printing is to be used for subsequent distress communications. If practicable, they should additionally set watch on the radiotelephone frequency associated with the distress alert frequency.

§ 80.1125 Search and rescue coordinating communications.

(a) The distress signal consists of the word MAYDAY, pronounced in radiotelephony as the French expression ''M'aider''. For distress traffic by radiotelephony, when establishing communications, calls must be prefixed by the distress signal MAYDAY.

(b) Error correction techniques, in accordance with CCIR Recommendation 625 as specified in § 80.1101, must be used for distress traffic by direct-printing telegraphy. All messages must be preceded by at least one carriage return, a line feed signal, a letter shift signal and the distress signal MAYDAY.

(c) Distress communications by direct-printing telegraphy should be in the ARQ mode when ships are communicating directly to the Coast Guard or other coast stations on channels which they normally guard. Other distress communications, including those on simplex channels provided for that purpose, should be in the broadcast forward error correction mode. The ARQ mode may subsequently be used when it is advantageous to do so.

(d) The Rescue Coordination Center responsible for controlling a search and rescue operation will also coordinate the distress traffic relating to the incident or may appoint another station to do so.

(e) The Rescue Coordination Center coordinating distress traffic, the unit coordinating search and rescue operations, or the coast station involved may impose silence on stations which interfere with that traffic. This instruction may be addressed to all stations or to one station only, according to circumstances. In either case, the following will be used:

(1) In radiotelephony, the signal SEELONCE MAYDAY, pronounced as the French expression ''silence, m'aider'';

(2) In narrow-band direct-printing telegraphy normally using forward-error correcting mode, the signal SILENCE MAYDAY. However, the ARQ mode may be used when it is advantageous to do so.

(f) Until they receive the message indicating that normal working may be resumed (see paragraph (h) of this section), all stations which are aware of the distress traffic, and which are not taking part in it, and which are not in distress, are forbidden to transmit on the frequencies in which the distress traffic is taking place.

(g) Stations following distress traffic that are able to continue normal service may do so when the distress traffic is well established and on condition that it observes the provisions of paragraph (f) of this section and that it does not interfere with distress traffic.

(h) When distress traffic has ceased on frequencies which have been used for distress traffic, the Rescue Coordination Center controlling a search and rescue operation must initiate a message for transmission on these frequencies indicating that distress traffic has finished.

(i) In radiotelephony, the message referred to in paragraph (h) of this section consists of:

(1) The distress signal MAYDAY;

(2) The call ''Hello all stations'' or CQ (spoken as CHARLIE QUEBEC) spoken three times;

(3) The words THIS IS (or DE spoken as DELTA ECHO in the case of language difficulties);

(4) The call sign or other identification of the station sending the message;

(5) The time when the distress situation has ceased;

(6) The name and call sign of the mobile station which was in distress;

(7) The words SEELONCE FEENEE pronounced as the French words ''silence fini''

(j) In direct-printing telegraphy, the message referred to in paragraph (h) of this section consists of:

(1) The distress signal MAYDAY;

(2) The call CQ;

(3) The word DE;

(4) The call sign or other identification of the station sending the message;

(5) The time when distress situation has ceased;

(6) The name and call sign of the mobil station which was in distress; and

(7) The words SILENCE FINI.

§ 80.1127 On-scene communications.

(a) On-scene communications are those between mobile unit in distress and assisting mobile units, and between the mobile units and unit coordinating search and rescue operations.

(b) Control of on-scene communications is the responsibility of the unit coordinating search and rescue operations. Simplex communications must be used so that all on-scene mobile stations may share relevant information concerning the distress incident. If direct-printing telegraphy is used, it must be in the forward error-correcting mode in accordance with CCIR Recommendation 625 as specified in § 80.1101.

(c) The preferred frequencies in radiotelephony for on-scene communications are 156.8 MHz and 2182 kHz. The frequency 2174.5 kHz may also be used for ship-to-ship on-scene communications using narrow-band direct-printing telegraphy in the forward error correcting mode in accordance with CCIR Recommendation 625 as specified in § 80.1101.

(d) In addition to 156.8 MHz and 2182 kHz, the frequencies 3023 kHz, 4125 kHz, 5680 kHz, 123.1 MHz and 156.3 MHz may be used for ship-to-aircraft on-scene communications.

(e) The selection or designation of on-scene frequencies is the responsibility of the unit coordinating search and rescue operations. Normally, once an on-scene frequency is established, a continuous aural or teleprinter watch is maintained by all participating on-scene mobile units on the selected frequency.

§ 80.1129 Locating and homing signals.

(a) Locating signals are radio transmissions intended to facilitate the finding of a mobile unit in distress or the location of survivors. These signals include those transmitted by searching units and those transmitted by the mobile unit in distress, by survival craft, by float-free EPIRBS, by satellite EPRIBs, and by search and rescue radar transponders to assist the searching units.

(b) Homing singnals are those locating signals which are transmitted by mobile units in distress, or by survival craft, for the purpose of providing searching units with a signal that can be used to determine the bearing to the transmitting stations.

(c) Locating signals may be transmitted in the following frequency bands: 117.975–136 MHz, 121.5 MHz, 156–174 MHz, 406–406.1 MHz, and 9200–9500 MHz.

(d) The 9 GHz locating signals must be in accordance with CCIR Recommendation 628 as specified in § 80.1101.

§ 80.1131 Transmissions of urgency communications.

(a) In a terrestrial system the announcement of the urgency message must be made on one or more of the distress and safety calling frequencies specified in § 80.1077 using digital selective calling and the urgency call format. A separate announcement need not be made if the urgency message is to be transmitted through the maritime mobile-satellite service.

(b) The urgency signal and message must be transmitted on one or more of the distress and safety traffic frequencies specified in § 80.1077, or via the maritime mobile-satellite service or on other frequencies used for this purpose.

(c) The urgency signal consists of the words PAN PAN. In radiotelephony each word of the group must be pronounced as the French word ''panne''.

(d) The urgency call format and the urgency signal indicate that the calling station has a very urgent message to transmit concerning the safety of a mobile unit or a person.

(e) In radiotelephony, the urgency message must be preceded by the urgency signal, repeated three times, and the identification of the transmitting station.

(f) In narrow-band direct-printing, the urgency message must be preceded by the urgency signal and the identification of the transmitting station.

(g) The urgency call format or urgency signal must be sent only on the authority of the master or the person responsible for the mobile unit carrying the mobile station or mobile earth station.

(h) The urgency call format or the urgency signal may be transmitted by a land station or a coast earth station with the approval of the responsible authority.

(i) When an urgency message which calls for action by the stations receiving the message has been transmitted, the station responsible for its transmission must cancel it as soon as it knows that action is no longer necessary.

(j) Error correction techniques, in accordance with CCIR Recommendation 625 as specified in §80.1101, must be used for urgency messages by direct-printing telegraphy. All messages must be preceded by at least one carriage return, a line feed signal, a letter shift signal and the urgency signal PAN PAN.

(k) Urgency communications by direct-printing telegraphy should be in the ARQ mode when communicating directly to the Coast Guard or other coast stations on channels which they normally guard. Other distress communications, including those on simplex channels provided for that purpose, should be in the broadcast forward error correction mode. The ARQ mode may subsequently be used when it is advantageous to do so.

§80.1133 Transmission of safety communications.

(a) In a terrestrial system the announcement of the safety message must be made on one or more of the distress and safety calling frequencies specified in §80.1077 using digital selective calling techniques. A separate announcement need not be made if the message is to be transmitted through the maritime mobile-satellite service.

(b) The safety signal and message must normally be transmitted on one or more of the distress and safety traffic frequencies specified in §80.1077, or via the maritime mobile satellite service or on other frequencies used for this purpose.

(c) The safety signal consists of the word SECURITE. In radiotelephony, it is pronounced as in French.

(d) The safety call format or the safety signal indicates that the calling station has an important navigational or meteorological warning to transmit.

(e) In radiotelephony, the safety message must be preceded by the safety signal, repeated three times, and the identification of the transmitting station.

(f) In narrow-band direct-printing, the safety message must be preceded by the safety signal and the identification of the transmitting station.

(g) Error correction techniques, in accordance with CCIR Recommendation 625 as specified in §80.1101, must be used for safety messages by direct-printing telegraphy. All messages must be preceded by at least one carriage return, a line feed signal, a letter shift signal and the safetysignal SECURITE.

(h) Safety communications by direct-printing telegraphy should be in the ARQ mode when communicating directly to the Coast Guard or other coast stations on channels which they normally guard. Other distress communications, including those on simplex channels provided for that purpose, should be in the broadcast forward error correction mode. The ARQ mode may subsequently be used when it is advantageous to do so.

§80.1135 Transmission of maritime safety information.

(a) The operational details of the stations transmitting maritime safety information in accordance with this section are indicated in the ITU List of Radiodetermination and Special Service Stations and the IMO Master Plan of Shore-Based Facilities.

(b) The mode and format of the transmissions mentioned in this section is

in accordance with the CCIR Recommendation 540 as specified in § 80.1101.

(c) Maritime safety information is transmitted by means of narrow-band direct-printing telegraphy with forward error correction using the frequency 518 kHz in accordance with the international NAVTEX system (see § 80.1077).

(d) The frequency 490 kHz may be used, after full implementation of the GMDSS, for the transmission of maritime safety information by means of narrow-band direct-printing telegraphy with forward error correction (see § 80.1077).

(e) Internationally, the frequency 4209.5 kHz is used for NAVTEX-type transmissions by means of narrow-band direct-printing telegraphy with forward error correction (see § 80.1077).

(f) Maritime safety information is transmitted by means of narrow-band direct-printing telegraphy with forward error correction using the frequencies 4210 kHz, 6314 kHz, 8416.5 kHz, 12579 kHz, 16806.5 kHz, 19680.5, 22376 kHz, and 26100.5 kHz (see § 80.1077).

(g) Maritime safety information is transmitted via satellite in the maritime mobile-satellite service using the band 1530–1545 MHz (see § 80.1077).

Subpart X—Voluntary Radio Installations

GENERAL

§ 80.1151 Voluntary radio operations.

Voluntary ships must meet the rules applicable to the particular mode of operation as contained in the following subparts of this part and as modified by § 80.1153:

Operating Requirements and Procedures—Subpart C
Equipment Technical Requirements—Subpart E
Frequencies—Subpart H

§ 80.1153 Station log and radio watches.

(a) Licensees of voluntary ships are not required to operate the ship radio station or to maintain radio station logs.

(b) When a ship radio station of a voluntary ship is being operated, appropriate general purpose watches must be maintained in accordance with §§ 80.146, 80.147 and 80.148.

VOLUNTARY TELEGRAPHY

§ 80.1155 Radioprinter.

Radioprinter operations provide record communications between authorized maritime mobile stations.

(a) *Supplementary eligibility requirements.* Ships must be less than 1600 gross tons.

(b) *Scope of communication.* (1) Ship radioprinter communications may be conducted with an associated private coast station.

(2) Ships authorized to communicate by radioprinter with a common private coast station may also conduct intership radioprinter operations.

(3) Only those communications which are associated with the business and operational needs of the ship are authorized.

(c) *Assignment and use of frequencies.* (1) Frequencies for radioprinter operations are shared by several radio services including the maritime mobile service.

(2) Ship stations must conduct radioprinter operations only on frequencies assigned to their associated private coast station for that purpose.

(d) *Authorization procedure.* The authorization procedure for ship station radioprinter operations is as follows:

(1) The associated private coast station must submit an application for specific radioprinter frequencies and provide the names of ships to be served.

(2) When the private coast station receives a radioprinter license, it must provide copies of their license to all ships with which they are authorized to conduct radioprinter operations. The private coast station license copy must be kept as part of the ship station license.

(3) Any addition or deletion of ships must be notified to the Commission by letter.

§ 80.1157 Facsimile.

Facsimile is a form of telegraphy for the transmission and receipt of fixed images. Ships must use facsimile techniques only with authorized public coast stations.

§80.1159 Narrow-band direct-printing (NB–DP).

NB–DP is a form of telegraphy for the transmission and receipt of direct printing public correspondence. Ships must use NB–DP techniques only with authorized public coast stations.

§80.1161 Emergency position indicating radiobeacon (EPIRB).

EPIRB transmissions must be used only under emergency conditions. The various classes of EPIRB's are described in subpart V of this part.

VOLUNTARY TELEPHONY

§80.1165 Assignment and use of frequencies.

Frequencies for general radiotelephone purposes are available to ships in three radio frequency bands. Use of specific frequencies must meet the Commission's rules concerning the scope of service and the class of station with which communications are intended. The three frequency bands are:

(a) *156–158 MHz (VHF/FM Radiotelephone).* Certain frequencies within this band are public correspondence frequencies and they must be used as working channels when communicating with public coast stations. Other working frequencies within the band are categorized by type of communications for which use is authorized when communicating with a private coast station or between ships. Subpart H of this part lists the frequencies and types of communications for which they are available.

(b) *1600–4000 kHz (SSB Radiotelephone).* Specific frequencies within this band are authorized for single sideband (SSB) communications with public and private coast stations or between ships. The specific frequencies are listed in subpart H of this part.

(c) *4000–23000 kHz (SSB Radiotelephone).* Specific frequencies within this band are authorized for SSB communications with public and private coast stations. The specific frequencies are listed in subpart H of this part.

§80.1169 [Reserved]

§80.1171 Assignment and use of frequencies.

(a) The frequencies assignable to AMTS stations are listed in §80.385(a). These frequencies are assignable to ship and coast stations for voice, facsimile and radioteletypewriter communications.

(b) [Reserved]

ON-BOARD COMMUNICATIONS

§80.1175 Scope of communications of on-board stations.

(a) On-board stations communicate:

(1) With other units of the same station for operational communications on the ship.

(2) With on-board stations of another ship or shore facility to aid in oil pollution prevention during the transfer of 250 or more barrels of oil.

(3) With other units of the same station in the immediate vicinity of the ship for operational communications related to docking, life boat and emergency drills or in the maneuvering of cargo barges and lighters.

(b) An on-board station may communicate with a station in the Business Radio Service operating on the same frequency when the vessel on which the on-board station is installed is alongside the dock or cargo handling facility.

§80.1177 Assignment and use of frequencies.

On-board frequencies are assignable only to ship stations. When an on-board repeater is used, paired frequencies must be used. On-board repeater frequencies must be used for single frequency simplex operations. On-board frequencies are listed in subpart H.

§80.1179 On-board repeater limitations.

When an on-board repeater is used, the following limitations must be met:

(a) The on-board repeater antenna must be located no higher than 3 meters (10 feet) above the vessel's highest working deck.

(b) Each on-board repeater must have a timer that deactivates the transmitter if the carrier remains on for more than 3 minutes.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44954, Aug. 25, 1993]

§ 80.1181 Station identification.

(a) On-board stations must identify when:

(1) The vessel is within 32 km (20 miles) of any coastline; or

(2) The communications are likely to be received aboard another vessel.

(b) Identification, when required, must be:

(1) Transmitted at the beginning and the end of a series of communications. Whenever communications are sustained for a period exceeding 15 minutes, station identification must be transmitted at intervals not exceeding 15 minutes.

(2) In English and must include the name of the vessel, followed by a number or name designating the respective mobile unit, for example: ''S.S. United States Mobile One, this is Mobile Two.''

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44954, Aug. 25, 1993]

§ 80.1183 Remote control for maneuvering or navigation.

(a) An on-board station may be used for remote control of maneuvering or navigation control systems aboard the same ship or, where that ship is towing a second ship, aboard the towed ship.

(b) The remote control system transmissions must contain a synchronization signal and a message signal composed of a documentation number group, a company control group, an actuation instruction group, and a termination of transmission group.

(1) The synchronization signal must be the control character ''SYN'', transmitted twice.

(2) The message signal is composed of the following groups:

(i) The documentation number group must be transmitted once and be the ship's U.S. Coast Guard documentation number or, if the ship is not documented, the call sign of the on-board station.

(ii) The company control group, composed of three letters taken from AAA through ZZZ, which must be transmitted one time.

(iii) The actuation instruction group, composed of two letters taken from AA through ZZ, which must be transmitted one time.

(iv) The termination of transmission group, composed of the control character ''EM'', which must be transmitted twice.

(c) The receiving system must:

(1) Reject any actuation instruction until it recognizes and accepts the company control group.

(2) Reject any company control group until it recognizes and accepts the documentation number group.

(d) The emission employed must be G2D. The provisions applicable to G3E emission are also applicable to G2D emission.

(e) The binary information must be applied to the carrier as frequency-shift keying (FSK) of the standard tones 1070 and 1270 Hz. ''0'' (low) must correspond to 1070 Hz and ''1'' (high) must correspond to 1270 Hz. The signalling rate must be 300 bits per second.

(f) The alphabet employed must be the United States of America Standard Code for Information Interchange (USASCII), contained in the United States of America Standards Institute publication USAS X3.4–1968.

(1) The bit sequence must be least significant bit first to most significant bit (bit 1 through 7), consecutively.

(2) The character structure must consist of 8 bits (seven bits plus one character parity bit) having equal time intervals.

(3) ''Odd'' parity is required.

MOBILE-SATELLITE STATIONS

§ 80.1185 Supplemental eligibility for mobile-satellite stations.

Stations in the maritime mobile-satellite service must meet the eligibility requirements contained in this section.

(a) A station license for a ship earth station may be issued to:

(1) The owner or operator of a ship.

(2) A corporation proposing to furnish a nonprofit radio communication service to its parent corporation, to another subsidiary of the same parent, or to its own subsidiary, where the party to be served is the owner or operator of

the ship aboard which the ship earth station is to be installed and operated.

(b) A station license for a portable ship earth station may be issued to the owner or operator of portable earth station equipment proposing to furnish satellite communication services on board more than one ship or fixed offshore platform located in the marine environment.

[52 FR 27003, July 17, 1987, as amended at 54 FR 49995, Dec. 4, 1989]

§ 80.1187 Scope of communication.

Ship earth stations must be used for telecommunications related to the business or operation of ships and for public correspondence of persons on board. Portable ship earth stations are authorized to meet the business, operational and public correspondence telecommunication needs of fixed offshore platforms located in the marine environment as well as ships. The types of emission are determined by the INMARSAT organization.

[52 FR 27003, July 17, 1987]

§ 80.1189 Portable ship earth stations.

(a) Portable ship earth stations are authorized to operate on board more than one ship. Portable ship earth stations are also authorized to be operated on board fixed offshore platforms located in international or United States domestic waters.

(b) Portable ship earth stations must meet the rule requirements of ship earth stations with the exeception of eligibility.

(c) Where the license of the portable ship earth station is not the owner of the ship or fixed platform on which the station is located, the station must be operated with the permission of the owner or operator of the ship or fixed platform.

[52 FR 27003, July 17, 1987]

RADIODETERMINATION

§ 80.1201 Special provisions for cable-repair ship stations.

(a) A ship station may be authorized to use radio channels in the 285–315 kHz band in Region 1 and 285–325 kHz in any other region for cable repair radiodetermination purposes under the following conditions:

(1) The radio transmitting equipment attached to the cable-marker buoy associated with the ship station must be described in the station application;

(2) The call sign used for the transmitter operating under the provisions of this section is the call sign of the ship station followed by the letters ''BT'' and the identifying number of the buoy.

(3) The buoy transmitter must be continuously monitored by a licensed radiotelegraph operator on board the cable repair ship station; and

(4) The transmitter must operate under the provisions in § 80.375(b).

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AUTHORITY: 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, unless otherwise noted. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. 151–156, 301–609.

SOURCE: 53 FR 28940, Aug. 1, 1988, unless otherwise noted.

Subpart A—General Information

§87.1 Basis and purpose.

This section contains the statutory basis and provides the purpose for which this part is issued.

(a) *Basis.* The rules for the aviation services in this part are promulgated under the provisions of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission (Commission) to regulate radio transmission and to issue licenses for radio stations. These rules conform with applicable statutes and international treaties, agreements and recommendations to which the United States is a party. The most significant of these documents are listed with the short title appearing in parentheses:

(1) Communications Act of 1934, as amended—(Communications Act).

(2) International Telecommunication Union Radio Regulations, in force for the United States—(Radio Regulations).

(3) The Convention on International Civil Aviation—(ICAO Convention).

(b) *Purpose.* This part states the conditions under which radio stations may be licensed and used in the aviation services. These rules do not govern U.S. Government radio stations.

§87.3 Other applicable rule parts.

Other applicable CFR title 47 parts include:

(a) Part 0 contains the Commission's organizations and delegations of authority. Part 0 also lists Commission publications, standards and procedures for access to Commission records and location of Commission monitoring stations.

(b) Part 1 contains rules of practice and procedure for license applications, adjudicatory proceedings, rule making proceedings, procedures for reconsideration and review of the Commission's actions, provisions concerning violation notices and forfeiture proceedings, and the requirements for environmetal impact statements.

(c) Part 2 contains the Table of Frequency Allocations and special requirements in international regulations, recommendations, agreements, and treaties. This part also contains standards and procedures concerning marketing of radio frequency devices, and for obtaining equipment authorization.

(d) Part 13 contains information and rules for the licensing of commercial radio operators.

(e) Part 17 contains requirements for construction, marking and lighting of antenna towers.

(f) Part 80 contains rules for the maritime services. Certain maritime frequencies are available for use by aircraft stations for distress and safety, public correspondence and operational communications.

§87.5 Definitions.

Aeronautical advisory station (unicom). An aeronautical station used for advisory and civil defense communications primarily with private aircraft stations.

Aeronautical enroute station. An aeronautical station which communicates with aircraft stations in flight status or with other aeronautical enroute stations.

Aeronautical fixed service. A radiocommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air transport. A station in this service is an aeronautical fixed station.

Aeronautical Mobile Off-Route (OR) Service. An aeronautical mobile service intended for communications, including those relating to flight coordination, primarily outside national or international civil air routes.(RR)

Aeronautical Mobile Route (R) Service. An aeronautical mobile service reserved for communications relating to safety and regularity of flight, primarily along national or international civil air routes.(RR)

Aeronautical Mobile-Satellite Off-Route (OR) Service. An aeronautical mobile-satellite service intended for communications, including those relating to flight coordination, primarily outside national and international civil air routes.(RR)

Aeronautical Mobile-Satellite Route (R) Service. An aeronautical mobile-satellite service reserved for communications relating to safety and regularity of flights, primarily along national or international civil air routes.(RR)

Aeronautical Mobile-Satellite Service. A mobile-satellite service in which mobile earth stations are located on board aircraft.

Aeronautical mobile service. A mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may also participate; emergency position-indicating radiobeacon stations may also participate in this service on designated distress and emergency frequencies.

Aeronautical multicom station. An aeronautical station used to provide communications to conduct the activities being performed by, or directed from, private aircraft.

Aeronautical radionavigation service. A radionavigation service intended for the benefit and for the safe operation of aircraft.

Aeronautical search and rescue station. An aeronautical station for communication with aircraft and other aeronautical search and rescue stations pertaining to search and rescue activities with aircraft.

Aeronautical station. A land station in the aeronautical mobile service. In certain instances an aeronautical station may be located, for example, on board ship or on a platform at sea.

Aeronautical utility mobile station. A mobile station used on airports for communications relating to vehicular ground traffic.

Air carrier aircraft station. A mobile station on board an aircraft which is engaged in, or essential to, the transportation of passengers or cargo for hire.

Aircraft earth station (AES). A mobile earth station in the aeronautical mobile-satellite service located on board an aircraft.

Aircraft station. A mobile station in the aeronautical mobile service other than a survival craft station, located on board an aircraft.

Airport. An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

Airport control tower (control tower) station. An aeronautical station providing communication between a control tower and aircraft.

Automatic weather observation station. A land station located at an airport and used to automatically transmit weather information to aircraft.

Aviation service organization. Any business firm which maintains facilities at an airport for the purposes of one or more of the following general aviation activities: (a) Aircraft fueling; (b) aircraft services (e.g. parking, storage, tie-downs); (c) aircraft maintenance or sales; (d) electronics equipment maintenance or sales; (e) aircraft rental, air taxi service or flight instructions; and (f) baggage and cargo handling, and other passenger or freight services.

Aviation services. Radio-communication services for the operation of aircraft. These services include aeronautical fixed service, aeronautical mobile service, aeronautical radiodetermination service, and secondarily, the handling of public correspondence on frequencies in the maritime mobile and maritime mobile satellite services to and from aircraft.

Aviation support station. An aeronautical station used to coordinate aviation services with aircraft and to communicate with aircraft engaged in unique or specialized activities. (See subpart K)

Civil Air Patrol station. A station used exclusively for communications of the Civil Air Patrol.

Emergency locator transmitter (ELT). A transmitter of an aircraft or a survival craft actuated manually or automatically that is used as an alerting and locating aid for survival purposes.

Emergency locator transmitter (ELT) test station. A land station used for testing ELTs or for training in the use of ELTs.

Expendable Launch Vehicle (ELV). A booster rocket that can be used only once to launch a payload, such as a missile or space vehicle.

Flight test aircraft station. An aircraft station used in the testing of aircraft or their major components.

Flight test land station. An aeronautical station used in the testing of aircraft or their major components.

Glide path station. A radionavigation land station which provides vertical guidance to aircraft during approach to landing.

Instrument landing system (ILS). A radionavigation system which provides aircraft with horizontal and vertical guidance just before and during landing and, at certain fixed points, indicates the distance to the reference point of landing.

Instrument landing system glide path. A system of vertical guidance embodied in the instrument landing system which indicates the vertical deviation of the aircraft from its optimum path of descent.

Instrument landing system localizer. A system of horizontal guidance embodied in the instrument landing system which indicates the horizontal deviation of the aircraft from its optimum path of descent along the axis of the runway or along some other path when used as an offset.

Land station. A station in the mobile service not intended to be used while in motion.

Localizer station. A radionavigation land station which provides horizontal guidance to aircraft with respect to a runway center line.

Marker beacon station. A radionavigation land station in the aeronautical radionavigation service which employs a marker beacon. A marker beacon is a transmitter which radiates vertically a distinctive pattern for providing position information to aircraft.

Mean power (of a radio transmitter). The average power supplied to the antenna transmission line by a transmitter during an interval of time sufficiently long compared with the lowest frequency encountered in the modulation taken under normal operating conditions.

Microwave landing system. An instrument landing system operating in the microwave spectrum that provides lateral and vertical guidance to aircraft having compatible avionics equipment.

Mobile service. A radiocommunication service between mobile and land stations, or between mobile stations. A mobile station is intended to be used while in motion or during halts at unspecified points.

Operational fixed station. A fixed station, not open to public correspondence, operated by and for the sole use of persons operating their own radiocommunication facilities in the public safety, industrial, land transportation, marine, or aviation services.

Peak envelope power (of a radio transmitter). The average power supplied to the antenna transmission line by a transmitter during one radio frequency cycle at the crest of the modulation envelope taken under normal operating conditions.

Private aircraft station. A mobile station on board an aircraft not operated as an air carrier. A station on board an air carrier aircraft weighing less than 12,500 pounds maximum certified takeoff gross weight may be licensed as a private aircraft station.

Racon station. A radionavigation land station which employs a racon. A racon (radar beacon) is a transmitter-receiver associated with a fixed navigational mark, which when triggered by a radar, automatically returns a distinctive signal which can appear on the display of the triggering radar, providing range, bearing and identification information.

Radar. A radiodetermination system based upon the comparison of reference signals with radio signals reflected, or re-transmitted, from the position to be determined.

Radio altimeter. Radionavigation equipment, on board an aircraft or

spacecraft, used to determine the height of the aircraft or spacecraft above the Earth's surface or another surface.

Radiobeacon station. A station in the radionavigation service the emissions of which are intended to enable a mobile station to determine its bearing or direction in relation to the radiobeacon station.

Radiodetermination service. A radiocommuncation service which uses radiodetermination. Radiodetermination is the determination of the position, velocity and/or other characteristics of an object, or the obtaining of information relating to these parameters, by means of the propagation of radio waves. A station in this service is called a radiodetermination station.

Radiolocation service. A radiodetermination service for the purpose of radiolocation. Radiolocation is the use of radiodetermination for purposes other than those of radionavigation.

Radionavigation land test stations. A radionavigation land station which is used to transmit information essential to the testing and calibration of aircraft navigational aids, receiving equipment, and interrogators at predetermined surface locations. The Maintenance Test Facility (MTF) is used primarily to permit maintenance testing by aircraft radio service personnel. The Operational Test Facility (OTF) is used primarily to permit the pilot to check a radionavigation system aboard the aircraft prior to takeoff.

Radionavigation service. A radiodetermination service for the purpose of radionavigation. Radionavigation is the use of radiodetermination for the purpose of navigation, including obstruction warning.

Re-usable launch vehicle (RLV). A booster rocket that can be recovered after launch, refurbished and relaunched.

Surveillance radar station. A radionavigation land station in the aeronautical radionavigation service employing radar to display the presence of aircraft within its range.

Survival craft station. A mobile station in the maritime or aeronautical mobile service intended solely for survival purposes and located on any lifeboat, life raft or other survival equipment.

VHF Omni directional range station (VOR). A radionavigation land station in the aeronautical radionavigation service providing direct indication of the bearing (omni-bearing) of that station from an aircraft.

[53 FR 28940, Aug. 1, 1988, as amended at 54 FR 11719, Mar. 22, 1989; 54 FR 49995, Dec. 4, 1989; 55 FR 4175, Feb. 7, 1990; 57 FR 45749, Oct. 5, 1992]

Subpart B—Applications and Licenses

§ 87.17 Scope.

This subpart contains the procedures and requirements for the filing of applications for radio station licenses in the aviation services. Part 1 of the Commission's rules contains the general rules of practice and procedure applicable to proceedings before the Commission.

§ 87.18 Station license required.

(a) Except for those excluded in paragraph (b) of this section, stations in the aviation service must be licensed by the FCC either individually or by fleet.

(b) An aircraft station is licensed by rule and does not need an individual license issued by the FCC if the aircraft station is not subject to the radio equipment carriage requirements of any statute, treaty, or agreement to which the United States is signatory, the aircraft station is on board a private aircraft, and the aircraft station does not make international flights or communications. Even though an individual license is not required, an aircraft station licensed by rule must be operated in accordance with all applicable operating requirements, procedures, and technical specifications found in this part 87.

[61 FR 18226, Apr. 24, 1996]

§ 87.19 Basic eligibility.

(a) *General.* Foreign governments or their representatives cannot hold station licenses.

(b) *Aeronautical enroute and aeronautical fixed stations.* The following persons

cannot hold an aeronautical enroute or an aeronautical fixed station license.

(1) Any alien or the representative of any alien;

(2) Any corporation organized under the laws of any foreign government;

(3) Any corporation of which any officer or director is an alien;

(4) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or its representative, or by a corporation organized under the laws of a foreign country; or

(5) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or its representatives, or by any corporation organized under the laws of a foreign country, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

§87.21 Standard forms to be used.

(a) Applications must be submitted on prescribed forms which may be obtained from the Commission in Washington, DC 20554 or from any of its field offices.

(b) The following table indicates the correct standard form or other means to be used when submitting an application:

Class of station	Application for—	Use—
Aircraft	New license	FCC Form 404.
	Fleet license (new)	FCC Form 404.
	Modification of license.	FCC Form 404.
	Renewal of license with modification.	FCC Form 404.
	Renewal of license without modification.	FCC Form 405–B.
	Temporary operating authority in conjunction with application for a new license or modification of license.	FCC Form 404–A.
	Transfer of control of corporation.	FCC Form 703.
	Special Temporary authority.	Letter/Telegram.
	Name or address change.	Letter.
Ground	New license	FCC Form 406.
	Modification of license.	FCC Form 406.
	Renewal of license with modification.	FCC Form 406.
	Renewal of license without modification.	FCC Form 452–R.
	Assignment of license.	FCC Form 1046 and 406.
	Transfer of control of corporation.	FCC Form 703.
	Special Temporary Authority.	Letter/Telegram.
Civil Air Patrol.	New license	FCC Form 480.
	Modification of license.	FCC Form 480.
	Renewal of license	FCC Form 480.

[53 FR 28940, Aug. 1, 1988, as amended at 56 FR 64715, Dec. 12, 1991]

§87.23 Supplemental information required.

(a) To minimize harmful interference at the National Radio Astronomy Observatory site at Green Bank, Pocahontas County, WV, and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, WV, an applicant for a new station license (other than mobile, temporary base, temporary fixed or Civil Air Patrol), or for modification of an existing license to change the frequency, power, antenna location, height or directivity within the area bounded by 39′15′N. on the north, 78′30′W. on the east, 37′30′N on the south and 80′30′W on the west, must first notify the Director, National Radio Astronomy Observatory, Attn: Interference Office, Post Office Box No. 2, Green Bank, WV 24944, in writing, of the geographical coordinates of the antenna, antenna height, antenna directivity, frequency, emission and power. The application to the Commission must show the date notification was made to the Observatory. The Commission will allow twenty (20) days after receipt of its copy of the notification for comments or objections. If a timely response is received, the Commission will consider the comments or objections.

(b) Geographical coordinates of Commission facilities which require protection are listed in §0.121(c). Applications for stations (except mobile stations) which will be located within 80 km (50 miles) of the referenced coordinates are

examined to determine extent of possible interference. A clause protecting the monitoring station may be added to the station license.

(c) Each application for a station license to operate in the vicinity of Boulder County, CO, under this part must give due consideration, prior to filing applications, to the need to protect the Table Mountain Radio Receiving Zone from harmful interference. These are the Research Laboratories of the Department of Commerce, Boulder County, CO. To prevent degradation of the present ambient radio signal level at the site, the Department of Commerce seeks to ensure that field strength at 40°07′50″N latitude, 105° 14′40″W longitude, resulting from new assignments (other than mobile stations) or from the modification or relocation of the existing facilities do not exceed the following values:

Frequency range	Field strength (mV/m) in authorized bandwidth of service	Power flux density [1] (dBW/m [2]) in authorized bandwidth of service
Below 540 kHz	10	−65.8
540 to 1600 kHz	20	−59.8
1.6 to 470 MHz	10	[2] −65.8
470 to 890 MHz	30	[2] −56.2
Above 890 MHz	1	[2] −85.8

[1] Equivalent values of power flux density are calculated assuming a free-space characteristic impedence of 376.7 (approximately 120 pi) ohms.

[2] Space stations shall conform to the power flux density limits at the earth's surface specified in appropriate parts of the Commission's rules, but in no case should exceed the above levels in any 4 kHz band for all angles of arrival.

(d) Each applicant is responsible for determining whether proposals for a new or modified station require envionmental information. Applicants should refer to § 1.1307 to identify those actions for which environmental information must be submitted.

[53 FR 28940, Aug. 1, 1988, as amended at 54 FR 11719, Mar. 22, 1989]

§ 87.25 Filing of applications.

Rules about the filing of applications for radio station licenses are contained in this section.

(a) Each application must specify an address in the United States to be used by the Commission in serving documents or directing correspondence to the licensee. Otherwise the address contained in the licensee's most recent notification will be used for this purpose. Failure to answer Commission correspondence can result in revocation of the license.

(b) An original of each application must be filed with the Commission, Gettysburg, PA 17326, unless otherwise noted on the application form. Applications requiring fees as set forth at part 1, subpart G of this chapter must be filed in accordance with § 0.401(b) of the rules.

(c) One application may be submitted for the total number of aircraft stations in the fleet (fleet license).

(d) One application for aeronautical land station license may be submitted for the total number of stations in the fleet.

(e) One application for modification or transfer of control may be submitted for two or more stations when the individual stations are clearly identified and the following elements are the same for all existing or requested station licenses involved:

(1) Applicant;

(2) Specific details of request;

(3) Rule part.

(f) One application must be submitted for each Civil Air Patrol wing. The application must show the total number of transmitters to be authorized. The wing need not notify the Commission each time the number of transmitters is altered. Upon renewal, the wing must notify the Commission of any change in the total number of transmitters.

[53 FR 28940, Aug. 1, 1988, as amended at 56 FR 64715, Dec. 12, 1991]

§ 87.27 License term.

(a) Licenses for aircraft stations will normally be issued for a term of ten years from the date of original issuance, major modification or renewal.

(b) Licenses other than aircraft stations in the aviation services will normally be issued for a term of five years from the date of original issuance, major modification, or renewal.

(c) Licenses for developmental stations will be issued for a period not to exceed one year and are subject to

change or to cancellation by the Commission at any time, upon reasonable notice but without a hearing.

[53 FR 28940, Aug. 1, 1988, as amended at 58 FR 68062, Dec. 23, 1993]

§87.29 Partial grant of application.

Whenever the Commission, without a hearing, grants an application in part or with any privileges, terms, or conditions other than those requested, the action will be considered as a grant of the application unless the applicant, within 30 days from the date on which such grant is made, or from its effective date if a later day is specified, files with the Commission a written protest, rejecting the grant as made. Upon receipt of such protest, the Commission will vacate its original action upon the application and, if necessary, set the application for hearing.

§87.31 Changes during license term.

The following table indicates the required action for changes made during the license term:

Type of change	Required action
Mailing address	Written notice to FCC. Gettysburg, PA 17326.
Name of licensee (without change in ownership, control or corporate structure).	Written notice to FCC. Gettysburg, PA 17326.
Transfer of control of a corporation.	Use FCC Form 703.
Assignment of a radio station license (except aircraft station license).	Use FCC Form 1046 and 406.
Addition of transmitting equipment on a frequency, frequency band or with emission types not authorized on present license.	Use FCC Form 404 (aircraft). Use FCC Form 406 (land). Use FCC Form 480 (C.A.P.).
Addition or replacement of transmitting equipment on a frequency or frequency band with emission types authorized on present license.	None.
Addition of survival craft station.	None

§87.33 Transfer of aircraft station license prohibited.

An aircraft station license cannot be assigned. If the aircraft ownership is transferred, the previous license must be returned to the Commission. The new owner must file for a new license.

§87.35 Cancellation of license.

When a station permanently discontinues operation, the license must be returned to the Commission, Gettysburg, PA 17326.

§87.37 Developmental license.

This section contains rules about the licensing of developmental operations subject to this part.

(a) *Showing required.* Each application for a developmental license must be accompanied by a letter showing that:

(1) The applicant has an organized plan of development leading to a specific objective;

(2) A point has been reached in the program where actual transmission by radio is essential;

(3) The program has reasonable promise of substantial contribution to the use of radio;

(4) The program will be conducted by qualified personnel;

(5) The applicant is legally qualified and possesses technical facilities for conduct of the program as proposed;

(6) The public interest, convenience and necessity will be served by the proposed operation.

(b) *Signature and statement of understanding.* The showing must be signed by the applicant.

(c) *Assignable frequencies.* Developmental stations may be authorized to use frequencies available for the service and class of station proposed. The number of frequencies assigned will depend upon the specific requirements of the developmental program and the number of frequencies available.

(d) *Developmental program.* (1) The developmental program as described by the applicant must be substantially followed.

(2) Where some phases of the developmental program are not covered by the general rules of the Commission and the rules in this part, the Commission may specify supplemental or additional requirements or conditions as considered necessary in the public interest, convenience or necessity.

(3) The Commission may, from time to time, require a station engaged in developmental work to conduct special

tests which are reasonable and desirable to the authorized developmental program.

(e) *Use of developmental stations.* (1) Developmental stations must conform to all applicable technical and operating requirements contained in this part, unless a waiver is specifically provided in the station license.

(2) Communication with any station of a country other than the United States is prohibited unless specifically provided in the station license.

(3) The operation of a developmental station must not cause harmful interference to stations regularly authorized to use the frequency.

(f) *Report of operation required.* A report on the results of the developmental program must be filed within 60 days of the expiration of the license. A report must accompany a request for renewal of the license. Matters which the applicant does not wish to disclose publicly may be so labeled; they will be used solely for the Commission's information. However, public disclosure is governed by § 0.467 of the Commission's rules. The report must include the following:

(1) Results of operation to date.

(2) Analysis of the results obtained.

(3) Copies of any published reports.

(4) Need for continuation of the program.

(5) Number of hours of operation on each authorized frequency during the term of the license to the date of the report.

[53 FR 28940, Aug. 1, 1988, as amended at 54 FR 11719, Mar. 22, 1989]

§ 87.39 Equipment acceptable for licensing.

Transmitters listed in this part must be type accepted for a particular use by the Commission based upon technical requirements contained in subpart D of this part.

§ 87.41 Frequencies.

(a) *Applicant responsibilities.* The applicant must propose frequencies to be used by the station consistent with the applicant's eligibility, the proposed operation and the frequencies available for assignment. Applicants must cooperate in the selection and use of frequencies in order to minimize interference and obtain the most effective use of stations. See subpart E and the appropriate subpart applicable to the class of station being considered.

(b) *Licensing limitations.* Frequencies are available for assignment to stations on a shared basis only and will not be assigned for the exclusive use of any licensee. The use of any assigned frequency may be restricted to one or more geographical areas.

(c) *Government frequencies.* Frequencies allocated exclusively to federal government radio stations may be licensed. The applicant for a government frequency must provide a satisfactory showing that such assignment is required for inter-communication with government stations or required for coordination with activities of the federal government. The Commission will coordinate with the appropriate government agency before a government frequency is assigned.

(d) *Assigned frequency.* The frequency coinciding with the center of an authorized bandwidth of emission must be specified as the assigned frequency. For single sideband emission, the carrier frequency must also be specified.

§ 87.43 Operation during emergency.

A station may be used for emergency communications in a manner other than that specified in the station license or in the operating rules when normal communication facilities are disrupted. The Commission may order the discontinuance of any such emergency service.

§ 87.45 Time in which station is placed in operation.

This section applies to unicom stations and radionavigation land stations, excluding radionavigation land test stations. In those cases in which a new or modified license is issued, if the station or modifications authorized have not been placed in operation within eight months from the date of the grant, the license becomes invalid and must be returned to the Commission unless the licensee shows good cause why notification was not made. The licensee must notify the Commission in writing when the station is placed in operation.

§87.47 Application for a portable aircraft station license.

A person may apply for a portable aircraft radio station license if the need exists to operate the same station on more than one U.S. aircraft.

§87.51 Aircraft earth station commissioning.

(a) Aircraft earth stations which require commissioning to use a privately owned satellite system must submit FCC Form 404 to the Commission before transmitting on any satellite frequency bands allocated for aeronautical mobile-satellite communications.

(b) Aircraft earth stations authorized to operate in the Inmarsat space segment must display the Commission license together with the commissioning certificate issued by Inmarsat. Notwithstanding the requirements of this paragraph, aircraft earth stations may operate in the Inmarsat space segment without an Inmarsat-issued commissioning certificate if written approval is obtained from Inmarsat in addition to the license from the Commission.

[57 FR 45749, Oct. 5, 1992]

Subpart C—Operating Requirements and Procedures

OPERATING REQUIREMENTS

§87.69 Maintenance tests.

The licensee may make routine maintenance tests on equipment other than emergency locator transmitters if there is no interference with the communications of any other station. Procedures for conducting tests on emergency locator transmitters are contained in subpart F.

§87.71 Frequency measurements.

A licensed operator must measure the operating frequencies of all land-based transmitters at the following times:

(a) When the transmitter is originally installed;

(b) When any change or adjustment is made in the transmitter which may affect an operating frequency; or

(c) When an operating frequency has shifted beyond tolerance.

§87.73 Transmitter adjustments and tests.

A general radiotelephone operator must directly supervise and be responsible for all transmitter adjustments or tests during installation, servicing or maintenance of a radio station. A general radiotelephone operator must be responsible for the proper functioning of the station equipment.

§87.75 Maintenance of antenna structure marking and control equipment.

The owner of each antenna structure required to be painted and/or illuminated under the provisions of Section 303(q) of the Communications Act of 1934, as amended, shall operate and maintain the antenna structure painting and lighting in accordance with part 17 of this chapter. In the event of default by the owner, each licensee or permittee shall be individually responsible for conforming to the requirements pertaining to antenna structure painting and lighting.

[61 FR 4368, Feb. 6, 1996]

§87.77 Availability for inspections.

The licensee must make the station and its records available for inspection upon request.

§87.79 Answer to notice of violation.

(a) Any person who receives an official notice of violation of the Communications Act, any legislative act, executive order, treaty to which the U.S. is a party, terms of a station or operator license, or the Commission's rules must send a written answer, in duplicate, to the office which originated the notice, within 10 days of receipt. If the licensee cannot acknowledge within the allotted period due to unavoidable circumstances, an answer must be given at the earliest practicable date with a satisfactory explanation of the delay.

(b) The answer to each notice must be complete in itself. The answer must contain a full expalantion of the incident involved and must give the action taken to prevent a recurrence of the violation. If the notice relates to operator errors, the answer must give the

name and license number of the operator on duty.

RADIO OPERATOR REQUIREMENTS

§ 87.87 Classification of operator licenses and endorsements.

(a) Commercial radio operator licenses issued by the Commission are classified in accordance with the Radio Regulations of the International Telecommunication Union.

(b) The following licenses are issued by the Commission. International classification, if different from the license name, is given in parentheses. The licenses and their alphanumeric designator are listed in descending order.

(1) T–1 First Class Radiotelegraph Operator's Certificate

(2) T–2 Second Class Radiotelegraph Operator's Certificate

(3) G General Radiotelephone Operator Licenes (radiotelephone operator's general certificate)

(4) T–3 Third Class Radiotelegraph Operator's Certificate (radiotelegraph operator's special certificate)

(5) MP Marine Radio Operator Permit (radiotelephone operator's restricted certificate)

(6) RP Restricted Radiotelephone Operator Permit (radiotelephone operator's restricted certificate)

§ 87.89 Minimum operator requirements.

(a) A station operator must hold a commercial radio operator license or permit, except as listed in paragraph (d).

(b) The minimum operator license or permit required for operation of each specific classification is:

MINIMUM OPERATOR LICENSE OR PERMIT

Land stations, all classes

—All frequencies except VHF telephony transmitters providing domestic service .....RP

Aircraft stations, all classes

—Frequencies below 30 MHz allocated exclusively to aeronautical mobile services .....RP
—Frequencies below 30 MHz not allocated exclusively to aeronautical mobile services .....MP or higher
—Frequencies above 30 MHz not allocated exclusively to aeronautical mobile services and assigned for international use .....MP or higher
—Frequencies above 30 MHz not assigned for international use .....none
—Frequencies not used solely for telephone or exceeding 250 watts carrier power or 1000 watts peak envelope power.....G or higher

(c) The operator of a telephony station must directly supervise and be responsible for any other person who transmits from the station, and must ensure that such communications are in accordance with the station license.

(d) No operator license is required to:

(1) Operate an aircraft radar set, radio altimeter, transponder or other aircraft automatic radionavigation transmitter by flight personnel;

(2) Test an emergency locator transmitter or a survival craft station used solely for survival purposes;

(3) Operate an aeronautical enroute station which automatically transmits digital communications to aircraft stations;

(4) Operate a VHF telephony transmitter providing domestic service or used on domestic flights.

§ 87.91 Operation of transmitter controls.

The holder of a marine radio operator permit or a restricted radiotelephone operator permit must perform only transmitter operations which are controlled by external switches. These operators must not perform any internal adjustment of transmitter frequency determining elements. Further, the stability of the transmitter frequencies at a station operated by these operators must be maintained by the transmitter itself. When using an aircraft radio station on maritime mobile service frequencies the carrier power of the transmitter must not exceed 250 watts (emission A3E) or 1000 watts (emission R3E, H3E, or J3E).

OPERATING PROCEDURES

§ 87.103 Posting station license.

(a) *Stations at fixed locations.* The license or a photocopy must be posted or retained in the station's permanent records.

(b) *Aircraft radio stations.* The license must be either posted in the aircraft or

kept with the aircraft registration certificate. If a single authorization covers a fleet of aircraft, a copy of the license must be either posted in each aircraft or kept with each aircraft registration certificate.

(c) *Aeronautical mobile stations.* The license must be retained as a permanent part of the station records.

[53 FR 28940, Aug. 1, 1988, as amended at 54 FR 11720, Mar. 22, 1989]

§87.105 Availability of operator permit or license.

All operator permits or licenses must be readily available for inspection.

§87.107 Station identification.

(a) *Aircraft station.* Identify by one of the following means:

(1) Aircraft radio station call sign.

(2) Assigned FCC control number (assigned to ultralight aircraft).

(3) The type of aircraft followed by the characters of the registration marking (''N'' number) of the aircraft, omitting the prefix letter ''N''. When communication is initiated by a ground station, an aircraft station may use the type of aircraft followed by the last three characters of the registration marking.

(4) The FAA assigned radiotelephony designator of the aircraft operating organization followed by the flight identification number.

(5) An aircraft identification approved by the FAA for use by aircraft stations participating in an organized flying activity of short duration.

(b) *Land and fixed stations.* Identify by means of radio station call sign, its location, its assigned FAA identifier, the name of the city area or airport which it serves, or any additional identification required. An aeronautical enroute station which is part of a multistation network may also be identified by the location of its control point.

(c) *Survival craft station.* Identify by transmitting a reference to its parent aircraft. No identification is required when distress signals are transmitted automatically. Transmissions other than distress or emergency signals, such as equipment testing or adjustment, must be identified by the call sign or by the registration marking of the parent aircraft followed by a single digit other than 0 or 1.

(d) *Exempted station.* The following types of stations are exempted from the use of a call sign: Airborne weather radar, radio altimeter, air traffic control transponder, distance measuring equipment, collision avoidance equipment, racon, radio relay, radionavigation land test station (MTF), and automatically controlled aeronautical enroute stations.

§87.109 Station logs.

A station at a fixed location in the international aeronautical mobile service must maintain a written or automatic log in accordance with Paragraph 3.5, Volume II, Annex 10 of the ICAO Convention.

§87.111 Suspension or discontinuance of operation.

The licensee of any airport control tower station or radionavigation land station must notify the nearest FAA regional office upon the temporary suspension or permanent discontinuance of the station. The FAA center must be notified again when service resumes.

[54 FR 11720, Mar. 22, 1989]

Subpart D—Technical Requirements

§87.131 Power and emissions.

The following table lists authorized emissions and maximum power. Power must be determined by direct measurement.

Class of station	Frequency band/frequency	Authorized emission(s)	Maximum power [1]
Aeronautical advisory	VHF	A3E	10 watts.
Aeronautical multicom	VHF	A3E	10 watts.
Aeronautical enroute and aeronautical fixed	HF	R3E, H3E, J3E, J7B, H2B	6 kw.
	HF	A1A, F1B, J2A, J2B	1.5 kw.
	VHF	A3E, A9W	200 watts.[2]
Aeronautical search and rescue	VHF	A3E	10 watts.
	HF	R3E, H3E, J3E	100 watts.
Operational fixed	VHF	G3E, F2D	30 watts.
Flight test land	VHF	A3E	200 watts.
	UHF	F2D, F9D, F7D	25 watts.[3]
	HF	H2B, J3E, J7D, J9W	6.0 kw.
Aviation support	VHF	A3E	50 watts.
Airport control tower	VHF	A3E	50 watts.
	Below 400 kHz	A3E	15 watts.
Aeronautical utility mobile	VHF	A3E	10 watts.
Radionavigation land test	108.150 MHz	A9W	1 milliwatt.
	334.550 MHz	A1N	1 milliwatt.
	Other VHF	M1A, XXA, A1A, A1N, A2A, A2D, A9W.	1 watt.
	Other UHF	M1A, XXA, A1A, A1N, A2A, A2D, A9W.	1 watt.
	5031.0 MHz	F7D	1 watt.
Radionavigation land	Various [4]	Various [4]	Various.[4]
	Aeronautical Frequencies		
Aircraft (Communication)	UHF	F2D, F9D, F7D	25 watts.
	VHF	A3E, A9W	55 watts.
	HF	R3E, H3E, J3E, J7B, H2B, J7D, J9W.	400 watts.
	HF	A1A, F1B, J2A, J2B	100 watts.
	Marine Frequencies [5]		
	156.300 MHz	G3E	5 watts.
	156.375 MHz	G3E	5 watts.
	156.400 MHz	G3E	5 watts.
	156.425 MHz	G3E	5 watts.
	156.450 MHz	G3E	5 watts.
	156.625 MHz	G3E	5 watts.
	156.800 MHz	G3E	5 watts.
	156.900 MHz	G3E	5 watts.
	157.425 MHz	G3E	5 watts.
	HF [6]	R3E, H3E, J3E, J2B, F1B, A3E.	1000 watts. 250 watts.
	MF [6]	R3E, H3E, J3E, J2B, F1B	1000 watts.
	HF [6]	A3E	250 watts.

(Radionavigation)	Various [7]	Various [7]	Various.[7]
Aircraft earth	UHF	G1D, G1E, G1W	60 watts.[8]

[1] The power is measured at the transmitter output terminals and the type of power is determined according to the emission designator as follows:
(i) Mean power (pY) for amplitude modulated emissions and transmitting both sidebands using unmodulated full carrier.
(ii) Peak envelope power (pX) for all emission designators other than those referred to in paragraph (i) of this note.
[2] Power and antenna height are restricted to the minimum necessary to achieve the required service.
[3] Transmitter power may be increased to overcome line and duplexer losses but must not exceed 25 watts delivered to the antenna.
[4] Frequency, emission, and maximum power will be determined after coordination with appropriate Government agencies.
[5] To be used with airborne marine equipment type accepted for part 80 (ship) and used in accordance with part 87.
[6] Applicable only to marine frequencies used for public correspondence.
[7] Frequency, emission, and maximum power will be determined by appropriate standards during the type acceptance process.
[8] Power may not exceed 60 watts per carrier. The maximum EIRP may not exceed 2000 watts per carrier.

[54 FR 11720, Mar. 22, 1989, as amended at 57 FR 45749, Oct. 5, 1992]

§ 87.133 Frequency stability.

(a) Except as provided in paragraphs (c), (d), and (f) of this section, the carrier frequency of each station must be maintained within these tolerances:

Frequency band (lower limit exclusive, upper limit inclusive), and categories of stations	Tolerance [1]	Tolerance [2]
(1) Band-9 to 535 kHz:		
Aeronautical stations	100	100
Aircraft stations	200	100
Survival craft stations on 500 kHz	5,000	20 Hz [3]
Radionavigation stations	100	100
(2) Band-1605 to 4000 kHz:		
Aeronautical fixed stations:		
Power 200 W or less	100	100 [8]
Power above 200 W	50	50 [8]
Aeronautical stations:		
Power 200 W or less	100 [7]	100 [7, 8]
Power above 200 W	50 [7]	50 [7, 8]
Aircraft stations	100 [7]	100 [7]
Survival craft stations on 2182 kHz	200	20 Hz [3]
(3) Band-4 to 29.7 MHz:		
Aeronautical fixed stations:		
Power 500 W or less	50	
Power above 500 W	15	
Single-sideband and Independent-sideband emission:		
Power 500 W or less		50 Hz
Power above 500 W		20 Hz
Class F1B emissions		10 Hz
Other classes of emission:		
Power 500 W or less		20
Power above 500 W		10
Aeronautical stations:		
Power 500 W or less	[7] 100	100 [7]
Power above 500 W	[7] 50	50 [7]
Aircraft stations	[7] 100	100 [7]
Survival craft stations on 8364 kHz	200	50 Hz [3]
(4) Band-29.7 to 100 MHz:		
Aeronautical fixed stations:		
Power 200 W or less	50	
Power above 200 W	30	
Power 50 W or less		30
Power above 50 W		20
Operational fixed stations:		
73–74.6 MHz (Power 50 W or less).	50	30
73–74.6 MHz (Power above 50 W).	20	20
72–73.0 MHz and 75.4–76.0 MHz.	5	5
Radionavigation stations	100	50
(5) Band-100 to 137 MHz:		
Aeronautical stations	[4] 50	20
Emergency locator transmitter test stations.	50	50
Survival craft stations on 121.5 MHz.	50	50
Emergency locator stations	50	50
Aircraft and other mobile stations in the Aviation Services.	50 [5]	30 [10]
Radionavigation stations	20	20
(6) Band-137 to 470MHz:		
Aeronautical stations	50	20
Survival craft stations on 243 MHz	50	50
Aircraft stations	50 [5]	30 [10]
Radionavigation stations	50	50
Emergency locator transmitters on 406 MHz.	N/A	5
(7) Band-470 to 2450 MHz:		
Aeronautical stations	100	20
Aircraft stations	100	20
Aircraft earth station		320 Hz [11]
Radionavigation stations:		
470–960 MHz	500	500
960–1215 MHz	20	20
1215–2450 MHz	500	500
(8) Band-2450 to 10500 MHz:		
Radionavigation stations	[6, 9] 1250	1250 [6, 9]
(9) Band-10.5 GHz to 40 GHz:		
Radionavigation stations	5000	5000

[1] This tolerance is the maximum permitted until January 1, 1990, for transmitters installed before January 2, 1985, and used at the same installation. Tolerance is indicated in parts in 10^6 unless shown as Hertz (Hz).

[2] This tolerance is the maximum permitted after January 1, 1985 for new and replacement transmitters and to all transmitters after January 1, 1990. Tolerance is indicated in parts in 10^6 unless shown as Hertz (Hz).

[3] For transmitters first type accepted or type approved after November 30, 1977.

[4] The tolerance for transmitters type accepted between January 1, 1966, and January 1, 1974, is 30 parts in 10^6. The tolerance for transmitters type accepted after January 1, 1974, and stations using offset carrier techniques is 20 parts in 10^6.

[5] The tolerance for transmitters type accepted after January 1, 1974, is 30 parts in 10^6.

[6] In the 5000 to 5250 MHz band, the FAA requires a tolerance of ±10 kHz for Microwave Landing System stations which are to be a part of the National Airspace System (FAR 171).

[7] For single-sideband transmitters operating in the frequency bands 1605–4000 kHz and 4–29.7 MHz which are allocated exclusively to the Aeronautical Mobile (R) Service, the tolerance is: Aeronautical stations, 10 Hz; aircraft stations, 20 Hz.

[8] For single-sideband radiotelephone transmitters the tolerance is: In the bands 1605–4000 kHz and 4–29.7 MHz for peak envelope powers of 200 W or less and 500 W or less, respectively, 50 Hz; in the bands 1605–4000 kHz and 4–29.7 MHz for peak envelope powers above 200 W and 500 W, respectively, 20 Hz.

[9] Where specific frequencies are not assigned to radar stations, the bandwidth occupied by the emissions of such stations must be maintained within the band allocated to the service and the indicated tolerance does not apply.

[10] Until January 1, 1997, the maximum frequency tolerance for transmitters with 50 kHz channel spacing installed before January 2, 1985, is 50 parts in 10^6.

[11] For purposes of type acceptance, a tolerance of 160 Hz applies to the reference oscillator of the AES transmitter. This is a bench test.

(b) The power shown in paragraph (a) of this section is the peak envelope power for single-sideband transmitters and the mean power for all other transmitters.

(c) For single-sideband transmitters, the tolerance is:

(1) All aeronautical stations on land other than Civil Air Patrol.....10 Hz
(2) All aircraft stations other than Civil Air Patrol.....20 Hz
(3) Civil Air Patrol Stations.....50 Hz

(d) For radar transmitters, except non-pulse signal radio altimeters, the frequency at which maximum emission occurs must be within the authorized frequency band and must not be closer than 1.5/T MHz to the upper and lower limits of the authorized bandwidth,

where T is the pulse duration in microseconds.

(e) The Commission may authorize tolerances other than those specified in this section upon a satisfactory showing of need.

(f) The carrier frequency tolerance of transmitters operating in the 1435–1535 MHz and 2310–2390 MHz bands manufactured before January 2, 1985, is 0.003 percent. The carrier frequency tolerance of transmitters operating in the 1435–1535 MHz and 2310–2390 MHz bands manufactured after January 1, 1985, is 0.002 percent. After January 1, 1990, the carrier frequency tolerance of all transmitters operating in the 1435–1535 MHz and 2310–2390 MHz bands is 0.002 percent.

[53 FR 28940, Aug. 1, 1988, as amended at 56 FR 38084, Aug. 12, 1991; 57 FR 45749, Oct. 5, 1992; 58 FR 31027, May 26, 1993]

§ 87.135 Bandwidth of emission.

(a) Occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to 0.5 percent of the total mean power of a given emission.

(b) The authorized bandwidth is the maximum occupied bandwidth authorized to be used by a station.

(c) The necessary bandwidth for a given class of emission is the width of the frequency band which is just sufficient to ensure the transmission of information at the rate and with the quality required under specified conditions.

§ 87.137 Types of emission.

(a) The assignable emissions, corresponding emission designators and authorized bandwidths are as follows:

Class of emission	Emission designator	Authorized bandwidth (kilohertz)		
		Below 50 MHz	Above 50 MHz	Frequency deviation
A1A [1]	100HA1A	0.25		
A1N	300HA1N		0.75	
A2A	2K04A2A	2.74	50	
A2D	6K0A2D		50	
A2D [5]	13K0A2D	.....	50	.....
A3E [2]	6K00A3E		[3] 50	
A3E	3K20A3E [15]		[15] 25	
A3X [4]	3K20A3X		25	
A9W [5]	13K0A9W		25	
F1B [1]	1K70F1B	1.7		
F1B [1]	2K40F1B	2.5		
F2D	5M0F2D		(9)	
F3E [6]	16K0F3E		20	5
F3E [7]	36K0F3E		40	15
F7D [8]	5M0F7D		(9)	
F9D	5M0F9D		(9)	
G1D	16K0G1D		20kHz	
G1D [16]	21K0G1D		25	
G1E [16]	21K0G1E		25	
G1W [16]	21K0G1W		25	
G3E [6]	16K0G3E		20	5
H2B [10 11]	2K80H2B	3.0		
H3E [11 12]	2K80H3E	3.0		
J2A [1]	100HJ2A	0.25		
J2B [1]	1K70J2B	1.7		
	2K40J2B	2.5		
J3E [11 12]	2K80J3E	3.0		
J7B [11]	2K80J7B	3.0		
J7D	5M0J7D		(9)	
J9W [11]	2K80J9W	3.0		
M1A	620HM1A			
NON	NON		None [15]	
PON [13]	(9)		(9)	
R3E [11 12]	2K80R3E	3.0		
XXA [14]	1K12XXA	2.74		

NOTES:
[1] A1A, F1B, J2A and J2B are permitted provided they do not cause harmful interference to H2B, J3E, J7B and J9W.
[2] For use with an authorized bandwidth of 8.0 kilohertz at radiobeacon stations. A3E will not be authorized:

(i) At existing radiobeacon stations that are not authorized to use A3 and at new radiobeacon stations unless specifically recommended by the FAA for safety purposes.

(ii) At existing radiobeacon stations currently authorized to use A3, subsequent to January 1, 1990, unless specifically recommended by the FAA for safety purposes.

[3] In the band 117.975–136 MHz, the authorized bandwidth is 25 kHz for transmitters type accepted after January 1, 1974.

[4] Applicable only to Survival Craft Stations and to the emergency locator transmitters and emergency locator transmitter test stations employing modulation in accordance with that specified in § 87.141 of the Rules. The specified bandwidth and modulation requirements shall apply to emergency locator transmitters for which type acceptance is granted after October 21, 1973.

[5] This emission may be authorized for audio frequency shift keying and phase shift keying for digital data links on any frequency listed in § 87.263(a)(1), § 87.263(a)(3) or § 87.263(a)(5). 13K0A2D emission may be authorized on frequencies not used for voice communications. If the channel is used for voice communications, 13K0A9W emission may be authorized, provided the data is multiplexed on the voice carrier without derogating voice communications.

[6] Applicable to operational fixed stations in the bands 72.0–73.0 MHz and 75.4–76.0 MHz and to CAP stations using F3 on 143.900 MHz and 148.150 MHz.

[7] Applicable to operational fixed stations presently authorized in the band 73.0–74.6 MHz.

[8] The authorized bandwidth is equal to the necessary bandwidth for frequency or digitally modulated transmitters used in aeronautical telemetering and associated aeronautical telemetry or telecommand stations operating in the 1435–1535 MHz and 2310–2390 MHz bands. The necessary bandwidth must be computed in accordance with part 2 of this chapter.

[9] To be specified on license.

[10] H2B must be used by stations employing digital selective calling.

[11] For A1A, F1B and single sideband emissions, except H2B, the assigned frequency must be 1400 Hz above the carrier frequency.

[12] R3E, H3E, and J3E will be authorized only below 25000 kHz. Only H2B, J3E, J7B, and J9W are authorized, except that A3E and H3E may be used only on 3023 kHz and 5680 kHz for search and rescue operations.

[13] The letters ''K, L, M, Q, V, W, and X'' may also be used in place of the letter ''P'' for pulsed radars.

[14] Authorized for use at radiobeacon stations.

[15] Applicable only to transmitters of survival craft stations, emergency locator transmitter stations and emergency locator transmitter test stations type accepted after October 21, 1973.

[16] Authorized for use by aircraft earth stations. Lower values of necessary and authorized bandwidth are permitted.

(b) For other emissions, an applicant must determine the emission designator by using part 2 of this chapter.

(c) A license to use radiotelephony includes the use of tone signals or signaling devices whose sole function is to establish or maintain voice communications.

(d) Emissions other than, or bandwidths in excess of, those listed in paragraph (b) of this section, will be authorized only upon a satisfactory showing of need. An application requesting this special license must fully describe the emission desired and the required bandwidth, and must state the purpose of the proposed operation.

[53 FR 28940, Aug. 1, 1988, as amended at 55 FR 7333, Mar. 1, 1990; 55 FR 13535, Apr. 11, 1990; 55 FR 28627, July 12, 1990; 56 FR 11518, Mar. 19, 1991; 57 FR 45749, Oct. 5, 1992; 58 FR 30127, May 26, 1993]

§ 87.139 Emission limitations.

(a) Except for ELTs and when using single sideband (R3E, H3E, J3E), or frequency modulation (F9) or digital modulation (F9Y) for telemetry or telecommand in the frequency bands 1435–1535 MHz and 2310–2390 MHz, the mean power of any emissions must be attenuated below the mean power of the transmitters (pY) as follows:

(1) When the frequency is removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth the attenuation must be at least 25 dB;

(2) When the frequency is removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth the attenuation must be at least 35 dB.

(3) When the frequency is removed from the assigned frequency by more than 250 percent of the authorized bandwidth the attenuation for aircraft station transmitters must be at least 40 dB; and the attenuation for aeronautical station transmitters must be at least $43 + 10 \log_{10}$ pY dB.

(b) For aircraft station transmitters and for aeronautical station transmitters first installed before February 1, 1983, and using H2B, H3E, J3E, J7B or J9W, the mean power of any emissions must be attenuated below the mean power of the transmitter (pY) as follows:

(1) When the frequency is removed from the assigned frequency by more than 50 percent up to and including 150 percent of the authorized bandwidth of 4.0 kHz, the attenuation must be at least 25 dB.

(2) When the frequency is removed from the assigned frequency by more than 150 percent up to and including 250 percent of the authorized bandwidth of 4.0 kHz, the attenuation must be at least 35 dB.

(3) When the frequency is removed from the assigned frequency by more than 250 percent of the authorized bandwidth of 4.0 kHz for aircraft station transmitters the attenuation must

be at least 40 dB; and for aeronautical station transmitters the attenuation must be at least 43 + 10 $\log_{10}$ pY dB.

(c) For aircraft station transmitters first installed after February 1, 1983, and for aeronautical station transmitters in use after February 1, 1983, and using H2B, H3E, J3E, J7B or J9W, the peak envelope power of any emissions must be attenuated below the peak envelope power of the transmitter (pX) as follows:

(1) When the frequency is removed from the assigned frequency by more than 50 percent up to and including 150 percent of the authorized bandwidth of 3.0 kHz, the attenuation must be at least 30 dB.

(2) When the frequency is removed from the assigned frequency by more than 150 percent up to and including 250 percent of the authorized bandwidth of 3.0 kHz, the attenuation must be at least 38 dB.

(3) When the frequency is removed from the assigned frequency by more than 250 percent of the authorized bandwidth of 3.0 kHz for aircraft transmitters the attenuation must be at least 43 dB. For aeronautical station transmitters with transmitter power up to and including 50 watts the attenuation must be at least 43 + 10 $\log_{10}$ pX dB and with transmitter power more than 50 watts the attenuation must be at least 60 dB.

(d) Except for telemetry in the 1435–1535 MHz band, when the frequency is removed from the assigned frequency by more than 250 percent of the authorized bandwidth for aircraft stations above 30 MHz and all ground stations the attenuation must be at least 43+10 $\log_{10}$ pY dB.

(e) When using frequency modulation or digital modulation for telemetry or telecommand in the 1435–1535 MHz and 2310–2390 MHz frequency bands with an authorized bandwidth equal to or less than 1 MHz the emissions must be attenuated as follows:

(1) On any frequency removed from the assigned frequency by more than 100 percent of the authorized bandwidth up to and including 100 percent plus 0.5 MHz, the attenuation must be at least 60 dB, when measured in a 3.0 kHz bandwidth. This signal need not be attenuated more than 25 dB below 1 milliwatt.

(2) On any frequency removed from the assigned frequency by more than 100 percent of the authorized bandwidth plus 0.5 MHz, the attenuation must be at least 55 + 10 $\log_{10}$ pY dB when measured in a 3.0 kHz bandwidth.

(f) When using frequency modulation or digital modulation for telemetry or telecommand in the 1435–1535 MHz or 2310–2390 MHz frequency bands with an authorized bandwidth greater than 1 MHz, the emissions must be attenuated as follows:

(1) On any frequency removed from the assigned frequency by more than 50 percent of the authorized bandwidth plus 0.5 MHz up to and including 50 percent of the authorized bandwidth plus 1.0 MHz, the attenuation must be 60 dB, when measured in a 3.0 kHz bandwidth. The signal need not be attenuated more than 25 dB below 1 milliwatt.

(2) On any frequency removed from the assigned frequency by more than 50 percent of the authorized bandwidth plus 1.0 MHz, the attenuation must be at least 55 + 10 $\log_{10}$ pY dB, when measured in a 3.0 kHz bandwidth.

(g) The requirements of paragraphs (e) and (f) of this section apply to transmitters type accepted after January 1, 1977, and to all transmitters first installed after January 1, 1983.

(h) For ELTs operating on 121.500 MHz, 243.000 MHz and 406.025 MHz the mean power of any emission must be attenuated below the mean power of the transmitter (pY) as follows:

(1) When the frequency is moved from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth the attenuation must be at least 25 dB;

(2) When the frequency is removed from the assigned frequency my more than 100 percent of the authorized bandwidth the attenuation must be at least 30 dB.

(i) In case of conflict with other provisions of § 87.139, the provisions of this paragraph shall govern for aircraft earth stations. When using G1D, G1E, or G1W emissions in the 1646.5–1660.5 MHz frequency band, the emissions must be attenuated as shown below.

(1) At rated output power, while transmitting a modulated single carrier, the composite spurious and noise output shall be attenuated below the mean power of the transmitter, pY, by at least:

Frequency (MHz)	Attenuation (dB)[1]
.005–1559	83 or (65+10 $\log_{10}$ pY), whichever is greater.
1559–18000	55 or (37+10 $\log_{10}$ pY)[2], whichever is greater.

[1] These values are expressed in dB below the carrier referenced to a 4 kHz bandwidth and relative to the maximum emission envelope level.

[2] Excluding the frequency band of +/−35 kHz or +/−4.00 x the symbol rate (SR), about the carrier frequency, whichever is the greater exclusion.

(2) For transmitters rated at 60 watts or less:

When transmitting two unmodulated carriers, each 3 dB below the rated power, the mean power of any intermodulation products must be at least 24 dB below the mean power of either carrier.

(3) The transmitter emission limit is a function of the modulation type and symbol rate (SR). Symbol Rate is expressed in symbols per second.

(4) While transmitting a single modulated signal at the rated output power of the transmitter, the emissions must be attenuated below the maximum emission level by at least:

Frequency Offset (normalized to SR)	Attenuation (dB)
+/−0.75 x SR	0
+/−1.40 x SR	20
+/−2.80 x SR	40
+/−4.00 x SR or +/−35 kHz Whichever is greater.	F_m

Where:

F_m=55 or (37+10$\log_{10}$pY), whichever is greater

SR=Symbol Rate

SR=1 x channel rate for BPSK

SR=0.5 x channel rate for QPSK

The mask shall be defined by drawing straight lines through the above points.

[53 FR 28940, Aug. 1, 1988, as amended at 56 FR 11518, Mar. 19, 1991; 57 FR 45749, Oct. 5, 1992; 58 FR 30127, May 26, 1993; 58 FR 67695, Dec. 22, 1993; 59 FR 35269, July 11, 1994]

§ 87.141 Modulation requirements.

(a) When A3E emission is used, the modulation percentage must not exceed 100 percent. This requirement does not apply to emergency locator transmitters or survival craft transmitters.

(b) A double sideband full carrier amplitude modulated radiotelephone transmitter with rated carrier power output exceeding 10 watts must be capable of automatically preventing modulation in excess of 100 percent.

(c) If any licensed radiotelephone transmitter causes harmful interference to any authorized radio service because of excessive modulation, the Commission will require the use of the transmitter to be discontinued until it is rendered capable of automatically preventing modulation in excess of 100 percent.

(d) Single sideband transmitters must be able to operate in the following modes:

Carrier mode	Level N(dB) of the carrier with respect to peak envelope power
Full carrier (H3E)	O>N>–6.
Suppressed carrier (J3E)	Aircraft stations N<–26≧ Aeronautical stations N<–40.

(e) Each frequency modulated transmitter operating in the band 72.0–76.0 MHz must have a modulation limiter.

(f) Each frequency modulated transmitter equipped with a modulation limiter must have a low pass filter between the modulation limiter and the modulated stage. At audio frequencies between 3 kHz and 15 kHz, the filter must have an attenuation greater than the attenuation at 1 kHz by at least 40 $\log_{10}$ (f/3) db where ''f'' is the frequency in kilohertz. Above 15 kHz, the attenuation must be at least 28 db greater than the attenuation at 1 kHz.

(g) Except that symmetric side bands are not required, the modulation characteristics for ELTs must be in accordance with specifications contained in the Federal Aviation Administration (FAA) Technical Standard Order (TSO) Document TSO–C91a titled ''Emergency Locator Transmitter (ELT) Equipment'' dated April 29, 1985. TSO–C91a is incorporated by reference in accordance with 5 U.S.C. 552(a). TSO–C91a may be obtained from the Department of Transportation, Federal Aviation Administration, Office of Airworthiness, 800 Independence Avenue SW., Washington DC 20591.

(h) ELTs must use A3X emission and may use A3E or NON emissions on an optional basis while transmitting. Each transmission of a synthesized or recorded voice message from an ELT must be preceded by the words ''this is a recording''; transmission of A3E or NON emission must not exceed 90 seconds; and any transmission of A3E or NON emissions must be followed by at least three minutes of A3X emission.

(i) ELTs manufactured on or after October 1, 1988, must have a clearly defined carrier frequency distinct from the modulation sidebands for the mandatory emission, A3X, and, if used, the A3E or NON emissions. On 121.500 MHz at least thirty per cent of the total power emitted during any transmission cycle with or without modulation must be contained within plus or minus 30 Hz of the carrier frequency. On 243.000 MHz at least thirty percent of the total power emitted during any transmission cycle with or without modulation must be contained within plus or minus 60 Hz of the carrier frequency. Additionally, if the type of emission is changed during transmission, the carrier frequency must not shift more than plus or minus 30 Hz on 121.500 MHz and not more than plus or minus 60Hz on 243.000 MHz. The long term stability of the carrier frequency must comply with the requirements in §87.133 of this part.

(j) Transmitters used at Aircraft earth stations must employ BPSK for transmission rates up to and including 2400 bits per second, and QPSK for higher rates.

[53 FR 28940, Aug. 1, 1988, as amended at 54 FR 11721, Mar. 22, 1989; 56 FR 11518, Mar. 19, 1991; 57 FR 45749, Oct. 5, 1992]

§87.143 Transmitter control requirements.

(a) Each transmitter must be installed so that it is not accessible to, or capable of being operated by persons other than those authorized by the licensee.

(b) Each station must be provided with a control point at the location of the transmitting equipment, unless otherwise specifically authorized. Except for aeronautical enroute stations governed by paragraph (e) of this section, a control point is the location at which the radio operator is stationed. It is the position at which the transmitter(s) can immediately be turned off.

(c) Applicants for additional control points at aeronautical advisory (unicom) stations must specify the location of each proposed control point.

(d) Except for aeronautical enroute stations governed by paragraph (f) of this section, the control point must have the following facilities installed:

(1) A device that indicates when the transmitter is radiating or when the transmitter control circuits have been switched on. This requirement does not apply to aircraft stations;

(2) Aurally monitoring of all transmissions originating at dispatch points;

(3) A way to disconnect dispatch points from the transmitter; and

(4) A way to turn off the transmitter.

(e) A dispatch point is an operating position subordinate to the control point. Dispatch points may be installed without authorization from the Commission, and dispatch point operators are not required to be licensed.

(f) In the aeronautical enroute service, the control point for an automatically controlled enroute station is the computer facility which controls the transmitter. Any computer controlled transmitter must be equipped to automatically shut down after 3 minutes of continuous transmission of an unmodulated carrier.

§87.145 Acceptability of transmitters for licensing.

(a) The Commission publishes a list of type approved and type accepted equipment entitled ''Radio Equipment List—Equipment Acceptable for Licensing.'' Copies of this list are available for inspection at any of the Commission's offices.

(b) Each transmitter must be type accepted for use in these services, except as listed in paragraph (d) of this section. However, aircraft stations which transmit on maritime mobile frequencies must use transmitters type accepted for use in ship stations in accordance with part 80 of this chapter. Type acceptance under part 80 is not required for aircraft earth stations

transmitting on maritime mobile-satellite frequencies. Such stations must be type accepted under part 87.

(c) Some radio equipment installed on air carrier aircraft must meet the requirements of the Commission and the requirements of the FAA. The FAA requirements may be obtained from the FAA, Aircraft Maintenance Division, 800 Independence Ave., SW., Washington, DC 20591.

(d) The equipment listed below is exempted from type acceptance. The operation of transmitters which have not been type accepted must not result in harmful interference due to the failure of those transmitters to comply with technical standards of this subpart.

(1) Development or Civil Air Patrol transmitters.

(2) Flight test station transmitters for limited periods where justified.

(3) U.S. Government transmitters furnished in the performance of a U.S. Government contract if the use of type accepted equipment would increase the cost of the contract or if the transmitter will be incorporated in the finished product. However, such equipment must meet the technical standards contained in this subpart.

(4) ELTs notified in accordance with § 87.147(e).

(5) Signal generators when used as radionavigation land test stations (MTF).

(e) Aircraft earth stations must correct their transmit frequencies for Doppler effect relative to the satellite. The transmitted signal may not deviate more than 335 Hz from the desired transmit frequency. (This is a root sum square error which assumes zero error for the received ground earth station signal and includes the AES transmit/receive frequency reference error and the AES automatic frequency control residual errors.) The applicant must attest that the equipment provides adequate Doppler effect compensation and where applicable, that measurements have been made that demonstrate compliance. Submission of data demonstrating compliance is not required unless requested by the Commission.

[53 FR 28940, Aug. 1, 1988, as amended at 57 FR 45750, Oct. 5, 1992; 58 FR 30127, May 26, 1993; 58 FR 67695, Dec. 22, 1993]

§ 87.147 Authorization of equipment.

(a) Type acceptance or notification may be requested by following the type acceptance or notification procedures in part 2 of this chapter. Aircraft transmitters must meet the requirements over an ambient temperature range of –20 degreess to +50 degrees Celsius.

(b) ELTs manufactured after October 1, 1988, must meet the output power characteristics contained in § 87.141(i) when tested in accordance with the Signal Enhancement Test contained in subpart N, part 2 of this chapter. A report of the measurements must be submitted with each application for type acceptance. ELTs that meet the output power characteristics of the section must have a permanent label prominently displayed on the outer casing state, ''Meets FCC Rule for improved satellite detection.'' This label, however, must not be placed on the equipment without authorization to do so by the Commission. Application for such authorization may be made either by submission of a new application for type acceptance accompanied by the required fee and all information and test data required by parts 2 and 87 of this chapter or, for ELTs type accepted prior to October 1, 1988, a letter requesting such authorization, including appropriate test data and a showing that all units produced under the original type acceptance authorization comply with the requirements of this paragraph without change to the original circuitry.

(c) An applicant for a station license may request type acceptance for an individual transmitter by following the type acceptance procedure in part 2 of this chapter. Such a transmitter will be individually type accepted and so noted on the station license, but will not generally be included in the Commission's ''Radio Equipment List—Equipment Acceptable for Licensing''.

(d) An applicant for type acceptance of equipment intended for transmission in any of the frequency bands listed in paragraph (d)(3) of this section must notify the FAA of the filing of a type acceptance application. The letter of notification must be mailed to: FAA, Spectrum Engineering Division, 800 Independence Ave. SW., Washington,

DC 20591 no later than the date of filing of the application with the Commission.

(1) The notification must describe the equipment, give the manufacturer's identification, antenna characteristics, rated output power, emission type and characteristics, the frequency or frequencies of operation, and essential receiver characteristics if protection is required.

(2) The type acceptance application must include a copy of the notification letter to the FAA. The Commission will not act for 21 days after receipt of the application to afford the FAA an opportunity to comment. If the FAA objects to the application for equipment authorization, it should mail its objection with a showing that the equipment is incompatible with the National Airspace System to: Office of Engineering and Technology—Laurel Laboratory, Authorization and Evaluation Division, 7435 Oakland Mills Rd., Columbia, MD 21046. If the Commission receives such an objection, the Commission will consider the FAA showing before taking final action on the application.

(3) The frequency bands are as follows:

74.800 MHz to 75.200 MHz
108.000 MHz to 137.000 MHz
328.600 MHz to 335.400 MHz
960.000 MHz to 1215.000 MHz
1559.000 to 1626.500 MHz
1646.500 MHz to 1660.500 MHz
5000.000 MHz to 5250.000 MHz
14.000 GHz to 14.400 GHz
15.400 GHz to 15.700 GHz
24.250 GHz to 25.250 GHz
31.800 GHz to 33.400 GHz

(e) Application for notification of ELTs capable of operating on the frequency 406.025 MHz must include sufficient documentation to show that the ELT meets the requirements of §87.199(a). A letter notifying the FAA of the filing of an application for a grant of notification must be mailed to: FAA, Spectrum Engineering Division, 800 Independence Avenue SW., Washington, DC 20591 no later than the date of filing of the application with the Commission.

[53 FR 28940, Aug. 1, 1988, as amended at 54 FR 11721, Mar. 22, 1989; 56 FR 11518, Mar. 19, 1991; 57 FR 45750, Oct. 5, 1992; 58 FR 30127, May 26, 1993; 58 FR 67696, Dec. 22, 1993]

Subpart E—Frequencies

§87.169 Scope.

This subpart contains class of station symbols and a frequency table which lists assignable frequencies. Frequencies in the Aviation Services will transmit communications for the safe, expeditious, and economic operation of aircraft and the protection of life and property in the air. Each class of land station and Civil Air Patrol station may communicate in accordance with the particular sections of this part which govern these classes. Land stations in the Aviation Services in Alaska may transmit messages concerning sickness, death, weather, ice conditions or other matters relating to safety of life and property if there is no other established means of communications between the points in question and no charge is made for the communications service.

§87.171 Class of station symbols.

The two or three letter symbols for the classes of station in the aviation services are:

Symbol and class of station

AX—Aeronautical fixed
AXO—Aeronautical operational fixed
FA—Aeronautical land (unspecified)
FAU—Aeronautical advisory (unicom)
FAC—Airport control tower
FAE—Aeronautical enroute
FAM—Aeronautical multicom
FAP—Civil Air Patrol
FAR—Aeronautical search and rescue
FAS—Aviation support
FAT—Flight test
FAW—Automatic weather observation
MA—Aircraft (Air carrier and Private)
MA1—Air carrier aircraft only
MA2—Private aircraft only
MOU—Aeronautical utility mobile
MRT—ELT test
RL—Radionavigation land (unspecified)
RLA—Marker beacon
RLB—Radiobeacon
RLG—Glide path

RLL—Localizer
RLO—VHF omni-range
RLS—Surveillance radar
RLT—Radionavigation land test
RLW—Microwave landing system
TJ—Aircraft earth station in the Aeronautical Mobile-Satellite Service

[53 FR 28940, Aug. 1, 1988, as amended at 57 FR 45750, Oct. 5, 1992]

§ 87.173 Frequencies.

(a) The table in paragraph (b) of this section lists assignable carrier frequencies or frequency bands.

(1) The single letter symbol appearing in the ''Subpart'' column indicates the subpart of this part which contains additional applicable regulations.

(2) The two or three letter symbol appearing in the ''Class of Station'' column indicates the class of station to which the frequency is assignable.

(b) Frequency table:

Frequency or frequency band	Subpart	Class of station	Remarks
90–110 kHz	Q	RL	LORAN"C".
190–285 kHz	Q	RLB	Radiobeacons.
200–285 kHz	O	FAC	Air traffic control.
325–405 kHz	O	FAC	Air traffic control.
325–435 kHz	Q	RLB	Radiobeacons.
410.0 kHz	F	MA	International direction-finding for use outside of U.S.
457.0 kHz	F	MA	Working frequency for aircraft on over water flights.
500.0 kHz	F	MA	International calling and distress frequency for ships and aircraft on over water flights.
510.525 kHz	Q	RLB	Radiobeacons.
2182.0 kHz	F	MA	International distress and calling.
2371.0 kHz	R	MA, FAP	Civil Air Patrol.
2374.0 kHz	R	MA, FAP	Civil Air Patrol.
2648.0 kHz	I	AX	Alaska station.
2851.0 kHz	I, J	MA, FAE, FAT	International HF (AFI); Flight test.
2854.0 kHz	I	MA, FAE	International HF (SAT).
2866.0 kHz	I	MA, FAE	Domestic HF (Alaska).
2869.0 kHz	I	MA, FAE	International HF (CEP).
2872.0 kHz	I	MA, FAE	International HF (NAT).
2875.0 kHz	I	MA, FAE	Domestic HF.
2878.0 kHz	I	MA1, FAE	Domestic HF; International HF (AFI).
2887.0 kHz	I	MA, FAE	International HF (CAR).
2899.0 kHz	I	MA, FAE	International HF (NAT).
2911.0 kHz	I	MA, FAE	Domestic HF.
2932.0 kHz	I	MA, FAE	International HF (NP).
2935.0 kHz	I	MA, FAE	International HF (SAT).
2944.0 kHz	I	MA, FAE	International HF (SAM and MID).
2956.0 kHz	I	MA, FAE	Domestic HF.
2962.0 kHz	I	MA, FAE	International HF (NAT).
2971.0 kHz	I	MA, FAE	International HF (NAT).
2992.0 kHz	I	MA, FAE	International HF (MID).
2998.0 kHz	I	MA, FAE	International HF (CWP).
3004.0 kHz	I, J	MA, FAE, FAT	International HF (NCA); Flight test.
3013.0 kHz	I	MA, FAE	Long distance operational control.
3016.0 kHz	I	MA, FAE	International HF (EA, NAT).
3019.0 kHz	I	MA1, FAE	Domestic HF; International HF ((NCA).
3023.0 kHz	F, M, O	MA1, FAR, FAC	Search and rescue communications.
3281.0 kHz	K	MA, FAS	Lighter-than-air craft and aeronautical stations serving lighter-than-air craft.
3413.0 kHz	I	MA, FAE	International HF (CEP).
3419.0 kHz	I	MA, FAE	International HF (AFI).
3425.0 kHz	I	MA, FAE	International HF (AFI).
3434.0 kHz	I	MA1, FAE	Domestic HF.
3443.0 kHz	J	MA, FAT	
3449.0 kHz	I	MA, FAE	Domestic HF.
3452.0 kHz	I	MA, FAE	International HF (SAT).
3455.0 kHz	I	MA, FAE	International HF (CAR, CWP).
3467.0 kHz	I	MA, FAE	International HF (AFI, MID, SP).

Frequency or frequency band	Subpart	Class of station	Remarks
3470.0 kHz	I	MA, FAE	Domestic HF and International HF (SEA).
3473.0 kHz	I	MA, FAE	International HF (MID).
3476.0 kHz	I	MA, FAE	International HF (INO, NAT).
3479.0 kHz	I	MA, FAE	International HF (EUR, SAM).
3485.0 kHz	I	MA, FAE	International HF (EA, SEA).
3491.0 kHz	I	MA, FAE	International HF (EA).
3494.0 kHz	I	MA, FAE	Long distance operational control.
4125.0 kHz	F	MA	Distress and safety with ships and coast stations.
4466.0 kHz	R	MA, FAP	Civil Air Patrol.
4469.0 kHz	R	MA, FAP	Civil Air Patrol.
4506.0 kHz	R	MA, FAP	Civil Air Patrol.
4509.0 kHz	R	MA, FAP	Civil Air Patrol.
4550.0 kHz	I	AX	Gulf of Mexico.
4582.0 kHz	R	MA, FAP	Civil Air Patrol.
4585.0 kHz	R	MA, FAP	Civil Air Patrol.
4601.0 kHz	R	MA, FAP	Civil Air Patrol.
4604.0 kHz	R	MA, FAP	Civil Air Patrol.
4627.0 kHz	R	MA, FAP	Civil Air Patrol.
4630.0 kHz	R	MA, FAP	Civil Air Patrol.
4645.0 kHz	I	AX	Alaska.
4657.0 kHz	I	MA, FAE	International HF (AFI, CEP).
4666.0 kHz	I	MA, FAE	International HF (CWP).
4669.0 kHz	I	MA, FAE	International HF (MID, SAM).
4672.0 kHz	I	MA1, FAE	Domestic HF.
4675.0 kHz	I	MA, FAE	International HF (NAT).
4678.0 kHz	I	MA, FAE	International HF (NCA).
4947.5 kHz	I	AX	Alaska.
5036.0 kHz	I	AX	Gulf of Mexico.
5122.5 kHz	I	AX	Alaska.
5167.5 kHz	I	FA	Alaska emergency.
5310.0 kHz	I	AX	Alaska.
5451.0 kHz	J	MA, FAT	
5463.0 kHz	I	MA1, FAE	Domestic HF.
5469.0 kHz	J	MA, FAT	
5427.0 kHz	I	MA, FAE	Domestic HF.
5484.0 kHz	I	MA, FAE	Domestic HF.
5490.0 kHz	I	MA, FAE	Domestic HF.
5493.0 kHz	I	MA, FAE	International HF (AFI).
5496.0 kHz	I	MA, FAE	Domestic HF.
5508.0 kHz	I	MA1, FAE	Domestic HF.
5520.0 kHz	I	MA, FAE	International HF (CAR).
5526.0 kHz	I	MA, FAE	International HF (SAM).
5529.0 kHz	I	MA, FAE	Long distance operational control.
5538.0 kHz	I	MA, FAE	Long distance operational control.
5547.0 kHz	I	MA, FAE	International HF (CEP).
5550.0 kHz	I	MA, FAE	International HF (CAR).
5559.0 kHz	I	MA, FAE	International HF (SP).
5565.0 kHz	I	MA, FAE	International HF (SAT).

5571.0 kHz	J	MA, FAT	
5574.0 kHz	I	MA, FAE	International HF (CEP).
5598.0 kHz	I	MA, FAE	International HF (NAT).
5616.0 kHz	I	MA, FAE	International HF (NAT).
5628.0 kHz	I	MA, FAE	International HF (NP).
5631.0 kHz	I	MA, FAE	Domestic HF.
5634.0 kHz	I	MA, FAE	International HF (INO).
5643.0 kHz	I	MA, FAE	International HF (SP).
5646.0 kHz	I	MA, FAE	International HF (NCA).
5649.0 kHz	I	MA, FAE	International HF (NAT, SEA).
5652.0 kHz	I	MA, FAE	International HF (AFI, CWP).
5655.0 kHz	I	MA, FAE	International HF (EA, SEA).
5658.0 kHz	I	MA, FAE	International HF (AFI, MID).
5661.0 kHz	I	MA, FAE	International HF (CWP, EUR).
5664.0 kHz	I	MA, FAE	International HF (NCA).
5667.0 kHz	I	MA, FAE	International HF (MID).
5670.0 kHz	I	MA, FAE	International HF (EA).
5680.0 kHz	F, M, O	MA1, FAC, FAR	Search and rescue communications.
5887.5 kHz	I	AX	Alaska.
6532.0 kHz	I	MA, FAE	International HF (CWP).
6535.0 kHz	I	MA, FAE	International HF (SAT).
6550.0 kHz	J	MA, FAT	
6556.0 kHz	I	MA, FAE	International HF (SEA).
6559.0 kHz	I	MA, FAE	International HF (AFI).
6562.0 kHz	I	MA, FAE	International HF (CWP).
6571.0 kHz	I	MA, FAE	International HF (EA).
6574.0 kHz	I	MA, FAE	International HF (AFI).
6577.0 kHz	I	MA, FAE	International HF (CAR).
6580.0 kHz	I	MA, FAE	Domestic HF.
6586.0 kHz	I	MA, FAE	International HF (CAR).
6592.0 kHz	I	MA, FAE	International HF (NCA).
6598.0 kHz	I	MA, FAE	International HF (EUR).
6604.0 kHz	I	MA, FAE	Domestic HF.
6622.0 kHz	I	MA, FAE	International HF (NAT).
6625.0 kHz	I	MA, FAE	International HF (MID).
6628.0 kHz	I	MA, FAE	International HF (NAT).
6631.0 kHz	I	MA, FAE	International HF (MID).
6637.0 kHz	I	MA, FAE	Long distance operational control.
6640.0 kHz	I	MA, FAE	Long distance operational control.
6649.0 kHz	I	MA, FAE	International HF (SAM).
6655.0 kHz	I	MA, FAE	International HF (NP).
6661.0 kHz	I	MA, FAE	International HF (NP).
6673.0 kHz	I	MA, FAE	International HF (AFI, CEP).
8015.0 kHz	I	AX	Alaska.
8364.0 kHz	F	MA,	Search and rescue communications.
8822.0 kHz	J	MA, FAT	
8825.0 kHz	I	MA, FAE	International HF (NAT).
8831.0 kHz	I	MA, FAE	International HF (NAT).
8843.0 kHz	I	MA, FAE	International HF (CEP).
8846.0 kHz	I	MA, FAE	International HF (CAR).

Frequency or frequency band	Subpart	Class of station	Remarks
8855.0 kHz	I	MA, FAE	Domestic HF; International HF (SAM).
8861.0 kHz	I	MA, FAE	International HF (SAT).
8864.0 kHz	I	MA, FAE	International HF (NAT).
8867.0 kHz	I	MA, FAE	International HF (SP).
8876.0 kHz	I	MA, FAE	Domestic HF.
8879.0 kHz	I	MA, FAE	International HF (INO, NAT).
8891.0 kHz	I	MA, FAE	International HF (NAT).
8894.0 kHz	I	MA, FAE	International HF (AFI).
8897.0 kHz	I	MA, FAE	International HF (EA).
8903.0 kHz	I	MA, FAE	International HF (AFI, CWP).
8906.0 kHz	I	MA, FAE	International HF (NAT).
8918.0 kHz	I	MA, FAE	International HF (CAR, MID).
8933.0 kHz	I	MA, FAE	Long distance operational control.
8942.0 kHz	I	MA, FAE	International HF (SEA).
8951.0 kHz	I	MA, FAE	International HF (MID).
10018.0 kHz	I	MA, FAE	International HF (MID).
10024.0 kHz	I	MA, FAE	International HF (SAM).
10033.0 kHz	I	MA, FAE	Long distance operational control.
10042.0 kHz	I	MA, FAE	International HF (EA).
10045.0 kHz	J	MA, FAT	
10048.0 kHz	I	MA, FAE	International HF (NP).
10057.0 kHz	I	MA, FAE	International HF (CEP).
10066.0 kHz	I	MA, FAE	Domestic HF; International HF (SEA).
10075.0 kHz	I	MA, FAE	Long distance operational control.
10081.0 kHz	I	MA, FAE	International HF (CWP).
10084.0 kHz	I	MA, FAE	International HF (EUR, SP).
10096.0 kHz	I	MA, FAE	International HF (NCA, SAM).
11279.0 kHz	I	MA, FAE	International HF (NAT).
11282.0 kHz	I	MA, FAE	International HF (CEP).
11288.0 kHz	J	MA, FAT	
11291.0 kHz	I	MA, FAE	International HF (SAT).
11300.0 kHz	I	MA, FAE	International HF (AFI).
11306.0 kHz	J	MA, FAT	
11309.0 kHz	I	MA, FAE	International HF (NAT).
11327.0 kHz	I	MA, FAE	International HF (SP).
11330.0 kHz	I	MA, FAE	International HF (AFI, NP).
11336.0 kHz	I	MA, FAE	International HF (NAT).
11342.0 kHz	I	MA, FAE	Long distance operational control.
11348.0 kHz	I	MA, FAE	Long distance operational control.
11357.0 kHz	I	MA, FAE	Domestic HF.
11360.0 kHz	I	MA, FAE	International HF (SAM).
11363.0 kHz	I	MA, FAE	Domestic HF.
11375.0 kHz	I	MA, FAE	International HF (MID).
11384.0 kHz	I	MA, FAE	International HF (CWP).
11387.0 kHz	I	MA, FAE	International HF (CAR).
11396.0 kHz	I	MA, FAE	International HF (CAR, EA, SEA).
13273.0 kHz	I	MA, FAE	International HF (AFI).
13288.0 kHz	I	MA, FAE	International HF (AFI, EUR, MID).

13291.0 kHz	I	MA, FAE	International HF (NAT).
13294.0 kHz	I	MA, FAE	International HF (AFI).
13297.0 kHz	I	MA, FAE	International HF (CAR, EA, SAM).
13300.0 kHz	I	MA, FAE	International HF (CEP, CWP, NP, SP).
13303.0 kHz	I	MA, FAE	International HF (EA, NCA).
13306.0 kHz	I	MA, FAE	International HF (INO, NAT).
13309.0 kHz	I	MA, FAE	International HF (EA, SEA).
13312.0 kHz	I, J	MA, FAE, FAT	International HF (MID); Flight test.
13315.0 kHz	I	MA, FAE	International HF (NCA, SAT).
13318.0 kHz	I	MA, FAE	International HF (SEA).
13330.0 kHz	I	MA, FAE	Long distance operational control.
13348.0 kHz	I	MA, FAE	Long distance operational control.
13357.0 kHz	I	MA, FAE	International HF (SAT).
17904.0 kHz	I	MA, FAE	International HF (CEP, CWP, NP, SP).
17907.0 kHz	I	MA, FAE	International HF (CAR, EA, SAM, SEA).
17925.0 kHz	I	MA, FAE	Long distance operational control.
17946.0 kHz	I	MA, FAE	International HF (NAT).
17955.0 kHz	I	MA, FAE	International HF (SAT).
17958.0 kHz	I	MA, FAE	International HF (NCA).
17961.0 kHz	I	MA, FAE	International HF (AFI, EUR, INO, MID).
17964.0 kHz	J	MA, FAT	
21931.0 kHz	J	MA, FAT	
21964.0 kHz	I	MA, FAE	Long distance operational control.
26618.5 kHz	R	MA, FAP	Civil Air Patrol.
26620.0 kHz	R	MA, FAP	Civil Air Patrol.
26621.5 kHz	R	MA, FAP	Civil Air Patrol.
72.020–75.980 MHz	P	FA, AXO	Operational fixed; 20 kHz spacing.
75.000 MHz	Q	RLA	Marker beacon.
108.000 MHz	Q	RLT	
108.000–117.950 MHz	Q	RLO	VHF omni-range.
108.050 MHz	Q	RLT	
108.100–111.950 MHz	Q	RLL	ILS localizer.
108.100 MHz	Q	RLT	
108.150 MHz	Q	RLT	
118.000–121.400 MHz	O	MA, FAC, FAW	25 kHz channel spacing.
121.500 MHz	G, H, I, J, K, M, O	MA, FAU, FAE, FAT, FAS, FAC, FAM, FAP	Emergency and distress.
121.600–121.925 MHz	O, L, Q	MA, FAC, MOU, RLT	25 kHz channel spacing.
121.950 MHz	K	FAS	
121.975 MHz	F	MA2, FAW	Air traffic control operations.
122.000 MHz	F	MA	Air carrier and private aircraft enroute flight advisory service provided by FAA.
122.025 MHz	F	MA2, FAW	Air traffic control operations.
122.050 MHz	F	MA	Air traffic control operations.
122.075 MHz	F	MA2, FAW	Air traffic control operations.
122.100 MHz	F, O	MA, FAC	Air traffic control operations.
122.125–122.675	F	MA2	Air traffic control operations; 25 kHz spacing.

Frequency or frequency band	Subpart	Class of station	Remarks
122.700 MHz	G, L	MA, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations.
122.725 MHz	G, L	MA2, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations.
122.750 MHz	F	MA2	Private fixed wing aircraft air-to-air communications.
122.775 MHz	K	MA, FAS	
122.800 MHz	G, L	MA, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations.
122.825 MHz	I	MA, FAE	Domestic VHF
122.850 MHz	H, K,	MA, FAM, FAS	
122.875 MHz	I	MA, FAE	Domestic VHF
122.900 MHz	F, H, L M	MA, FAR, FAM, MOU	
122.925 MHz	H	MA2, FAM	
122.950 MHz	G, L	MA2, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations.
122.975 MHz	G, L	MA2, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations.
123.000 MHz	G, L	MA, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations.
123.025 MHz	F	MA2	Helicopter air-to-air communications; Air traffic control operations.
123.050 MHz	G, L	MA2, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations.
123.075 MHz	G, L	MA2, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations.
123.100 MHz	M, O	MA, FAC, FAR	
123.125 MHz	J	MA, FAT	Itinerant.
123.150 MHz	J	MA, FAT	Itinerant.
123.175 MHz	J	MA, FAT	Itinerant.
123.200 MHz	J	MA, FAT	
123.225 MHz	J	MA, FAT	
123.250 MHz	J	MA, FAT	
123.275 MHz	J	MA, FAT	
123.300 MHz	K	MA, FAS	
123.325 MHz	J	MA, FAT	
123.350 MHz	J	MA, FAT	
123.375 MHz	J	MA, FAT	
123.400 MHz	J	MA, FAT	Itinerant.
123.425 MHz	J	MA, FAT	
123.450 MHz	J	MA, FAT	
123.475 MHz	J	MA, FAT	
123.500 MHz	K	MA, FAS	
123.525 MHz	J	MA, FAT	
123.550 MHz	J	MA, FAT	
123.575 MHz	J	MA, FAT	Itinerant.
123.6–128.8 MHz	O	MA, FAC, FAW	25 kHz channel spacing.
128.825–132.000 MHz	I	MA, FAE	Domestic VHF; 25 kHz channel spacing.
132.025–135.975 MHz	O	MA, FAC, FAW	25 kHz channel spacing.
136.000–136.075 MHz	0, S	MA, FAC, FAW	Air traffic control operations.
136.100 MHz			Reserved for future unicom or AWOS.
136.125–136.175 MHz	0, S	MA, FAC, FAW	Air traffic control operations.
136.200 MHz			Reserved for future unicom or AWOS.
136.225–136.250 MHz	0, S	MA, FAC, FAW	Air traffic control operations.
136.275 MHz			Reserved for future unicom or AWOS.
136.300–136.350 MHz	0, S	MA, FAC, FAW	Air traffic control operations.
136.375 MHz			Reserved for future unicom or AWOS.

136.400–136.450 MHz	0, S	MA, FAC, FAW	Air traffic control operations.
136.475 MHz			Reserved for future unicom or AWOS.
136.500–136.600 MHz	I	MA, FAE	Domestic VHF.
136.625 MHz	I	MA, FAE	Domestic VHF.
136.650 MHz	I	MA, FAE	Domestic VHF.
136.675 MHz	I	MA, FAE	Domestic VHF.
136.700 MHz	I	MA, FAE	Domestic VHF.
136.725 MHz	I	MA, FAE	Domestic VHF.
136.750 MHz	I	MA, FAE	Domestic VHF.
136.775 MHz	I	MA, FAE	Domestic VHF.
136.800 MHz	I	MA, FAE	Domestic VHF.
136.825 MHz	I	MA, FAE	Domestic VHF.
136.850 MHz	I	MA, FAE	Domestic VHF.
136.875 MHz	I	MA, FAE	Domestic VHF.
136.900 MHz	I	MA, FAE	International and domestic VHF.
136.925 MHz	I	MA, FAE	International and domestic VHF.
136.950 MHz	I	MA, FAE	International and domestic VHF.
136.975 MHz	I	MA, FAE	International and domestic VHF.
143.75 MHz	R	MA,FAP	Civil Air Patrol.
143.900 MHz	R	MA, FAP	Civil Air Patrol.
148.150 MHz	R	MA, FAP	Civil Air Patrol.
156.300 MHz	F	MA	For communications with ship stations under specific conditions.
156.375 MHz	F	MA	For communications with ship stations under specific conditions; Not authorized in New Oreleans vessel traffic service area.
156.400 MHz	F	MA	For communications with ship stations under specific conditions.
156.425 MHz	F	MA	For communications with ship stations under specific conditions.
156.450 MHz	F	MA	For communications with ship stations under specific conditions.
156.625 MHz	F	MA	For communications with ship stations under specific conditions.
156.800 MHz	F	MA	Distress, safety and calling frequency; For communications with ship stations under specific conditions.
156.900 MHz	F	MA	For communications with ship stations under specific conditions.
157.425 MHz	F	MA	For communications with commercial fishing vessels under specific conditions except in Great Lakes and St. Lawrence Seaway areas.
243.000 MHz	F	MA	Emergency and distress frequency for use of survival craft and emergency locator transmitters.
328.600–335.400 MHz	Q	RLG	ILS glide path.
334.550 MHz	Q	RLT	
334.700 MHz	Q	RLT	
406.25 MHz	F, G, H, I, J, K, M, O	MA, FAU, FAE, FAT, FAS, FAC, FAM, FAP	Emergency and distress.
960–1215 MHz	F, Q	MA, RL	Electronic aids to air navigation.
978.000 MHz	Q	RLT	
979.000 MHz	Q	RLT	
1030.000 MHz	Q	RLT	
1104.000 MHz	Q	RLT	
979.000 MHz	Q	RLT	
1300–1350 MHz	F, Q	MA, RLS	Surveillance radars and transponders.
1435–1535 MHz	F, J	MA, FAT	Aeronautical telemetry and telecommand operations.

Frequency or frequency band	Subpart	Class of station	Remarks
1559–1626.5 MHz	F, Q	MA, RL	Aeronautical radionavigation.
1646.5–1660.5 MHz	F	TJ	Aeronautical Mobile-Satellite (R).
2310–2390 MHz	J	MA, FAT	Aeronautical telemetry and telecommand operations.
2700–2900 MHz	Q	RLS	Airport surveillance and weather radar.
4200–4400 MHz	F	MA	Radio altimeters.
5000–5250 MHz	Q	MA, RLW	Microwave landing system.
5031.000 MHz	Q	RLT	
5350–5470 MHz	F	MA	Airborne radars and associated airborne beacons.
8750–8850 MHz	F	MA	Airborne doppler radar.
9000–9200 MHz	Q	RLS	Land-based radar.
9300–9500 MHz	F, Q	MA	Airborne radars and associated airborne beacons.
13250–13400 MHz	F	MA	Airborne doppler radar.
14000–14400 MHz	F, Q	MA, RL	Aeronautical radionavigation.
15400–15700 MHz	Q	RL	Aeronautical radionavigation.
24250–25250 MHz	F, Q	MA, RL	Aeronautical radionavigation.
31800–33400 MHz	F, Q	MA, RL	Aeronautical radionavigation.

[53 FR 28940, Aug. 1, 1988, as amended at 54 FR 11721, Mar. 22, 1989; 55 FR 7333, Mar. 1, 1990; 55 FR 28628, July 12, 1990; 56 FR 21083, May 7, 1991; 56 FR 51656, Oct. 15, 1991; 57 FR 45750, Oct. 5, 1992; 58 FR 30127, May 26, 1993]

Subpart F—Aircraft Stations

§87.185 Scope of service.

(a) Aircraft stations must limit their communications to the necessities of safe, efficient, and economic operation of aircraft and the protection of life and property in the air, except as otherwise specifically provided in this part. Contact with an aeronautical land station must only be attempted when the aircraft is within the serivce area of the land station. however, aircraft stations may transmit advisory information on air traffic control, unicom or aeronautical multicom frequencies for the benefit and use of other stations monitoring these frequencies in accordance with FAA recommended traffic advisory practices.

(b) Aircraft public correspondence service must be made available to all persons without discrimination and on reasonable demand, and must communicate without discrimination with any public coast station or mobile-satellite earth station authorized to provide aircraft public correspondence service.

(c) Aircraft public correspondence service on maritime mobile frequencies may only be carried by aircraft stations licensed to use maritime mobile frequencies and must follow the rules for public correspondence in part 80.

(d) Aircraft public correspondence service on Aeronautical Mobile-Satellite (R) Service frequencies may only be carried on aircraft earth stations licensed to use Aeronautical Mobile-Satellite (R) frequencies and are subject to the rules for public correspondence in this part. Aircraft public correspondence service on Maritime Mobile-Satellite Service frequencies may only be carried by aircraft earth stations licensed to use Maritime Mobile-Satellite frequencies and are subject to the rules for public correspondence in part 80.

[53 FR 28940, Aug. 1, 1988, as amended at 57 FR 45750, Oct. 5, 1992]

§87.187 Frequencies.

(a) Frequencies used for air-ground Communications are listed in subpart E. Aircraft stations may use frequencies assigned to Government or non-Government aeronautical stations or radionavigation land stations if the communications are within the aeronautical or radionavigation land station scope of service.

(b) 410 kHz is the international direction-finding frequency for use outside the continental United States.

(c) 457 kHz is an authorized working frequency for flights over the high seas.

(d) 500 kHz an international calling and distress frequency for aircraft on flights over the high seas. Except for distress, urgency or safety messages an aircraft station must not transmit on 500 kHz during the silence periods for three minutes twice each hour beginning at x h. 15 and x h.45 Coordinated Universal Time (u.t.c.).

(e) The frequency 2182 khz is an international distress and calling frequency for use by ship, aircraft and survival craft stations. Aircraft stations must use J3E emission when operating on 2182 kHz and communicating with domestic public and private coast stations. The emission H3E may be used when communicating with foreign coast and ship stations.

(f) The frequencies 3023 kHz, 5680 kHz, 122.900 MHz and 123.100 MHz are authorized for use by aircraft engaged in seach and rescue activities in accordance with subpart M. These frequencies may be used for air-air and air-ground communications.

(g) The frequency 4125 kHz may be used for distress and safety communications between aircraft and ship and coast maritime mobile stations.

(h) The frequency 8364.0 kHz is authorized for use of survival craft for search and rescue communications with stations in the maritime mobile service.

(i) The frequencies in the band 121.975–122.675 MHz are authorized for use by private aircraft of air traffic control operations.

(1) The frequencies 122.00 and 122.050 MHz are authorized for use by air carrier and private aircraft stations for enroute flight advisory service (EFAS) provided by the FAA;

(2) The frequency 122.100 MHz is authorized for use by air carrier aircraft stations for air traffic control operations at locations in Alaska where

other frequencies are not available for air traffic control.

(j) The frequency 122.750 MHz is authoried for use by private fixed wing aircraft for air-air communications. The frequency 123.025 MHz is authorized for use by helicopters for air-air Communications.

(k) The frequencies 121.500 MHz and 243.000 MHz are emergency and distress frequences available for use by survival craft stations, emergency locator transmitters and equipment used for survival pruposes. Use of 121.500 MHz and 243.00 MHz shall be limited to transmission of signals and communications for survival purposes. Type A2A, A3E or A3N emission may be employed, except in the case of emergency locator transmitters where A3E, A3X and NON are permitted.

(l) The frequencies 156.300, 156.375, 156,400, 156,425, 156.450, 156.625, 156.800 156.900 and 157.425 MHz may be used by aircraft stations to communicate with ship stations in accordance with part 80 and the following conditions:

(1) The altitude of aircraft stations must not exceed 300 meters (1,000 feet), except for reconnaissance aircraft participating in icebreaking operations where an altitude of 450 meters (1,500 feet) is allowed;

(2) Aircraft station transmitter power must not exceed five watts;

(3) The frequency 156.300 MHz may be used for safety purposes only. The frequency 156.800 MHz may be used for distress, safety and calling purposes only.

(4) Except in the Great Lakes and along the St. Lawrence Seaway the frequency 157.425 MHz is available for communications with commerical fishing vessels.

(5) The frequency 156.375 MHz cannot be used in the New Orleans, LA, VTS protection area. No harmful interference shall be caused to the VTS.

(m) The frequency 406.025 MHz is an emergency and distress frequency available for use by emergency locator transmitters. Use of this frequency must be limited to transmission of distress and safety communications.

(n) The frequency band 960–1215 MHz is for the use of airborne electronic aids to air navigation and directly associated land stations.

(o) The frequency band 1300-1350 MHz is for surveillance radar stations and associated airborne transponders.

(p) The frequency band 1435–1525 MHz is available on a primary basis and the 1525–1535 MHz is available on a secondary basis for telemetry and telecommand associated with the flight testing of aircraft, missiles, or related major components. This includes launching into space, reentry into the earth's atmosphere and incidental orbiting prior to reentry. The following frequencies are shared with flight telemetry mobile stations: 1444.5, 1453.5, 1501.5, 1515.5, 1524.5 and 1525.5 MHz. See § 87.303(d).

NOTE: Aeronautical telemetry operations must protect mobile-satellite operations in the 1525–2535 MHz band and maritime mobile-satellite operations in the 1530–1535 MHz band.

(q) The frequencies in the band 1545.000–1559.000 MHz and 1646.500–1660.500 MHz are authorized for use by the Aeronautical Mobile-Satellite (R) Service. The use of the bands 1544.000–1545.000 MHz (space-to-Earth) and 1645.500–1646.500 MHz (Earth-to-space) by the Mobile-Satellite Service is limited to distress and safety operations. In the frequency bands 1549.500–1558.500 MHz and 1651.000–1660.000 MHz, the Aeronautical Mobile-Satellite (R) requirements that cannot be accommodated in the 1545.000–1549.500 MHz, 1558.500–1559.000 MHz, 1646.500–1651.000 MHz, and 1660.000–1660.500 MHz bands shall have priority access with real-time preemptive capability for communications in the Mobile-Satellite service. Systems not interoperable with the Aeronautical Mobile-Satellite (R) Service shall operate on a secondary basis. Account shall be taken of the priority of safety-related communications in the Mobile-Satellite Service.

(r) The frequency band 1559–1626.5 MHz is available for airborne electronic aids to air navigation and any associated land station.

(s) The frequency band 4200–4400 MHz is reserved exclusively for radio altimeters.

(t) The frequency band 5350–5470 MHz in the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.

(u) The frequency band 8750–8850 MHz is available for use by airborne doppler radars in the aeronautical radionavigation service only on the condition that they must accept any interference which may be experienced from stations in the radiolocation service in the band 8500–10,000 MHz.

(v) The frequency band 9300–9500 MHz is limited to airborne radars and associated airborne beacons.

(w) The frequency band 13250–13400 MHz available for airborne doppler radar use.

(x) The frequency bands 14000–14400, 24250–25250, 31800–33400 MHz are available for airborne radionavigation devices.

(y) Brief keyed RF signals (keying the transmitter by momentarily depressing the microphone ''push-to-talk'' button) may be transmitted from aircraft for the control of airport lights on the following frequencies:

(1) Any air traffic control frequency listed in §87.421.

(2) FAA Flight Service Station frequencies 121.975–122.675 MHz.

(3) The unicom frequencies 122.700, 122.725, 122.800, 122.950, 122.975, 123.000, 123.050 and 123.075 MHz.

(4) Aviation support station frequencies listed in §87.232(b): 121.950, 123.300 and 123.500 MHz if the frequency is assigned to a station at the airport and no harmful interference is caused to voice communications. If no such station is located at the concerned airport, aircraft may use one of the aviation support station frequencies for the control of airport lights.

(5) The frequency 122.9 MHz when it is used as the common traffic advisory frequency at the concerned airport.

(z) Frequencies for public correspondence between ships and public coast stations in the maritime mobile service (except frequencies in the 156–174 MHz band) and coast earth stations in the maritime mobile-satellite service are available for public correspondence between aircraft and public coast stations and coast earth stations, respectively. The transmission of public correspondence from aircraft must not cause interference to maritime communications.

(aa) Frequencies in the 454.675–459.975 MHz band are available in the Public Mobile Radio Service (part 22) for use on board aircraft for communications with land mobile stations which are interconnected to the nationwide public telephone system.

(bb) The frequencies 121.950 MHz, 122.850 MHz and 127.050[1] MHz are authorized for air-to-air use for aircraft up to and including 3 km (10,000 ft) mean sea level in the vicinity of Grand Canyon National Park in Arizona within the area bounded by the following coordinates:

36–28–00 N. Lat; 112–47–00 W. Long.
36–28–00 N. Lat; 112–48–00 W. Long.
35–50–00 N. Lat; 112–48–00 W. Long.
35–43–00 N. Lat; 112–47–00 W. Long.

(cc) The frequency 120.650[1] MHz is authorized for air-to-air use for aircraft up to and including 3 km (10,000 ft) mean sea level within the area bounded by the following coordinates:

35–59–45 N. Lat; 114–51–45 W. Long.
36–09–30 N. Lat; 114–50–00 W. Long.
36–09–30 N. Lat; 114–02–55 W. Long.
35–54–45 N. Lat; 113–48–45 W. Long.
35–54–45 N. Lat; 114–41–45 W. Long.

[53 FR 28940, Aug. 1, 1988, as amended at 54 FR 23214, May 31, 1989; 54 FR 49995, Dec. 4, 1989; 55 FR 7333, Mar. 1, 1990; 56 FR 11518, Mar. 19, 1991; 56 FR 18525, Apr. 23, 1991; 57 FR 45750, Oct. 5, 1992; 58 FR 30127, May 26, 1993; 58 FR 44954, Aug. 25, 1993; 58 FR 52021, Oct. 6, 1993; 60 FR 37829, July 24, 1995; 60 FR 40227, Aug. 7, 1995]

§87.189 Requirements for public correspondence equipment and operations.

(a) Transmitters used for public correspondence by aircraft stations in the maritime mobile frequency bands must be authorized by the Commission in conformity with part 80 of this chapter.

(b) Transmitters used for public correspondence by aircraft stations in the Aeronautical Mobile-Satellite (R) or Maritime Mobile-Satellite frequencies must be type-accepted by the Commission in conformity with part 87. Aircraft earth stations that are required

[1] Until further notice this frequency is available for air-to-air use as described in the Grand Canyon vicinity. Availability is a result of the FAA's assignment of this frequency. If the FAA reassigns this frequency the Commission may require air-to-air use to cease.

to be commissioned to use a privately owned satellite system also must meet the provisions of § 87.51.

(c) A continuous watch must be maintained on the frequencies used for safety and regularity of flight while public correspondence communications are being handled. For aircraft earth stations, this requirement is satisfied by compliance with the priority and preemptive access requirements of § 87.187(p).

(d) All communications in the Aeronautical Mobile Service and the Aeronautical Mobile-Satellite (R) Service have priority over public correspondence.

(e) Transmission of public correspondence must be suspended when such operation will delay or interfere with message pertaining to safety of life and property or regularity of flight, or when ordered by the captain of the aircraft.

[53 FR 28940, Aug. 1, 1988, as amended at 57 FR 45750, Oct. 5, 1992]

§ 87.191 Foreign aircraft stations.

(a) Aircraft of member States of the International Civil Aviation Organization may carry and operate radio transmitters in the United States airspace only if a license has been issued by the State in which the aircraft is registered and the flight crew is provided with a radio operator license of the proper class, issued or recognized by the State in which the aircraft is registered. The use of radio transmitters in the United States airspace must comply with these rules and regulations.

(b) Notwithstanding paragraph (a) of this section where an agreement with a foreign government has been entered into with respect to aircraft registered in the United States but operated by an aircraft operator who is subject to regulation by that foreign government, the aircraft radio station license and aircraft radio operator license may be issued by such foreign government.

EMERGENCY LOCATOR TRANSMITTERS

§ 87.193 Scope of service.

Transmissions by emergency locator transmitters (ELTs) are intended to be actuated manually or automatically and operated automatically as part of an aircraft or a survival craft station as a locating aid for survival purposes.

§ 87.195 Frequencies.

(a) ELTs transmit on the frequency 121.500 MHz, using A3E, A3X or NON emission. ELTs that transmit on the frequency 406.025 MHz use G1D emission.

(b) The frequency 243.000 MHz is an emergency and distress frequency available for use by survival craft stations, ELTs and equipment used for survival purposes which are also equipped to transmit on the frequency 121.500 MHz. Use of 243.000 MHz must be limited to transmission of signals and communications for survival purposes. In the case of ELTs use of A3E, A3X or NON emission is permitted.

[53 FR 28940, Aug. 1, 1988, as amended at 56 FR 11518, Mar. 19, 1991; 58 FR 30128, May 26, 1993]

§ 87.197 ELT test procedures.

ELT testing must avoid outside radiation. Bench and ground tests conducted outside of an RF-shielded enclosure must be conducted with the ELT terminated into a dummy load.

§ 87.199 Special requirements for 406.025 MHz ELTs.

(a) Except for the spurious emission limits specified in § 87.139(h), 406.025 MHz ELTs must meet all the technical and performance standards contained in the Radio Technical Commission for Aeronautics document titled ''Minimum Operational Performance Standards 406 MHz Emergency Locator Transmitters (ELT)'' Document No RTCA/DO–204 dated September 29, 1989. This RTCA document is incorporated by reference in accordance with 5 U.S.C. 552(a), and 1 CFR part 51. Copies of the document are available and may be obtained from the Radio Technical Commission of Aeronautics, One McPherson Square, 1425 K Street NW., Washington, DC, 20005. The document is available for inspection at Commission headquarters at 1919 M Street NW., Washington, DC 20554. Copies may also be inspected at the Office of the Federal Register, 800 North Capital Street NW., suite 700, Washington, DC.

(b) The 406.025 MHz ELT must contain as an integral part a homing beacon operating only on 121.500 MHz that meets all the requirements described in the RTCA Recommended Standards document described in paragraph (a) of this section. The 121.500 MHz homing beacon must have a continuous duty cycle that may be interrupted during the transmission of the 406.025 MHz signal only.

(c) Prior to submitting a notification application of a 406.025 MHz ELT, the ELT must be certified by a test facility recognized by one of the COSPAS/SARSAT Partners that the equipment satisfies the design characteristics associated with the COSPAS/SARSAT document COSPAS/SARSAT 406 MHz Distress Beacon Type Approval Standard (C/S T.007). Additionally, an independent test facility must certify that the ELT complies with the electrical and environmental standards associated with the RTCA Recommended Standards.

(d) The procedures for obtaining a grant of notification from the Commission are contained in subpart J of part 2 of this chapter.

(e) An identification code, issued by the National Oceanic and Atmospheric Administration (NOAA), the United States Program Manager for the 406.025 MHz COSPAS/SARSAT satellite system, must be programmed in each ELT unit to establish a unique identification for each ELT station. With each marketable ELT unit the manufacturer or grantee must include a postage prepaid registration card printed with the ELT identification code addressed to: NOAA/NESDIS, SARSAT Operations Division, E/SP3, Federal Building 4, Washington, DC 20233. The registration card must request the owner's name, address, telephone number, type of aircraft, alternate emergency contact and include the following statement: ''WARNING—failure to register this ELT with NOAA before installation could result in a monetary forfeiture being issued to the owner.''

(f) To enhance protection of life and property it is mandatory that each 406.025 MHz ELT must be registered with NOAA before installation and that information be kept up-to-date. In addition to the identification plate or label requirements contained in §§2.925, 2.926 and 2.1003 of this chapter, each 406.025 MHz ELT must be provided on the outside with a clearly discernable permanent plate or label containing the following statement: ''The owner of this 406.025 MHz ELT must register the NOAA identification code contained on this label with the National Oceanic and Atmospheric Administration (NOAA) whose address is: NOAA, NOAA/SARSAT Operations Division, E/SP3, Federal Building 4, Washington, D.C. 20233.'' Aircraft owners shall advise NOAA in writing upon change of aircraft or ELT ownership, or any other change in registration information. Fleet operators must notify NOAA upon transfer of ELT to another aircraft outside of the owners control, or an other change in registration information. NOAA will provide registrants with proof of registration and change of registration postcards.

(g) For 406.025 MHz ELTs whose identification code can be changed after manufacture, the identification code shown on the plant or label must be easily replaceable using commonly available tools.

[58 FR 30128, May 26, 1993, as amended at 59 FR 35269, July 11, 1994]

Subpart G—Aeronautical Advisory Stations (Unicoms)

§87.213 Scope of service.

(a) An aeronautical advisory station (unicom) must provide service to any aircraft station upon request and without discrimination. A unicom must provide impartial information concerning available ground services.

(b)(1) Unicom transmissions must be limited to the necessities of safe and expeditious operation of aircraft such as condition of runways, types of fuel available, wind conditions, weather information, dispatching, or other necessary information. At any airport at which a control tower, control tower remote communications outlet station (RCO) or FAA flight service station is located, unicoms must not transmit information pertaining to the conditions

of runways, wind conditions, or weather information during the hours of operation of the control tower, RCO or FAA service station.

(2) On a secondary basis, unicoms may transmit communications which pertain to the efficient portal-to-portal transit of an aircraft, such as requests for ground transportation, food or lodging.

(3) Communications between unicoms and air carrier must be limited to the necessities of safety of life and property.

(4) Unicoms may communicate with aeronautical utility stations and ground vehicles concerning runway conditions and safety hazards on the airport when neither a control tower nor FAA flight service station is in operation.

(c) Unicoms must not be used for air traffic control (ATC) purposes other than to relay ATC information between the pilot and air traffic controller. Relaying of ATC information is limited to the following:

(1) Revisions of proposed departure time;

(2) Takeoff, arrival or flight plan cancellation time;

(3) ATC clearances, provided a letter of agreement is obtained from the FAA by the licensee of the unicom.

[53 FR 28940, Aug. 1, 1988, as amended at 55 FR 30464, July 26, 1990]

§ 87.215 Supplemental eligibility.

(a) A unicom and any associated dispatch or control points must be located on the airport to be served.

(b) Only one unicom will be authorized to operate at an airport which does not have a control tower, RCO or FAA flight service station. At an airport which has a part-time or full-time control tower, RCO or FAA flight service station, the one unicom limitation does not apply and the airport operator and all aviation services organizations may be licensed to operate a unicom on the assigned frequency.

(c) At an airport where only one unicom may be licensed, when the Commission believes that the unicom has been abandoned or has ceased operation, another unicom may be licensed on an interim basis pending final determination of the status of the original unicom. An applicant for an interim license must notify the present licensee and must comply with the notice requirements of paragraph (d) of this section.

(d) An applicant for a unicom license, renewal or modification of frequency assignment at an airport which does not have a control tower, RCO or FAA flight service station must notify in writing the owner of the airport and all aviation service organizations located at the airport. The notice must include the applicant's name and address, the name of the airport and a statement that the applicant intends to file an application with the Commission for a unicom. The notice must be given within the ten days preceding the filing of the application with the Commission. Each applicant must submit a statement that either notice has been given and include the date of notification, or notice is not required because the applicant owns the airport and there are no organizations that should be notified.

[53 FR 28940, Aug. 1, 1988, as amended at 55 FR 30464, July 26, 1990]

§ 87.217 Frequencies.

(a) Only one unicom frequency will be assigned at any one airport. The Commission will assign a frequency based on maximum geographic co-channel separation. However, applicants may request a particular frequency which will be taken into consideration when the assignment is made. The frequencies assignable to unicoms are:

(1) 122.950 MHz at airports which have a full-time control tower or full-time FAA flight service station.

(2) 122.700, 122.725, 122.800, 122.975, 123.000, 123.050 or 123.075 MHz at all other airports.

(b) 121.500 MHz: emergency and distress only.

[53 FR 28940, Aug. 1, 1988, as amended at 55 FR 30464, July 26, 1990; 58 FR 67696, Dec. 22, 1993]

Subpart H—Aeronautical Multicom Stations

§87.237 Scope of service.

(a) The communications of an aeronautical multicom station (multicom) must pertain to activities of a temporary, seasonal or emergency nature involving aircraft in flight. Communications are limited to directing or coordinating ground activities from the air or aerial activities from the ground. Air-to-air communications will be authorized if the communications are directly connected with the air-to-ground or ground-to-air activities described above. Multicom communications must not include those air/ground communications provided for elsewhere in this part.

(b) If there is not unicom and an applicant is unable to meet the requirements for a unicom license, the applicant will be eligible for a multicom license.

(1) The multicom license becomes invalid when a unicom is established at the landing area.

(2) Multicoms must not be used for ATC purposes other than the relay of ATC information between the pilot and air traffic controller. Relaying of ATC information is limited to the following:

(i) Revisions of proposed departure time;

(ii) Takeoff, arrival flight plan cancellation time;

(iii) ATC clearances, provided a letter of agreement is obtained from the FAA by the licensee of the multicom.

(3) Communications by a multicom must be limited to the safe and expeditious operation of private aircraft, pertaining to the conditions of runways, types of fuel available, wind conditions, weather information, dispatching or other information. On a secondary basis, multicoms may transmit communictions which pertain to efficient portal-to-portal transit of an aircraft such as requests for ground transportation, food or lodging.

§87.239 Supplemental eligibility.

An application for a multicom must include a showing demonstrating why such a station is necessary, based on the scope of service defined above.

§87.241 Frequencies.

(a) 121.500 MHz: emergency and distress only;

(b) 122.850 or 122.900 MHz;

(c) 122.925 MHz: available for assignment to communicate with aircraft when coordinating foresty management and fire suppression, fish and game management and protection, and environmental monitoring and protection.

Subpart I—Aeronautical Enroute and Aeronautical Fixed Stations

AERONAUTICAL ENROUTE STATIONS

§87.261 Scope of service.

(a) Aeronautical enroute stations provide operational control communications to aircraft along domestic or international air routes. Operational control communications include the safe, efficient and economical operation of aircraft, such as fuel, weather, position reports, aircraft performance, and essential services and supplies. Public correspondence is prohibited.

(b) Service must be provided to any aircraft station licensee who makes cooperative arrangements for the operation, maintenance and liability of the stations which are to furnish enroute service. In emergency or distress situations service must be provided without prior arrangements.

(c) Except in Alaska, only one aeronautical enroute station licensee will be authorized at any one location. In Alaska, only one aeronautical enroute station licensee in the domestic service and one aeronautical enroute station licensee in the international service will be authorized at any one location. (Because enroute stations may provide service over a large area containing a number of air routes or only provide communications in the local area of an airport, location here means the area which can be adequately served by the particular station.)

(d) In Alaska, only stations which serve scheduled air carriers will be licensed to operate aeronautical enroute stations. Applicants must show that the station will provide communications only along routes served by scheduled air carriers.

§ 87.263 Frequencies.

(a) *Domestic VHF service.* (1) The frequencies in the 128.825–132.000 MHz band and the frequencies 136.500 MHz, 136.525 MHz, 136.550 MHz, 136.575 MHz, 136.625 MHz, 136.600 MHz, 136.625 MHz, 136.650 MHz, 136.675 MHz, 136.700 MHz and 136.725 MHz are available to serve domestic routes. The frequencies 136.900 MHz, 136.925 MHz, 136.950 MHz and 136.975 MHz are available to serve domestic and international routes. The frequencies 136.750 MHz, 136.775 MHz, 136.800 MHz, 136.825 MHz, 136.850 MHz and 136.875 MHz are also available to enroute stations located at least 288 kilometers (180 miles) from the Gulf of Mexico shoreline (outside the Gulf of Mexico Region). Frequency assignments are based on 25 kHz spacing. Use of these frequencies must be compatible with existing operations and must be in accordance with pertinent international treaties and agreements.

(2) A system or network of interconnected enroute stations may employ offset carrier techniques on the frequencies listed in paragraph (a)(1). The carrier frequencies of the individual transmitters must not be offset by more than ±8kHz.

(3) The frequencies 122.825 and 122.875 MHz are available for assignment to enroute stations which provide local area service to aircraft approaching or departing a particular airport. These frequencies will be assigned without regard to the restrictions contained in § 87.261 (c) and (d). Only organizations operating aircraft with a maximum capacity of 56 passengers or 8,200 kg (18,000 lbs) cargo will be authorized use of these enroute frequencies.

(4) In Alaska, the frequencies 131.500, 131.600, 131.800 and 131.900 MHz may be assigned to aeronautical enroute stations without regard to the restrictions contained in § 87.261 (c) and (d).

(5) The frequencies 136.750 MHz, 136.775 MHz, 136.800 MHz, 136.825 MHz, 136.850 MHz and 136.875 MHz are available in the Gulf of Mexico Region to serve domestic routes over the Gulf of Mexico and adjacent coastal areas. Assignment of these six frequencies is reserved until January 1, 1994, for helicopter flight following systems. Applicants must provide a showing of need for all frequencies requested. Assignment of these six frequencies in the Gulf of Mexico Region is not subject to the conditions contained in § 87.261(c) and paragraph (a)(2) of this section. Frequency assignments are based on 25 kHz spacing. Use of these frequencies must be compatible with existing operations and must be in accordance with pertinent international treaties and agreements. For the purpose of this paragraph, the Gulf of Mexico Region is defined as an area bounded on the east, north and west by a line 288 km (180 miles) inland from the Gulf of Mexico shoreline. Inland stations using these frequencies must be located within forty-eight kilometers (30 miles) of the Gulf of Mexico shoreline.

(b) *Domestic HF service.* (1) Regular use of high frequencies for aeronautical enroute or any aeronautical mobile (R) communications in the domestic service within the continental United States (excluding Alaska) will not be authorized.

(2) These frequencies (carrier) are available for assignment to serve aircraft operating in support of offshore drilling operations in open sea areas beyond the range of VHF propagation:

kHz	
2878.0	4672.0
3019.0	5463.0
3434.0	5508.0

(3) Alaska: The following frequencies (carrier) are available for assignment to serve domestic air routes in the Alaska area:

(i) *Throughout Alaska:* Shared with the FAA and assigned where an applicant shows the need for a service not provided by the FAA.

kHz	
2866.0	5631.0

(ii) *Alaska Aleutian chain and feeders.*

kHz	
2911.0	8855.0
2956.0	10066.0
5496.0	11363.0
6580.0	

(iii) *Central and Southeast Alaska and feeders.*

kHz	
2875.0	6580.0
2911.0	6604.0
3470.0	8876.0

kHz—Continued

5484.0	11357.0

(iv) The following frequencies (carrier) are available to enroute stations in Alaska without regard to the restrictions contained in § 87.261 (c) or (d). These frequencies may also be used for communications between enroute stations concerning matters directly affecting aircraft with which they are engaged. Enroute stations located at an uncontrolled airport shall not transmit information concerning runway, wind or weather conditions during the operating hours of a unicom.

kHz

3449.0	5472.0
5167.5 [1]	5490.0

[1] The frequency 5167.5 kHz is available to any station for emergency communications in Alaska. No airborne operations are permitted. Peak envelope power of stations operating on this frequency must not exceed 150 watts. This frequency may also be used by Alaska private fixed stations for calling purposes, but only for establishing communications.

(c) *International VHF service.* Frequencies in the 128.825–132.000 and 136.000–137.000 MHz bands are available to enroute stations serving international flight operations. Frequency assignments are based on 25 kHz channel spacing. Proposed operations must be compatible with existing operations in the band.

(d) *International HF service.* High frequencies (carrier) available to enroute stations serving international flight operations on the Major World Air Route Areas (MWARA's), as defined in the international Radio Regulations and the ICAO Assignment Plan, are:

(1) Central East Pacific (CEP):

kHz

2869.0	8843.0
3413.0	10057.0
4657.0	11282.0
5547.0	13300.0
5574.0	17904.0
6673.0	

(2) Central West Pacific (CWP):

kHz

2998.0	6562.0
3455.0	8903.0
4666.0	10081.0
5652.0	11384.0
5661.0	13300.0
6532.0	17904.0

(3) North Pacific (NP):

kHz

2932.0	10048.0
5628.0	11330.0
6655.0	13300.0
6661.0	17904.0

(4) South Pacific (SP):

kHz

3467.0	10084.0
5559.0	11327.0
5643.0	13300.0
8867.0	17904.0

(5) North Atlantic (NAT):

kHz

2872.0	8825.0
2899.0	8831.0
2962.0	8864.0
2971.0	8879.0
3016.0	8891.0
3476.0	8906.0
4675.0	11279.0
5598.0	11309.0
5616.0	11336.0
5649.0	13291.0
6622.0	13306.0
6628.0	17946.0

(6) Europe (EUR):

kHz

3479.0	10084.0
5661.0	13288.0
6598.0	17961.0

(7) South America (SAM):

kHz

2944.0	10024.0
3479.0	10096.0
4669.0	11360.0
5526.0	13297.0
6649.0	17907.0
8855.0	

(8) South Atlantic (SAT):

kHz

2854.0	8861.0
2935.0	11291.0
3452.0	13315.0
5565.0	13357.0
6535.0	17955.0

(9) Southeast Asia (SEA):

kHz

3470.0	10066.0
3485.0	11396.0
5649.0	13309.0
5655.0	13318.0
6556.0	17907.0
8942.0	

(10) East Asia (EA):

kHz	
3016.0	10042.0
3485.0	11396.0
3491.0	13297.0
5655.0	13303.0
5670.0	13309.0
6571.0	17907.0
8897.0	

(11) Middle East (MID):

kHz	
2944.0	6631.0
2992.0	8918.0
3467.0	8951.0
3473.0	10018.0
4669.0	11375.0
5658.0	13288.0
5667.0	13312.0
6625.0	17961.0

(12) Africa (AFI):

kHz	
2851.0	6673.0
2878.0	8894.0
3419.0	8903.0
3425.0	8894.0
3467.0	11300.0
4657.0	11330.0
5493.0	13273.0
5652.0	13288.0
5658.0	13294.0
6559.0	17961.0
6574.0	

(13) Indian Ocean (INO):

kHz	
3476.0	13306.0
5634.0	17961.0
8879.0	

(14) North Central Asia (NCA):

kHz	
3004.0	6592.0
3019.0	10096.0
4678.0	13303.0
5646.0	13315.0
5664.0	17958.0

(15) Caribbean (CAR):

kHz	
2887.0	8846.0
3455.0	8918.0
5520.0	11387.0
5550.0	11396.0
6577.0	13297.0
6586.0	17907.0

(e) *Long distance operational control.* Long distance operational control frequencies provide communications between aeronautical enroute stations and aircraft stations anywhere in the world for control of the regularity and efficiency of flight and safety of aircraft. World-wide frequencies are not assigned by administrations for MWARA and Regional and Domestic Air Route Area (RDARA).

kHz	
3013.0	10075.0
3494.0	11342.0
5529.0	11348.0
5538.0	13330.0
6637.0	13348.0
6640.0	17925.0
8933.0	21964.0
10033.0	

(f) *121.500 MHz:* Emergency and distress only.

[53 FR 28940, Aug. 1, 1988, as amended at 54 FR 11721, Mar. 22, 1989; 55 FR 28628, July 12, 1990; 56 FR 21084, May 7, 1991; 58 FR 44954, Aug. 25, 1993]

§ 87.265 Administrative communications.

Domestic VHF aeronautical enroute stations authorized to use A9W emission on any frequency listed in § 87.263(a)(1) or § 87.263(a)(3) may transmit digital administrative communications on a secondary basis, in addition to the operational and control communications routinely permitted under § 87.261(a) above. Such secondary administrative communications must directly relate to the business of a participating aircraft operator in providing travel and transportation services to the flying public or to the travel, transportation or scheduling activities of the aircraft operator itself. Stations transmitting administrative communications must provide absolute priority for operational control and other safety communications by means of an automatic priority control system.

[54 FR 11721, Mar. 22, 1989]

AERONAUTICAL FIXED STATIONS

§ 87.275 Scope of service.

Aeronautical fixed stations provide non-public point-to-point communications service pertaining to safety, regularity and economy of flight. These stations must transmit, without discrimination, messages from aircraft which have entered into cooperative arrangements governing the operation and maintenance of such stations.

Aeronautical fixed station licensees are required to transmit, without charge or discrimination, all emergency communications.

§87.277 Supplemental eligibility.

Aeronautical fixed station licenses will only be issued to the licensees of associated aeronautical enroute stations. Aeronautical fixed station licenses will not be issued where adequate land line facilities are available.

§87.279 Frequencies.

(a) *United States (except Alaska).* The applicant must request specific frequencies in accordance with §2.106 of this chapter. The Commission will determine the suitability of the applicant's selection based on the probability of interference to and from existing services assigned on the same or adjacent frequencies. All new assignments of frequencies will be subject to such conditions as may be required to minimize the possibility of harmful interference to existing services.

(b) *Alaska.* (1) Only stations which serve scheduled air carriers will be licensed. Applicants must show that the station will provide communications only along routes served by the scheduled operations of such carriers.

(2) The following frequencies are available in Alaska. These frequencies will only be licensed in conjunction with licenses for use of the aeronautical enroute frequencies specified in §87.263(c).

kHz	
2648.0	5310.0
4645.0	5887.5
4947.5	8015.0
5122.5	

(c) *Gulf of Mexico.* In addition to the provisions of paragraph (a) of this section, the frequencies 4550.0 and 5036.0 kHz are available in the Gulf of Mexico.

Subpart J—Flight Test Stations

§87.299 Scope of service.

The use of flight test stations is restricted to the transmission of necessary information or instructions relating directly to tests of aircraft or components thereof.

§87.301 Supplemental eligibility.

(a) The following entities are eligible for flight test station licenses:

(1) Manufacturers of aircraft or major aircraft components;

(2) A parent corporation or its subsidiary if either corporation is a manufacturer of aircraft or major aircraft components; or

(3) Educational institutions and persons primarily engaged in the design, development, modification, and flight test evaluation of aircraft or major aircraft components.

(b) Each application must be accompanied by a statement containing facts sufficient to establish the applicant's eligibility under the criteria in paragraph (a) of this section.

§87.303 Frequencies.

(a) These frequencies are available for assignment to flight test land and aircraft stations:

kHz	MHz	MHz	MHz
3281.0[1]	123.175[2]	123.225[3]	123.400[2]
	123.200[3]	123.375[3]	123.450[3]

(b) These additional frequencies are available for assignment only to flight test stations of aircraft manufacturers:

MHz	MHz	MHz	MHz
123.125[2]	123.275[3]	S123.425[3]	123.550[3]
123.150[2]	123.325[3]	S123.475[3]	123.575[2]
123.250[3]	123.350[3]	S123.525[3]	

[1] When R3E, H3E or J3E emission is used, the assigned frequency will be 3282.4 kHz (3281.0 kHz carrier frequency).

[2] This frequency is available only to itinerant stations that have a requirement to be periodically transferred to various locations.

[3] Mobile station operations on these frequencies are limited to an area within 320 km (200 mi) of an associated flight test land station.

(c) These frequencies are available for equipment test, emergency and backup use with aircraft beyond the range of VHF propagation. Either H2B, J3E, J7B or J9W emission may be used.

Frequencies (carrier) available kHz:

kHz	
2851.0	8822.0
3004.0	10045.0
3443.0	11288.0
5451.0	11306.0
5469.0	13312.0
5571.0	17964.0
6550.0	21931.0

(d)(1) Frequencies in the bands 1435–1525 MHz and 2310–2390 MHz are assigned primarily for telemetry and

telecommand operations associated with the flight testing of manned or unmanned aircraft and missiles, or their major components. The band 1525–1535 MHz is also available for these purposes on a secondary basis. Permissible uses of these bands include telemetry and telecommand transmissions associated with the launching and reentry into the earth's atmosphere as well as any incidental orbiting prior to reentry of manned or unmanned objects undergoing flight tests. In the 1435–1530 MHz band, the following frequencies are shared with flight telemetry mobile stations: 1444.5, 1453.5, 1501.5, 1515.5, 1524.5 and 1525.5 MHz. In the 2310–2390 MHz band, the following frequencies may be assigned on a coequal basis for telemetry and associated telecommand operations in fully operational or expendable and re-usable launch vehicles whether or not such operations involve flight testing: 2312.5, 2332.5 2352.5, 2364.5, 2370.5 and 2382.5 MHz. In 2310–2390 MHz band, all other telemetry and telecommand uses are secondary.

NOTE: Aeronautical telemetry operations must protect mobile-satellite operations in the 1525–1535 MHz band and maritime mobile-satellite operations in the 1530–1535 MHz band.

(2) The authorized bandwidths for stations operating in the bands 1435.0–1525.0 MHz, 1525.0–1535.0 MHz and 2310.0–2390.0 MHz are normally 1, 3 or 5 MHz. Applications for greater bandwidths will be considered in accordance with the provisions of § 87.135. Each assignment will be centered on a frequency between 1435.5 MHz and 1534.5 MHz or between 2310.5 MHz and 2389.5 MHz, with 1 MHz channel spacing.

(e) 121.500 MHz: Emergency and distress only.

[53 FR 28940, Aug. 1, 1988, as amended at 55 FR 4175, Feb. 7, 1990; 58 FR 44954, Aug. 25, 1993; 58 FR 67696, Dec. 22, 1993; 60 FR 37829, July 24, 1995]

§ 87.305 Frequency coordination.

(a)(1) Each application for a new station license, renewal or modification of an existing license concerning flight test frequencies, except as provided in paragraph (b) of this section, must be accompanied by a statement from a frequency advisory committee. The committee must comment on the frequencies requested or the proposed changes in the authorized station and the probable interference to existing stations. The committee must consider all stations operating on the frequencies requested or assigned within 320 km (200 mi) of the proposed area of operation and all prior coordinations and assignments on the proposed frequency(ies). The committee must also recommend frequencies resulting in the minimum interference. The Committee must coordinate in writing all requests for frequencies or proposed operating changes in the 1435–1535 MHz and 2310–2390 MHz bands with the responsible Government Area Frequency Coordinators listed in the NTIA ''Manual of Regulations and Procedures for Federal Radio Frequency Management.'' In addition, committee recommendations may include comments on other technical factors and may contain recommended restrictions which it believes should appear on the license.

(2) The frequency advisory committee must be organized to represent all persons who are eligible for non-Government radio flight test stations. A statement of organization service area and composition of the committee must be submitted to the Commission for approval. The functions of any advisory committee are purely advisory to the applicant and the Commission, and its recommendations are not binding upon either the applicant or the Commission.

(b) These applications need not be accompanied by evidence of frequency coordination:

(1) Any application for modification not involving change in frequency(ies), power, emission, antenna height, antenna location or area of operation.

(2) Any application for 121.5 MHz.

[53 FR 28940, Aug. 1, 1988, as amended at 54 FR 11721, Mar. 22, 1989; 58 FR 44954, Aug. 25, 1993]

§ 87.307 Cooperative use of facilities.

(a) The Commission will license only one flight test land station per airport, except as provided in paragraph (d) of this section.

(b) Flight test land stations located at an airport are required to provide

service without discrimination, on a cooperative maintenance basis, to anyone eligible for a flight test station license.

(c) When the licensee of a flight test land station intends to conduct flight tests at an area served by another flight test land station, which may result in interference, the licensees must coordinate their schedules in advance. If no agreement is reached, the Commission will determine the time division upon request by either licensee.

(d) An application for an additional flight test land station at an airport where such a station is already authorized must be accompanied by a factual showing which must include the following:

(1) Reasons why shared use of the currently licensed flight test land station is not possible; and

(2) Results of coordination with the current licensee of the flight test station at the airport demonstrating that an additional station can be accommodated without significant degradation of the reliability of existing facilities.

Subpart K—Aviation Support Stations

§87.319 Scope of service.

Aviation support stations are used for the following types of operations:

(a) Pilot training;

(b) Coordination of soaring activities between gliders, tow aircraft and land stations;

(c) Coordination of activities between free balloons or lighter-than-air aircraft and ground stations;

(d) Coordination between aircraft and aviation service organizations located on an airport concerning the safe and efficient portal-to-portal transit of the aircraft, such as the types of fuel and ground services available; and

(e) Promotion of safety of life and property.

§87.321 Supplemental eligibility.

Each application must be accompanied by a statement that the applicant is either the operator of a flying school or lighter-than-air aircraft, engaged in soaring or free ballooning activities, or the operator of an airport or an aviation service organization located on an airport.

§87.323 Frequencies.

(a) 121.500 MHz: Emergency and distress only.

(b) The frequencies 121.950, 123.300 and 123.500 MHz are available for assignment to aviation support stations used for pilot training, coordination of lighter-than-air aircraft operations, or coordination of soaring or free ballooning activities. Applicants for 121.950 MHz must coordinate their proposal with the appropriate FAA Regional Spectrum Management Office. A coordination statement must accompany the application. Applicants for aviation support land stations may request frequency(ies) based upon their eligibility although the Commission reserves the right to specify the frequency of assignment. Aviation support mobile stations will be assigned 123.300 and 123.500 MHz. However, aviation support mobile stations must operate only on a noninterference basis to communications between aircraft and aviation support land stations.

(c) The frequency 122.775 MHz and, secondary to aeronautical multicom stations, the frequency 122.850 MHz are available for assignment to aviation support stations. These frequencies may be used for communications between aviation service organizations and aircraft in the airport area. These frequencies must not be used for air traffic control purposes or to transmit information pertaining to runway, wind or weather conditions.

(d) The frequency 3281.0 kHz is available for assignment to aviation support stations used for coordination of lighter-than-air aircraft operations.

Subpart L—Aeronautical Utility Mobile Stations

§87.345 Scope of service.

Aeronautical utility mobile stations provide communications for vehicles operating on an airport movement area. An airport movement area is defined as the runways, taxiways and other areas utilized for taxiing, takeoff and landing of aircraft, exclusive of loading ramp and parking areas.

(a) An aeronautical utility mobile station must monitor its assigned frequency during periods of operation.

(b) At an airport which has a control tower, control tower remote communications outlet station (RCO) or FAA flight service station in operation, communications by an aeronautical utility mobile station are limited to the management of ground vehicular traffic.

(c) Aeronautical utility mobile stations which operate on the airport's unicom frequency or the frequency 122.900 MHz are authorized only to transmit information relating to safety, such as runway conditions and hazards on the airport. These stations are authorized primarily for monitoring communications from and to aircraft approaching or departing the airport.

(d) Transmissions by an aeronautical utility mobile station are subject to the control of the control tower, the FAA flight service station or the unicom, as appropriate. When requested by the control tower, the flight service station or the unicom, an aeronautical utility station must discontinue transmitting immediately.

(e) Communications between aeronautical utility mobile stations are not authorized.

[53 FR 28940, Aug. 1, 1988, as amended at 55 FR 7333, Mar. 1, 1990; 55 FR 30464, July 26, 1990]

§ 87.347 Supplemental eligibility.

(a) Aeronautical utility stations may transmit on unicom frequencies only at airports which have a unicom and a part-time or no control tower, an RCO or an FAA flight service station.

(b) An applicant for an aeronautical utility station operating on a unicom frequency or the frequency 122.900 MHz must:

(1) Demonstrate a need to routinely operate a ground vehicle on the airport movement area;

(2) Identify the vehicle(s) in which the station is to be located; and

(3) Either attach a statement showing that the applicant is the airport owner or operator, or a state or local governmental aeronautical agency; or attach a statement from the airport owner or operator granting permission to operate the vehicle on the airport movement area.

(c) An applicant for an aeronautical utility station requesting authority to transmit on the local control (tower) frequency or on the control tower remote communications outlet (RCO) frequency must attach a copy of a memorandum of agreement between the applicant and the Air Traffic Manager of the airport control tower that approves the requested use of the tower or RCO frequency.

[53 FR 28940, Aug. 1, 1988, as amended at 55 FR 30464, July 26, 1990; 55 FR 30908, July 30, 1990]

§ 87.349 Frequencies.

(a) The frequency assigned to an aeronautical utility station at an airport served by a control tower, RCO or FAA flight service station is the frequency used by the control tower for ground traffic control or by the flight service station for communications with vehicles. In addition to the ground control frequency, an aeronautical utility station at an airport served by a control tower or RCO may be assigned the tower or RCO frequency if the assignment is specifically approved by the FAA as provided for in § 87.347(c). The frequencies assigned are normally from the band 121.600–121.925 MHz.

(b) The frequency assigned to the unicom is available to aeronautical utility stations on a noninterference basis at airports which have a part-time control tower, part-time RCO or part-time FAA flight service station and a unicom.

(c) At airports which have a unicom but no control tower, RCO or FAA flight service station, the frequency assigned to the unicom is available to aeronautical utility stations on a noninterference basis. The frequencies available for assignment to unicoms are described in subpart G of this part.

(d) At airports which have no control tower, RCO, flight service station or unicom, the frequency 122.900 MHz is available for assignment to aeronautical utility stations.

[55 FR 30464, July 26, 1990, as amended at 55 FR 30908, July 30, 1990]

§87.351 Frequency changes.

When the aeronautical utility frequency is required to be changed because of an action by the FAA or the Commission (such as a change in the ground control of unicom frequency) the licensee must submit an application for modification to specify the new frequency within 10 days from the date the station begins operation on the new frequency. The licensee has temporary authority to use the new frequency from the date of the change pending receipt of the modified license.

Subpart M—Aeronautical Search and Rescue Stations

§87.371 Scope of service.

Aeronautical search and rescue land and mobile stations must be used only for communications with aircraft and other aeronautical search and rescue stations engaged in search and rescue activities. Aeronautical land search and rescue stations can be moved for temporary periods from a specified location to an area where actual or practice search and rescue operations are being conducted.

§87.373 Supplemental eligibility.

Licenses for aeronautical search and rescue stations will be granted only to governmental entities or private organizations chartered to perform aeronautical search and rescue functions.

§87.375 Frequencies.

(a) The frequency 123.100 MHz is available for assignment to aeronautical search and rescue stations for actual search and rescue missions. Each search and rescue station must be equipped to operate on this frequency.

(b) The frequency 122.900 MHz is available for assignment to aeronautical search and rescue stations for organized search and rescue training and for practice search and rescue missions.

(c) The frequencies 3023.0 kHz and 5680.0 kHz are available for assignment to aircraft and ship stations for search and rescue scene-of-action coordination, including communications with participating land stations. Ship stations communicating with aircraft stations must employ 2K80J3E emission.

(d) 121.500 MHz: Emergency and distress only.

Subpart N—Emergency Communications

§87.393 Scope of service.

This subpart provides the rules governing operation of stations in the Aviation Services during any national or local emergency situation constituting a threat to national security or safety of life and property. This subpart is consistent with the Aeronautical Emergency Communications System Plan for all Aviation Services licensees of the Commission which was developed pursuant to sections 1, 4(o), 301 and 303 of the Communications Act, and Executive Order 11490, as amended. This Plan provides for emergency communications to meet the requirements of the Plan for the Security Control of Air Traffic and Air Navigation Aids (SCATANA), Civil Reserve Air Fleet (CRAF), War Air Service Program (WASP) and, where applicable, State and Regional Disaster Airlift Planning (SARDA).

§87.395 Plan for the Security Control of Air Traffic and Air Navigation Aids (Short Title: SCATANA).

(a) The Plan for the Security Control of Air Traffic and Air Navigation Aids (SCATANA) is promulgated in furtherance of the Federal Aviation Act of 1958, as amended, the Communications Act and Executive Order 11490, as amended. SCATANA defines the responsibilities of the Commission for the security control of non-Federal air navigation aids.

(b) Under the responsibilities defined in SCATANA, an FCC Support Plan for the Security Control of Non-Federal Air Navigation Aids has been developed by the Commission. The FCC Support Plan defines responsibilities, procedures, and instructions in consonance with SCATANA which will effect control of non-Federal air navigation aids when SCATANA is implemented. It permits the use of such navigation aids by aircraft of military and civil agencies when SCATANA is implemented. The FCC Support Plan highlights those

parts of SCATANA which deal specifically with non-Federal air navigation aids. SCATANA and the FCC Support Plan apply to radionavigation stations authorized by the Commission in the following manner:

(1) All licensees are subject to restrictions imposed by appropriate military authorities pursuant to SCATANA and the FCC Support Plan when an Air Defense Emergency or Defense Emergency exists or is imminent. The restrictions will be imposed through FAA Air Route Traffic Control Centers (ARTCCs).

(2) All licensees of aeronautical radionavigation (VOR/DME, ILS, MLS, LF and MF non-directional beacons) stations will comply with SCATANA implementation instructions from FAA ARTCCs as follows:

(i) Shut down the above navigation aids as directed. These instructions will permit time to land or disperse airborne aircraft, and will permit extension of time when the air traffic situation dictates.

(ii) Shut down as soon as possible stations which require more than five minutes control time, unless directed otherwise or unless such stations are essential for the handling of existing air traffic.

(iii) Operate aeronautical radionavigation stations to ensure that required stations, as indicated in flight plans, will be available for authorized aircraft flights.

(3) Licensees of aeronautical radionavigation stations will be notified of the reduction or removal of SCATANA restrictions by FAA ARTCCs when notice of the termination is issued.

(4) Licensees of aeronautical radionavigation stations may voluntarily participate in SCATANA tests as requested by an ARTCC. SCATANA testing must not interrupt the normal service of non-Federal air navigation aids.

§ 87.397 Emergency operations.

(a) The licensee of any land station in the Aviation services, during a local emergency involving the safety of life and property may communicate in a manner other than that specified in the license (See § 87.395). Such emergency operations may include operation at other locations or with equipment not specified in the license or by unlicensed personnel provided that:

(1) Such operations are under the control and supervision of the station licensee,

(2) The emergency use is discontinued as soon as practicable upon termination of the emergency,

(3) In no event shall any station transmit on frequencies other than or with power in excess of that specified in the license,

(4) The details of the emergency must be retained with the station license, and

(5) At a controlled airport these communications must be coordinated with the FAA.

(b) The unicom frequencies listed in subpart G may also be used for communications with private aircraft engaged in organized civil defense activities in preparation for, during an enemy attack or immediately after an enemy attack. When used for these purposes, unicoms may be moved from place to place or operated at unspecified locations, except at landing areas served by other unicoms or control towers.

(c) In any case in which a license for unattended operation has been granted, the Commission may at any time, for national defense, modify the license.

Subpart O—Airport Control Tower Stations

§ 87.417 Scope of service.

(a) Airport control tower stations (control towers) and control tower remote communications outlet stations (RCOs) must limit their communications to the necessities of safe and expeditious operations of aircraft operating on or in the vicinity of the airport. Control towers and RCOs provide air traffic control services to aircraft landing, taking off and taxing on the airport as well as aircraft transiting the airport traffic area. Additionally, control towers and RCOs can provide air traffic control services to vehicles operating on airport movement areas (see subpart L of this part). Control towers and RCOs must serve all aircraft without discrimination. An RCO must be remotely operated from a control

tower or other FAA control facility located at a nearby airport.

(b) A control tower must maintain a continuous watch on the following frequencies during the hours of operation:

121.500 MHz
3023.0 kHz (Alaska only)
5680.0 kHz (Alaska only)

The Commission may exempt from these watch requirements the licensee of an airport control tower station if a satisfactory showing has been made that such an exemption will not adversely affect life and property in the air.

[53 FR 28940, Aug. 1, 1988, as amended at 54 FR 11721, Mar. 22, 1989; 55 FR 30464, July 26, 1990]

§87.419 Supplemental eligibility.

(a) Only one control tower or RCO will be licensed at an airport.

(b) Each application for an RCO must be accompanied by a written statement from the appropriate FAA Regional Office approving the requested RCO operation.

[55 FR 30464, July 26, 1990]

§87.421 Frequencies.

The Commission will assign VHF frequencies after coordination with the FAA. Frequencies in the following bands are available to control towers and RCOs. Channel spacing is 25 kHz.

118.000–121.400 MHz
121.600–121.925 MHz
123.600–128.800 MHz
132.025–135.975 MHz

(a) The frequency 123.100 MHz is available for use by control towers and RCOs at special aeronautical events on the condition that no harmful interference is caused to search and rescue operations in the locale involved.

(b) Frequencies in the bands 200.0–285.0 and 325.0–405.0 kHz will only be assigned to control towers and RCOs authorized to operate on at least one VHF frequency, unless a showing has been made that elimination of VHF service will not adversely affect life and property in the air.

(c) Frequencies in the band 121.600–121.925 MHz are available to control towers and RCOs for communications with ground vehicles and aircraft on the ground. The antenna heights shall be restricted to the minimum necessary to achieve the required coverage. Channel spacing is 25 kHz.

(d) 121.500 MHz: emergency and distress only.

[53 FR 28940, Aug. 1, 1988, as amended at 55 FR 30464, July 26, 1990]

§87.423 Hours of operation.

The control tower must render a communications service 24 hours a day unless a satisfactory showing has been made that elimination of such service will not adversely affect life and property in the air.

§87.425 Interference.

Control towers and RCOs must not cause harmful interference to control towers or RCOs at adjacent airports. If interference between adjacent control towers or RCOs exists, the Commission will direct the licensees how to eliminate the interference.

[55 FR 30465, July 26, 1990]

Subpart P—Operational Fixed Stations

§87.445 Scope of service.

An operational fixed station provides control, repeater or relay functions for its associated aeronautical station.

§87.447 Supplemental eligibility.

An applicant for an operational fixed station must show that:

(a) The applicant is the licensee of an aeronautical land station in the aeronautical mobile service; and

(b) Common carrier facilities are not available to satisfy the aeronautical station's requirements.

§87.449 Frequencies.

The following frequencies in the 72–76 MHz band are assignable to operational fixed stations using vertical polarization, if no harmful interference is caused to TV reception on Channels 4 and 5. These frequencies are shared with the Land Mobile and the Maritime Mobile Services.

OPERATIONAL FREQUENCIES IN THE 72–76 MHZ BAND

Carrier frequency in MHz	
72.02	72.80
72.04	72.82
72.06	72.84
72.08	72.86
72.10	72.88
72.12	72.90
72.14	72.92
72.16	72.94
72.18	72.96
72.20	72.98
72.22	75.42
72.24	75.46
72.26	75.50
72.28	75.54
72.30	75.58
72.32	75.62
72.34	75.64
72.36	75.66
72.38	75.68
72.40	75.70
72.42	75.72
72.46	75.74
72.50	75.76
72.54	75.78
72.58	75.80
72.62	75.82
72.64	75.84
72.66	75.86
72.68	75.88
72.70	75.90
72.72	75.92
72.74	75.94
72.76	75.96
72.78	75.98

§ 87.451 Licensing limitations.

Operational fixed stations are subject to the following licensing limitations:

(a) A maximum of four frequencies will be assigned.

(b) Stations will not be authorized when applications indicate less than 16 km (10 miles) separation between a proposed station and a TV transmitter operating on either Channel 4 or 5, or from the post office of a community in which either channel is assigned but not in operation.

(c) Stations located between 16 km (10 miles) and 128 km (80 miles) of a TV transmitter operating on either Channel 4 or 5, or from the post office of a community in which either channel is assigned but not in operation, are secondary to TV operations within the Grade B service contour.[1]

[1] OET Bulletin No. 67, March 1988, entitled ''Potential Interference from Operational Fixed Stations in the 72–76 MHz Band to Television Channels 4 and 5'' describes an analytical model that can be used to calculate the potential interference that might result from a given fixed station operation. Copies of the bulletin may be obtained from the Commission's current duplication contractor. Information concerning the current duplication contractor may be obtained from the Office of Public Affairs, Consumer Assistance and Small Business Division, Telephone (202) 632–5050.

Subpart Q—Stations in the Radiodetermination Service

§ 87.471 Scope of service.

Stations in the aeronautical radiodetermination service provide radionavigation and radiolocation services.

(a) Transmission by radionavigation land stations must be limited to aeronautical navigation, including obstruction warning.

(b) Radionavigation land test stations are used for the testing and calibration of aircraft navigational aids and associated equipment. When used as radionavigation land test stations (MTF) signal generators must be licensed as radionavigation land test stations (MTF). Transmission must be limited to cases when radiation is necessary and there is no alternative.

(c) Transmissions by emergency locator transmitter (ELT) test stations must be limited to necessary testing of ELTs and to training operations related to the use of such transmitters.

[53 FR 28940, Aug. 1, 1988, as amended at 58 FR 67696, Dec. 22, 1993]

§ 87.473 Supplemental eligibility.

(a) Licenses for radionavigation land stations will be granted only to applicants who can justify the need for an aeronautical radionavigation service when the Federal Aviation Administration is not prepared to render this service.

(b) Licenses for radionavigation land test stations (MTF) will be granted only to applicants engaged in the development, manufacture or maintenance of aircraft radionavigation equipment. Licenses for radionavigation land test stations (OTF) will be granted only to applicants who

agree to establish the facility at an airport for the use of the public.

(c) Licenses for ELT test stations will be granted only to applicants to train personnel in the operation and location of ELTs, or for testing related to the manufacture or design of ELTs.

§87.475 Frequencies.

(a) *Frequency coordination.* The Commission will assign frequencies to radionavigation land stations and radionavigation land test stations after coordination with the FAA. The applicant must notify the appropriate Regional Office of the FAA prior to submission to the Commission of an application for a new station or for modification of an existing station to change frequency, power, location or emission. Each application must be accompanied by a statement showing the name of the FAA Regional Office notified and the date of notification.

(b) *Frequencies available for radionavigation land stations.* (1) LORAN–C is a long range navigation system which operates in the 90–110 kHz band.

(2) Radiobeacon stations enable an aircraft station to determine bearing or direction in relation to the radiobeacon station. Radiobeacons operate in the bands 190–285 kHz; 325–435; and 510–525 kHz.

(3) Aeronautical marker beacon stations radiate a vertical distinctive pattern on 75 MHz which provides position information to aircraft.

(4) The following table lists the specific frequencies in the 108.100–111.950 MHz band which are assignable to localizer stations with simultaneous radiotelephone channels and their associated glide path station frequency from the 328.600–335.400 MHz band.

Localizer (MHz)	Glide path (MHz)
108.100	334.700
108.150	334.550
108.300	334.100
108.350	333.950
108.500	329.900
108.550	329.750
108.700	330.500
108.750	330.350
108.900	329.300
108.950	329.150
109.100	331.400
109.150	331.250
109.300	332.000
109.350	331.850
109.500	332.600
109.550	332.450
109.700	333.200
109.750	333.050
109.900	333.800
109.950	333.650
110.100	334.400
110.150	334.250
110.300	335.000
110.350	334.850
110.500	329.600
110.550	329.450
110.700	330.200
110.750	330.050
110.900	330.800
110.950	330.650
111.100	331.700
111.150	331.550
111.300	332.300
111.350	332.150
111.500	332.900
111.550	332.750
111.700	333.500
111.750	333.350
111.900	331.100
111.950	330.950

(5) VHF omni-range (VOR) stations are to be assigned frequencies in the 112.050–117.950 MHz band (50 kHz channel spacing) and the following frequencies in the 108–112 MHz band:

108.200	110.200
108.250	110.250
108.400	110.400
108.450	110.450
108.600	110.600
108.650	110.650
108.800	110.800
108.850	110.850
109.000	111.000
109.050	111.050
109.200	111.200
109.250	111.250
109.400	111.400
109.450	111.450
109.600	111.600
109.650	111.650
109.800	111.800
109.850	111.850
110.000	112.000
110.050	

(6) The band 960–1215 MHz is available for the use of land stations and associated airborne electronic aids to air navigation. When distance measuring equipment (DME) is intended to operate with a single VHF navigation station in the 108–117.975 MHz band, the DME operating channel must be paired with the VHF channel as shown in the following table:

DME CHANNELING AND PAIRING

[MHz]

VHF channel	Airborne interrogating frequency	Ground reply frequency
108.000	1041.000	978.000
108.050	1041.000	1104.000
108.100	1042.000	979.000
108.150	1042.000	1105.000
108.200	1043.000	980.000
108.250	1043.000	1106.000
108.300	1044.000	981.000
108.350	1044.000	1107.000
108.400	1045.000	982.000
108.450	1045.000	1108.000
108.500	1046.000	983.000
108.550	1046.000	1109.000
108.600	1047.000	984.000
108.650	1047.000	1110.000
108.700	1048.000	985.000
108.750	1048.000	1111.000
108.800	1049.000	986.000
108.850	1049.000	1112.000
108.900	1050.000	987.000
108.950	1050.000	1113.000
109.000	1051.000	988.000
109.050	1051.000	1114.000
109.100	1052.000	989.000
109.150	1052.000	1115.000
109.200	1053.000	990.000
109.250	1053.000	1116.000
109.300	1054.000	991.000
109.350	1054.000	1117.000
109.400	1055.000	992.000
109.450	1055.000	1118.000
109.500	1056.000	993.000
109.550	1056.000	1119.000
109.600	1057.000	994.000
109.650	1057.000	1120.000
109.700	1058.000	995.000
109.750	1058.000	1121.000
109.800	1059.000	996.000
109.850	1059.000	1122.000
109.900	1060.000	997.000
109.950	1060.000	1123.000
110.000	1061.000	998.000
110.050	1061.000	1124.000
110.100	1062.000	999.000
110.150	1062.000	1125.000
110.200	1063.000	1000.000
110.250	1063.000	1126.000
110.300	1064.000	1001.000
110.350	1064.000	1127.000
110.400	1065.000	1002.000
110.450	1065.000	1128.000
110.500	1066.000	1003.000
110.550	1066.000	1129.000
110.600	1067.000	1004.000
110.650	1067.000	1130.000
110.700	1068.000	1005.000
110.750	1068.000	1131.000
110.800	1069.000	1006.000
110.850	1069.000	1132.000
110.900	1070.000	1007.000
110.950	1070.000	1133.000
111.000	1071.000	1008.000
111.050	1071.000	1134.000
111.100	1072.000	1009.000
111.150	1072.000	1135.000
111.200	1073.000	1010.000
111.250	1073.000	1136.000
111.300	1074.000	1011.000
111.350	1074.000	1137.000
111.400	1075.000	1012.000
111.450	1075.000	1138.000

DME CHANNELING AND PAIRING—Continued

[MHz]

VHF channel	Airborne interrogating frequency	Ground reply frequency
111.500	1076.000	1013.000
111.550	1076.000	1139.000
111.600	1077.000	1014.000
111.650	1077.000	1140.000
111.700	1078.000	1015.000
111.750	1078.000	1141.000
111.800	1079.000	1016.000
111.850	1079.000	1142.000
111.900	1080.000	1017.000
111.950	1080.000	1143.000
112.000	1081.000	1018.000
112.050	1081.000	1144.000
112.100	1082.000	1019.000
112.150	1082.000	1145.000
112.200	1083.000	1020.000
112.250	1083.000	1146.000
112.300	1094.000	1157.000
112.350	1094.000	1031.000
112.400	1095.000	1158.000
112.450	1095.000	1032.000
112.500	1096.000	1159.000
112.550	1096.000	1033.000
112.600	1097.000	1160.000
112.650	1097.000	1034.000
112.700	1098.000	1161.000
112.750	1098.000	1035.000
112.800	1099.000	1162.000
112.850	1099.000	1036.000
112.900	1100.000	1163.000
112.950	1100.000	1037.000
113.000	1101.000	1164.000
113.050	1101.000	1038.000
113.100	1102.000	1165.000
113.150	1102.000	1039.000
113.200	1103.000	1166.000
113.250	1103.000	1040.000
113.300	1104.000	1167.000
113.350	1104.000	1041.000
113.400	1105.000	1168.000
113.450	1105.000	1042.000
113.500	1106.000	1169.000
113.550	1106.000	1043.000
113.600	1107.000	1170.000
113.650	1107.000	1044.000
113.700	1108.000	1171.000
113.750	1108.000	1045.000
113.800	1109.000	1172.000
113.850	1109.000	1046.000
113.900	1110.000	1173.000
113.950	1110.000	1047.000
114.000	1111.000	1174.000
114.050	1111.000	1048.000
114.100	1112.000	1175.000
114.150	1112.000	1049.000
114.200	1113.000	1176.000
114.250	1113.000	1050.000
114.300	1114.000	1177.000
114.350	1114.000	1051.000
114.400	1115.000	1178.000
114.450	1115.000	1052.000
114.500	1116.000	1179.000
114.550	1116.000	1053.000
114.600	1117.000	1180.000
114.650	1117.000	1054.000
114.700	1118.000	1181.000
114.750	1118.000	1055.000
114.800	1119.000	1182.000
114.850	1119.000	1056.000
114.900	1120.000	1183.000
114.950	1120.000	1057.000

DME CHANNELING AND PAIRING—Continued

[MHz]

VHF channel	Airborne interrogating frequency	Ground reply frequency
115.000	1121.000	1184.000
115.050	1121.000	1058.000
115.100	1122.000	1185.000
115.150	1122.000	1059.000
115.200	1123.000	1186.000
115.250	1123.000	1060.000
115.300	1124.000	1187.000
115.350	1124.000	1061.000
115.400	1125.000	1188.000
115.450	1125.000	1062.000
115.500	1126.000	1189.000
115.550	1126.000	1063.000
115.600	1127.000	1190.000
115.650	1127.000	1064.000
115.700	1128.000	1191.000
115.750	1128.000	1065.000
115.800	1129.000	1192.000
115.850	1129.000	1066.000
115.900	1130.000	1193.000
115.950	1130.000	1067.000
116.000	1131.000	1194.000
116.050	1131.000	1068.000
116.100	1132.000	1195.000
116.150	1132.000	1069.000
116.200	1133.000	1196.000
116.250	1133.000	1070.000
116.300	1134.000	1197.000
116.350	1134.000	1071.000
116.400	1135.000	1198.000
116.450	1135.000	1072.000
116.500	1136.000	1199.000
116.550	1136.000	1073.000
116.600	1137.000	1200.000
116.650	1137.000	1074.000
116.700	1138.000	1201.000
116.750	1138.000	1075.000
116.800	1139.000	1202.000
116.850	1139.000	1076.000
116.900	1140.000	1203.000
116.950	1140.000	1077.000
117.000	1141.000	1204.000
117.050	1141.000	1078.000
117.100	1142.000	1205.000
117.150	1142.000	1079.000
117.200	1143.000	1206.000
117.250	1143.000	1080.000
117.300	1144.000	1207.000
117.350	1144.000	1081.000
117.400	1145.000	1208.000
117.450	1145.000	1082.000
117.500	1146.000	1209.000
117.550	1146.000	1083.000
117.600	1147.000	1210.000
117.650	1147.000	1084.000
117.700	1148.000	1211.000
117.750	1148.000	1085.000
117.800	1149.000	1212.000
117.850	1149.000	1086.000
117.900	1150.000	1213.000
117.950	1150.000	1087.000

(7) 1300–1350 MHz: The use of this band is restricted to surveillance radar stations and associated airborne transponders.

(8) 1559–1626.5 MHz: The use of this band is limited to airborne electronic aids to air navigation and any associated land stations.

(c) *Frequencies available for radionavigation land test stations.* (1) The frequencies set forth in § 87.187(c), (e) through (j), (r), and (t) and § 87.475(b) (6) through (10), and (12) may be assigned to radionavigation land test stations for the testing of aircraft transmitting equipment that normally operate on these frequencies and for the testing of land-based receiving equipment that operate with airborne radionavigation equipment.

(2) The frequencies available for assignment to radionavigation land test stations for the testing of airborne receiving equipment are 108.000 and 108.050 MHz for VHF omni-range; 108.100 and 108.150 MHz for localizer; 334.550 and 334.700 MHz for glide slope; 978 and 979 MHz (X channel)/1104 MHz (Y channel) for DME; 1030 MHz for ATC radar beacon transponders; and 5031.0 MHz for microwave landing systems. Additionally, the frequencies in paragraph (b) of this section may be assigned to radionavigation land test stations after coordination with the FAA. The following conditions apply:

(i) The maximum power authorized on the frequencies 108.150 and 334.550 MHz is 1 milliwatt. The maximum power authorized on all other frequencies is one watt.

(ii) The pulse repetition rate (PRR) of the 1030 MHz ATC radar beacon test set will be 235 pulses per second (pps) ±5pps.

(iii) The assignment of 108.000 MHz is subject to the condition that no interference will be caused to the reception of FM broadcasting stations and stations using the frequency are not protected against interference from FM broadcasting stations.

(d) *Frequencies available for ELT test stations.* The frequencies available for assignment to ELT test stations are 121.600, 121.650, 121.700, 121.750, 121.800, 121.850, and 121.900 MHz. Licensees must:

(1) Not cause harmful interference to voice communications on these frequencies or any harmonically related frequency.

(2) Coordinate with the appropriate FAA Regional Spectrum Management

Office prior to each activation of the transmitter.

[53 FR 28940, Aug. 1, 1988, as amended at 54 FR 11721, Mar. 22, 1989]

§ 87.477 Condition of grant for radionavigation land stations.

Radionavigation land stations may be designated by the FAA as part of the National Airspace System. Stations so designated will be required to serve the public under IFT conditions. This condition of grant is applicable to all radionavigation land stations.

§ 87.479 Harmful interference to radionavigation land stations.

(a) Military or other Government stations have been authorized to establish wide-band systems using frequency-hopping spread spectrum techniques in the 960–1215 MHz band. Authorization for a Joint Tactical Information Distribution Systems (JTIDS) has been permitted on the basis of noninterference to the established aeronautical radionavigation service in this band. In order to accommodate the requirements for the system within the band, restrictions are imposed. Transmissions will be automatically prevented if:

(1) The frequency-hopping mode fails to distribute the JTIDS spectrum uniformly across the band;

(2) The radiated pulse varies from the specified width of 6.4 microseconds ±5%;

(3) The energy radiated within ±7 MHz of 1030 and 1090 MHz exceeds a level of 60 dB below the peak of the JTIDS spectrum as measured in a 300 kHz bandwidth. The JTIDS will be prohibited from transmitting if the time slot duty factor exceeds a 20 percent duty factor for any single user and a 40 percent composite duty factor for all JTIDS emitters in a geographic area.

(b) If radionavigation systems operating in the 960–1215 MHz band experience interference or unexplained loss of equipment performance, the situation must be reported immediately to the nearest office of the FAA, the National Telecommunications and Information Administration, Washington, DC 20504, or the nearest Federal Communications Commission field office. The following information must be provided to the extent available:

(1) Name, call sign and category of station experiencing the interference;

(2) Date and time of occurrence;

(3) Geographical location at time of occurrence;

(4) Frequency interfered with;

(5) Nature of interference; and

(6) Other particulars.

§ 87.481 Unattended operation of domestic radiobeacon stations.

(a) Radiobeacons may be licensed for unattended operation. An applicant for unattended operations must provide information about the following:

(1) The transmitter is crystal controlled and specifically designed for radiobeacon service and capable of transmitting by self-actuating means;

(2) The emissions of the transmitter must be continuously monitored by a licensed operator, or by a direct positive automatic monitor, supplemented by aural monitoring at suitable intervals;

(3) If as a result of aural monitoring it is determined that a deviation from the terms of the station license has occurred, the transmitters must be disabled immediately by a properly authorized person. If automatic monitoring is used, the monitor must insure that the operation of the transmitter meets the license terms or is disabled;

(4) The time, including travel time, required for a properly authorized person to disable the transmitter;

(5) The equipment must be inspected at least every 180 days. Results of inspections must be kept in the station maintenance records;

(6) The transmitter is not operable by or accessible to, other than authorized persons;

(7) The transmitter is in a remote location.

(b) Authority for unattended operation must be expressly stated in the station license.

Subpart R—Civil Air Patrol Stations

§ 87.501 Scope of service.

Civil Air Patrol land and mobile stations must be used only for training, operational and emergency activities of the Civil Air Patrol.

(a) Civil Air Patrol land and mobile stations may communicate with other land and, mobile stations of the Civil Air Patrol. A Civil Air Patrol land station may be moved from its authorized location for temporary operation in the same general area for short periods of time not to exceed 72 hours.

(b) When engaged in training or on actual missions in support of the U.S. Air Force, Civil Air Patrol stations may communicate with U.S. Air Force stations on the frequencies specified in subpart E.

§ 87.503 Supplemental eligibility.

Licenses for Civil Air Patrol land and mobile stations will be issued only to Wings or the Headquarters of the Civil Air Patrol. All applications must be submitted to the Commission via Civil Air Patrol Headquarters, Maxwell Air Force Base, AL 36112. A single fleet license will be issued to Civil Air Patrol Headquarters and to each Civil Air Patrol Wing to authorize all Civil Air Patrol Station transmitters operated by the Wing or Headquarters.

[54 FR 11721, Mar. 22, 1989]

§ 87.505 Frequencies.

The assigned frequencies available for assignment to Civil Air Patrol land and mobile stations are contained in the frequency table in subpart E. The frequency, emission, and maximum power will be determined by Headquarters Civil Air Patrol in accordance with the Civil Air Patrol Communications Plan.

Subpart S—Automatic Weather Observation Stations

§ 87.525 Scope of service.

Automatic weather observation stations must provide up-to-date weather information including the time of the latest weather sequence, altimeter setting, wind speed and direction, dewpoint, temperature, visibility and other pertinent data needed at airports having neither a full-time control tower nor a full-time FAA Flight Service Station. When a licensee has entered into an agreement with the FAA, an automatic weather observation station may also operate as an automatic terminal information station during the control tower's operating hours.

§ 87.527 Supplemental eligibility.

(a) Licenses will be granted only upon FAA approval.

(b) Eligibility for an automatic weather observation station or an automatic terminal information station is limited to the owner or operator of an airport or to a person who has entered into a written agreement with the owner or operator for exclusive rights to operate and maintain the station. Where applicable a copy of the agreement between the applicant and owner or operator of the airport must be submitted with an application.

(c) Only one automatic weather observation station or an automatic terminal information station will be licensed at an airport.

§ 87.529 Frequencies.

Prior to submitting an application, each applicant must notify the nearest appropriate FAA Regional Spectrum Management Office. Each application must be accompanied by a statement showing the name of the FAA Regional Office and date notified. The Commission will assign the frequency. Normally frequencies available for air traffic control operations set forth in subpart E will be assigned to automatic weather observation stations and to automatic terminal information stations. When a licensee has entered into an agreement with the FAA to operate the same station as both an automatic weather observation station and as an automatic terminal information station, the same frequency will be used in both modes of operation.

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AUTHORITY: Secs. 4, 251–2, 303, 309, and 332, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 251–2, 303, 309 and 332, unless otherwise noted.

SOURCE: 43 FR 54791, Nov. 22, 1978, unless otherwise noted.

Subpart A—General Information

§ 90.1 Basis and purpose.

(a) *Basis.* The rules in this part are promulgated under Title III of the Communications Act of 1934, as amended which vests authority in the Federal Communications Commission to regulate radio transmission and to issue licenses for radio stations. All rules in this part are in accordance with applicable treaties and agreements to which the United States is a party.

(b) *Purpose.* This part states the conditions under which radio communications systems may be licensed and used in the Public Safety, Special Emergency, Industrial, Land Transportation, and Radiolocation Radio Services. These rules do not govern radio systems employed by agencies of the Federal Government.

§ 90.5 Other applicable rule parts.

Other Commission rule parts of importance that may be referred to with respect to licensing and operations in radio services governed under this part include the following:

(a) Part 0 of the Commission's Rules describes the Commission's organization and delegations of authority. This part also lists available Commission publications, and standards and procedures for access to Commission records, and location of Commission Field Offices.

(b) Part 1 of this chapter includes rules of practice and procedure for application signature requirements, adjudicatory proceedings including hearing proceedings, and rule making proceedings; procedures for reconsideration and review of the Commission's actions; provisions concerning violation notices and forfeiture proceedings; and the environmental processing requirements that, if applicable, must be complied with prior to initiating construction.

(c) Part 2 contains the table of frequency allocations and special requirements in International regulations, agreements, and treaties. This part also contains standards and procedures concerning marketing of radio frequency devices, and for obtaining equipment type acceptance and type approval.

(d) Part 5 contains standards and procedures for obtaining experimental authorizations.

(e) Part 15 provides for the operation of incidental and restricted radio frequency devices that do not require an individual license.

(f) Part 17 contains detailed requirements for construction, marking, and lighting of antenna towers.

(g) Part 18 deals with the operation of industrial, scientific, and medical (ISM) devices that are not intended for radio communication,

(h) Part 20 of this chapter contains rules relating to commercial mobile radio services.

(i) Part 20 of this chapter which governs commercial mobile radio service applicable to certain providers in the following services in this part:

(1) Business radio service;

(2) Private paging;

(3) Land mobile service on 220–222 MHz;

(4) Specialized Mobile Radio Service.

(j) Part 22 contains regulations for public (common carrier) mobile radio services.

(k) Part 51 contains rules relating to interconnection.

(l) Part 68 contains technical standards for connection of private land mobile radio equipment to the public switched telephone network.

(m) Part 94 governs licensing and operation of private operational-fixed

radio stations on frequencies in the microwave spectrum above 928 MHz.

[43 FR 54791, Nov. 22, 1978, as amended at 50 FR 39677, Sept. 30, 1985; 55 FR 20398, May 16, 1990; 58 FR 21407, Apr. 21, 1993; 59 FR 18499, Apr. 19, 1994; 59 FR 59957, Nov. 21, 1994; 61 FR 45635, Aug. 29, 1996]

§90.7 Definitions.

Antenna height above average terrain (AAT). Height of the center of the radiating element of the antenna above the average terrain. (See §90.309(a)(4) for calculation method.)

Antenna height above sea level. The height of the topmost point of the antenna above mean sea level.

Antenna structure. Structure on which an antenna is mounted.

Assigned frequency. Center of a frequency band assigned to a station.

Assigned frequency band. The frequency band the center of which coincides with the frequency assigned to the station and the width of which equals the necessary bandwidth plus twice the absolute value of the frequency tolerance.

Authorized bandwidth. The frequency band, specified in kilohertz and centered on the carrier frequency containing those frequencies upon which a total of 99 percent of the radiated power appears, extended to include any discrete frequency upon which the power is at least 0.25 percent of the total radiated power.

Average terrain. The average elevation of terrain between 3.2 and 16 km (2 and 10 miles) from the antenna site.

Base station. A station at a specified site authorized to communicate with mobile stations.

Basic trading areas. Service areas that are based on the Rand McNally *1992 Commercial Atlas & Marketing Guide,* 123rd Edition, at pages 38–39, with the following additions licensed separately as BTA-like areas: American Samoa; Guam, Northern Mariana Islands; Mayaguez/Aguadilla-Ponce, Puerto Rico; San Juan, Puerto Rico; and the United States Virgin Islands. The Mayaguez/Aguadilla-Ponce BTA-like service area consists of the following municipios: Adjuntas, Aguada, Aguadilla, Anasco, Arroyo, Cabo Rojo, Coamo, Guanica, Guayama, Guayanilla, Hormigueros, Isabela, Jayuya, Juana Diaz, Lajas, Las Marias, Maricao, Maunabo, Mayaguez, Moca, Patillas, Penuelas, Ponce, Quebradillas, Rincon, Sabana Grande, Salinas, San German, Santa Isabel, Villalba, and Yauco. The San Juan BTA-like service area consists of all other municipios in Puerto Rico.

Carrier frequency. The frequency of an unmodulated electromagnetic wave.

Channel loading. The number of mobile transmitters authorized to operate on a particular channel within the same service area.

Control point. Any place from which a transmitter's functions may be controlled.

Control station. An Operational Fixed Station, the transmissions of which are used to control automatically the emissions or operation of another radio station at a specified location.

Conventional radio system. A method of operation in which one or more radio frequency channels are assigned to mobile and base stations but are not employed as a trunked group. An ''urban-conventional system'' is one whose transmitter site is located within 24 km (15 miles) of the geographic center of any of the first 50 urbanized areas (ranked by population) of the United States. A ''sub-urban-conventional system'' is one whose transmitter site is located more than 24 km (15 miles) from the geographic center of the first 50 urbanized areas. See Table 21, Rank of Urbanized Areas in the United States by Population, page 1–87, U.S. Census (1970); and table 1 of §90.635.

Developmental operation. A specially licensed operation for the purpose of testing concepts in the use of radio appropriate to the radio services governed by this part.

Dispatch point. Any place from which radio messages can be originated under the supervision of a control point.

EA-based or EA license. A license authorizing the right to use a specified block of SMR spectrum within one of the 175 Economic Areas (EAs) as defined by the Department of Commerce Bureau of Economic Analysis. The EA Listings and the EA Map are available for public inspection at the Wireless Telecommunications Bureau's public reference room, Room 5608, 2025 M St. NW., Washington, DC 20554 and Office

of Operations—Gettysburg, 1270 Fairfield Road, Gettysburg, PA 17325.

Economic Areas (EAs). A total of 175 licensing regions based on the United States Department of Commerce Bureau of Economic Analysis Economic Areas available from the Bureau of Economic Analysis at (202–606–3700) defined as of February 1995, with the following exceptions:

(1) Guam and Northern Mariana Islands are licensed as a single EA-like area.

(2) Puerto Rico and the U.S. Virgin Islands are licensed as a single EA-like area.

(3) American Samoa is licensed as a single EA-like area.

Effective radiated power (ERP). The power supplied to an antenna multiplied by the relative gain of the antenna in a given direction.

Fixed relay station. A station at a specified site used to communicate with another station at another specified site.

Forward links. Transmissions in the frequency bands specified in § 90.357(a) and used to control and interrogate the mobile units to be located by multilateration LMS systems.

Frequency coordinator. An entity or organization that has been certified by the Commission to recommend frequencies for use by licensees in the Private Land Mobile Radio Services.

Geographic center. The geographic center of an urbanized area is defined by the coordinates given at table 1 of § 90.635.

Harmful interference. For the purposes of resolving conflicts between stations operating under this part, any emission, radiation, or induction which specifically degrades, obstructs, or interrupts the service provided by such stations.

Interconnection. Connection through automatic or manual means of private land mobile radio stations with the facilities of the public switched telephone network to permit the transmission of messages or signals between points in the wireline or radio network of a public telephone company and persons served by private land mobile radio stations. Wireline or radio circuits or links furnished by common carriers, which are used by licensees or other authorized persons for transmitter control (including dial-up transmitter control circuits) or as an integral part of an authorized, private, internal system of communication or as an integral part of dispatch point circuits in a private land mobile radio station are not considered to be interconnection for purposes of this rule part.

Internal System. An internal system of communication is one in which all messages are transmitted between the fixed operating positions located on premises controlled by the licensee and the associated mobile stations or paging receivers of the licensee. (See subpart O).

Itinerant Operation. Operation of a radio station at unspecified locations for varying periods of time.

Land mobile radio service. A mobile service between base stations and land mobile stations, or between land mobile stations.

Land Mobile Radio System. A regularly interacting group of base, mobile and associated control and fixed relay stations intended to provide land mobile radio communications service over a single area of operation.

Land Station. A station in the mobile service not intended to be used while in motion. [As used in this part, the term may be used to describe a base, control, fixed, operational fixed or fixed relay station, or any such station authorized to operate in the ''temporary'' mode.]

Line A. An imaginary line within the U.S., approximately paralleling the U.S.-Canadian border, north of which Commission coordination with Canadian authorities in the assignment of frequencies is generally required. It begins at Aberdeen, Washington, running by great circle arc to the intersection of 48° N., 120° W., then along parallel 48° N., to the intersection of 95° W., thence by great circle arc through the southern most point of Duluth, Minn., thence by great circle arc to 45° N., 85° W., thence souuthward along meridian 85° W., to its intersection with parallel 41° N., thence along parallel 41° N. to its intersection with meridian . . . 82° W., thence by great circle arc through the southernmost point of Bangor, Maine, thence by great circle arc through the southernmost point of

Searsport, Maine, at which point it terminates.

Line C. An imaginary line in Alaska approximately paralleling the border with Canada, East of which Commission coordination with Canadian authorities in the assignment of frequencies is generally required. It begins at the intersection of 70° N., 144° W., thence by great circle arc to the intersection of 60° N., 143° W., thence by great circle arc so as to include all the Alaskan Panhandle.

Location and Monitoring Service (LMS). The use of non-voice signaling methods to locate or monitor mobile radio units. LMS systems may transmit and receive voice and nonvoice status and instructional information related to such units.

Major trading areas. Service areas based on the Rand McNally *1992 Commercial Atlas & Marketing Guide,* 123rd Edition, at pages 38–39, with the following exceptions and additions:

(a) Alaska is separated from the Seattle MTA and is licensed separately.

(b) Guam and the Northern Mariana Islands are licensed as a single MTA-like area.

(c) Puerto Rico and the United States Virgin Islands are licensed as a single MTA-like area.

(d) American Samoa is licensed as a single MTA-like area.

Meteor burst communications. Communications by the propagation of radio signals reflected off ionized meteor trails.

Mobile relay station. A base station in the mobile service authorized to retransmit automatically on a mobile service frequency communications which originate on the transmitting frequency of the mobile station.

Mobile Repeater Station. A mobile station authorized to retransmit automatically on a mobile service frequency, communications to or from hand-carried transmitters.

Mobile service. A service of radiocommunication between mobile and base stations, or between mobile stations.

Mobile station. A station in the mobile service intended to be used while in motion or during halts at unspecified points. This includes hand carried transmitters.

MTA-based license or MTA license. A license authorizing the right to use a specified block of SMR spectrum within one of the 51 Major Trading Areas (''MTAs''), as embodied in Rand McNally's Trading Area System MTA Diskette and geographically represented in the map contained in Rand McNally's Commercial Atlas & Marketing Guide (the ''MTA Map.'') The MTA Listings, the MTA Map and the Rand McNally/AMTA license agreement are available for public inspection at the Wireless Telecommunications Bureau's public reference room, Room 628, 1919 M Street NW., Washington, DC 20554.

Multilateration LMS System. A system that is designed to locate vehicles or other objects by measuring the difference of time of arrival, or difference in phase, of signals transmitted from a unit to a number of fixed points or from a number of fixed points to the unit to be located.

Navigable waters. This term, as used in reference to waters of the United States, its territories and possessions, means the waters shoreward of the baseline of its territorial sea and internal waters as contained in 33 CFR 2.05–25.

900 MHz SMR MTA-based license or *MTA license.* A license authorizing the right to use a specified block of 900 MHz SMR spectrum within one of the 47 Major Trading Areas (''MTAs''), as embodied in Rand McNally's Trading Areas System MTA Diskette and geographically represented in the map contained in Rand McNally's Commercial Atlas & Marketing Guide (the ''MTA Map''), with the following exceptions and additions:

(1) Alaska is separated from the Seattle MTA and is licensed separately.

(2) Guam and the Northern Mariana Islands are licensed as a single MTA-like area.

(3) Puerto Rico and the United States Virgin Islands are licensed as a single MTA-like area.

(4) American Samoa is licensed as a single MTA-like area.

The MTA map is available for public inspection in the Office of Engineering and Technology's Technical Information Center, room 7317, 2025 M Street NW., Washington, DC.

Non-multilateration LMS System. A system that employs any of a number of non-multilateration technologies to transmit information to and/or from vehicular units.

Operational Fixed Station. A fixed station, not open to public correspondence, operated by, and for the sole use of those agencies operating their own radiocommunication facilities in the Public Safety, Industrial, Land Transportation, Marine, or Aviation Radio Services. (This includes all stations in the fixed service under this part.)

Output Power. The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load of the impedance recommended by the manufacturer.

Paging. A one-way communications service from a base station to mobile or fixed receivers that provide signaling or information transfer by such means as tone, tone-voice, tactile, optical readout, etc.

Person. An individual, partnership, association, joint stock company, trust or corporation.

Private carrier. An entity licensed in the private services and authorized to provide communications service to other private services on a commercial basis.

Radio call box. A transmitter used by the public to request fire, police, medical, road service, or other emergency assistance.

Radiodetermination. The determination of position, or the obtaining of information relating to position, by means of the propagation of radio waves.

Radiofacsimile. A system of radiocommunication for the transmission of fixed images, with or without half-tones, with a view to their reproduction in a permanent form.

Radiolocation. Radiodetermination used for purposes other than those of radionavigation.

Radionavigation. Radiodetermination used for the purposes of navigation, including obstruction warning.

Radio teleprinting. Radio transmissions to a printing telegraphic instrument having a signal-actuated mechanism for automatically printing received messages.

Secondary operation. Radio communications which may not cause interference to operations authorized on a primary basis and which are not protected from interference from those primary operations.

Signal booster. A device at a fixed location which automatically receives, amplifies, and retransmits on a one-way or two-way basis, the signals received from base, fixed, mobile, and portable stations, with no change in frequency or authorized bandwidth. A signal booster may be either narrowband (Class A), in which case the booster amplifies only those discrete frequencies intended to be retransmitted, or broadband (Class B), in which case all signals within the passband of the signal booster filter are amplified.

Specialized Mobile Radio System. A radio system in which licensees provide land mobile communications services (other than radiolocation services) in the 800 MHz and 900 MHz bands on a commercial basis to entities eligible to be licensed under this part, Federal Government entities, and individuals.

SMSA (Standard Metropolitan Statistical Area). A city of 50,000 or more population and the surrounding counties.

Station authorization. A license issued by the Commission for the operation of a radio station.

Telecommand. The transmission of non voice signals for the purpose of remotely controlling a device.

Telemetering (also telemetry). The transmission of non-voice signals for the purpose of automatically indicating or recording measurements at a distance from the measuring instrument.

Travelers' Information Station. A base station in the Local Government Radio Service used to transmit non-commercial, voice information pertaining to traffic and road conditions, traffic hazard and traveler advisories, directions, availability of lodging, rest stops, and service stations, and descriptions of local points of interest.

Trunk (telephony). A one or two-way channel provided as a common traffic artery between switching equipment.

Trunk group. All of the trunks of a given type of characteristic that extend between two switching points.

Trunked radio system. A method of operation in which a number of radio frequency channel pairs are assigned to mobile and base stations in the system for use as a trunk group.

Urbanized Area. A city and the surrounding closely settled territories.

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.7, see the List of CFR Sections Affected in the Finding Aids section of this volume.

Subpart B—Public Safety Radio Services

§90.15 Scope.

The Public Safety Radio Services include the Local Government, Police, Fire, Highway Maintenance and Forestry-Conservation Radio Services. Rules as to eligibility for licensing, frequencies available, and any special requirements as to each of these radio services are set forth in the following sections.

§90.16 Public Safety National Plan.

The Commission has established a National Plan which specifies special policies and procedures governing the Public Safety Radio Services and the Special Emergency Radio Service. The National Plan is contained in the *Report and Order* in General Docket No. 87–112. The principal spectrum resource for the National Plan is the 821–824 MHz and the 866–869 MHz bands. The National plan establishes planning regions covering all parts of the United States, Puerto Rico, and the U.S. Virgin Islands. No assignments will be made in the 821–824 MHz and 866–869 MHz bands until a regional plan for the area has been accepted by the Commission.

[53 FR 1023, Jan. 15, 1988]

§90.17 Local Government Radio Service.

(a) *Eligibility.* Any territory, possession, state, city, county, town or similar governmental entity, including a district and an authority, but not including a school district or authority or a park district or authority except as provided for in §90.242, is eligible to hold authorizations in the Local Government Radio Service to operate radio stations for transmission of communications essential to official activities of the licensee.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Local Government Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (c) of this section.

LOCAL GOVERNMENT RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Kilohertz:		
530	Base (T.I.S.)	23
1610	do	23
2726	Base or mobile	1
2000 to 10,000	Fixed, base or mobile	25
Megahertz:		
37.10	Base or mobile	2
37.18	do	2
37.26	do	2
39.06	Mobile	2, 3
39.10	Base or mobile	2
39.18	do	2
39.50	do	2
39.58	do	2
39.82	do	2
39.90	do	2
39.98	do	2
45.08	do	
45.12	do	
45.16	do	
45.20	do	
45.24	do	
45.28	do	
45.32	do	

LOCAL GOVERNMENT RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
45.36	do	
45.40	do	
45.44	do	
45.48	do	
45.52	do	
45.56	do	
45.60	do	
45.64	do	
46.52	do	
46.54	do	
46.56	do	
46.58	do	
72.00 to 76.00	Operational fixed	6
150 to 170	Base or mobile	29
153.740	Mobile	
153.7475	do	24
153.755	do	
153.7625	do	24
153.785	do	
153.7925	do	24
153.800	do	
153.8075	do	24
153.815	do	
153.8225	do	24
153.845	do	
153.8525	do	24
153.860	do	
153.8675	do	24
153.875	do	
153.8825	do	24
153.905	do	
153.9125	do	24
153.920	do	
153.9275	do	24
153.935	do	
153.9425	do	24
153.965	do	
153.9725	do	24
153.980	do	
153.9875	do	24
153.995	do	
154.0025	do	24
154.025	Base or mobile	
154.0325	do	24
154.040	do	5
154.0475	do	5, 24
154.055	do	5
154.0625	do	5, 24
154.085	do	5
154.0925	do	5, 24
154.100	do	5
154.1075	do	5, 24
154.115	do	5
154.1225	do	5, 24
154.45625	Fixed or mobile	9, 20, 21, 22
154.46375	do	7, 19, 20, 21, 22
154.47125	do	7, 20, 21, 22
154.47875	do	19, 20, 21, 22
154.965	Base or mobile	
154.9725	do	24
154.980	do	
154.9875	do	24
154.995	do	
155.0025	do	24
155.025	do	
155.0325	do	24
155.040	do	
155.0475	do	24
155.055	do	
155.0625	do	24
155.085	do	
155.0925	do	24

LOCAL GOVERNMENT RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
155.100	.....do	
155.1075	.....do	24
155.115	.....do	
155.1225	.....do	24
155.145	.....do	
155.1525	.....do	24
155.715	.....do	
155.7225	.....do	24
155.745	.....do	
155.7525	.....do	24
155.760	.....do	
155.7675	.....do	24
155.775	.....do	
155.7825	.....do	24
155.805	.....do	
155.8125	.....do	24
155.820	.....do	
155.8275	.....do	24
155.835	.....do	
155.8425	.....do	24
155.865	.....do	
155.8725	.....do	24
155.880	.....do	
155.8875	.....do	24
155.895	.....do	
155.9025	.....do	24
155.925	.....do	
155.9325	.....do	24
155.940	.....do	
155.9475	.....do	24
155.955	.....do	
155.9625	.....do	24
155.985	Mobile	
155.9925	.....do	24
156.000	.....do	
156.0075	.....do	24
156.015	.....do	
156.0225	.....do	24
158.745	Base and mobile	
158.7525	.....do	24
158.760	.....do	
158.7675	.....do	24
158.775	.....do	
158.7825	.....do	24
158.805	.....do	
158.8125	.....do	24
158.820	.....do	
158.8275	.....do	24
158.835	.....do	
158.8425	.....do	24
158.865	Mobile	
158.8725	.....do	24
158.880	.....do	
158.8875	.....do	24
158.895	.....do	
158.9025	.....do	24
158.925	.....do	
158.9325	.....do	24
158.940	.....do	
158.9475	.....do	24
158.955	.....do	
158.9625	.....do	24
169–172	.....do	27
173.20375	Fixed or mobile	7, 20, 21, 22
173.2100	.....do	7, 8, 21, 22
173.2375	.....do	9, 20, 21, 22
173.2625	.....do	9, 20, 21, 22
173.2875	.....do	9, 20, 21, 22
173.3125	.....do	9, 20, 21, 22
173.3375	.....do	9, 20, 21, 22
173.3625	.....do	9, 20, 21, 22
173.3900	.....do	7, 8, 21, 22

LOCAL GOVERNMENT RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
173.39625	.....do	7, 20, 21, 22
220 to 222	Base and mobile	4
450 to 470	Fixed, base, or mobile	10, 29
453.0125	Mobile	30
453.025	Central control, fixed	11
453.0375	Base or mobile	24
453.050	.....do	12
453.05625	.....do	12, 28
453.06250	.....do	12, 24
453.06875	.....do	12, 28
453.075	Central control, fixed	11
453.0875	Base or mobile	24
453.100	.....do	12
453.10625	.....do	12, 28
453.11250	.....do	12, 24
453.11875	.....do	12, 28
453.125	Central control, fixed	11
453.1375	Base or mobile	24
453.150	.....do	12
453.15625	.....do	12, 28
453.16250	.....do	12, 24
453.16875	.....do	12, 28
453.175	Central control, fixed	11
453.1875	Base or mobile	24
453.200	.....do	12
453.20625	.....do	12, 28
453.21250	.....do	12, 24
453.21875	.....do	12, 28
453.225	.....do	
453.23125	.....do	28
453.23750	.....do	24
453.24375	.....do	28
453.250	.....do	12
453.25625	.....do	12, 28
453.26250	.....do	12, 24
453.26875	.....do	12, 28
453.275	.....do	
453.28125	.....do	28
453.28750	.....do	24
453.29375	.....do	28
453.300	.....do	12
453.30625	.....do	12, 28
453.31250	.....do	12, 24
453.31875	.....do	12, 28
453.325	.....do	
453.33125	.....do	28
453.33750	.....do	24
453.34375	.....do	28
453.350	.....do	12
453.35625	.....do	12, 28
453.36250	.....do	12, 24
453.36875	.....do	12, 28
453.375	.....do	
453.38125	.....do	28
453.38750	.....do	24
453.39375	.....do	28
453.400	.....do	12
453.40625	.....do	12, 28
453.41250	.....do	12, 24
453.41875	.....do	12, 28
453.425	.....do	
453.43125	.....do	28
453.43750	.....do	24
453.44375	.....do	28
453.450	.....do	12
453.45625	.....do	12, 28
453.46250	.....do	12, 24
453.46875	.....do	12, 28
453.475	.....do	
453.48125	.....do	28
453.48750	.....do	24
453.49375	.....do	28

LOCAL GOVERNMENT RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
453.500	.....do	12
453.50625	.....do	12, 28
453.51250	.....do	12, 24
453.51875	.....do	12, 28
453.525	.....do	
453.53125	.....do	28
453.53750	.....do	24
453.54375	.....do	28
453.550	.....do	12
453.55625	.....do	12, 28
453.56250	.....do	12, 24
453.56875	.....do	12, 28
453.575	.....do	
453.58125	.....do	28
453.58750	.....do	24
453.59375	.....do	28
453.600	Base or mobile	12
453.60625	.....do	12, 28
453.61250	.....do	12, 24
453.61875	.....do	12, 28
453.625	.....do	
453.63125	.....do	28
453.63750	.....do	24
453.64375	.....do	28
453.650	.....do	12
453.65625	.....do	12, 28
453.66250	.....do	12, 24
453.66875	.....do	12, 28
453.675	.....do	
453.68125	.....do	28
453.68750	.....do	24
453.69375	.....do	28
453.700	.....do	12
453.70625	.....do	12, 28
453.71250	.....do	12, 24
453.71875	.....do	12, 28
453.725	.....do	
453.73125	.....do	28
453.73750	.....do	24
453.74375	.....do	28
453.750	.....do	12
453.75625	.....do	12, 28
453.76250	.....do	12, 24
453.76875	.....do	12, 28
453.775	.....do	
453.78125	.....do	28
453.78750	.....do	24
453.79375	.....do	28
453.800	.....do	12
453.80625	.....do	12, 28
453.81250	.....do	12, 24
453.81875	.....do	12, 28
453.825	.....do	
453.83125	.....do	28
453.83750	.....do	24
453.84375	.....do	28
453.850	.....do	12
453.85625	.....do	12, 28
453.86250	.....do	12, 24
453.86875	.....do	12, 28
453.875	.....do	
453.88125	.....do	28
453.88750	.....do	24
453.89375	.....do	28
453.900	.....do	12
453.90625	.....do	12, 28
453.91250	.....do	12, 24
453.91875	.....do	12, 28
453.925	.....do	
453.93125	.....do	28
453.93750	.....do	24
453.94375	.....do	28

LOCAL GOVERNMENT RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
453.950	.....do	12
453.95625	.....do	12, 28
453.96250	.....do	12, 24
453.96875	.....do	12, 28
453.975	.....do	
453.98125	.....do	28
453.98750	.....do	24
453.99375	.....do	28
458.025	Radio call boxes, fixed	11, 13
458.03750	Mobile	24
458.050	.....do	12
458.05625	.....do	12, 28
458.06250	.....do	12, 24
458.06875	.....do	12, 28
458.075	Radio call boxes, fixed	11, 13
458.08750	Mobile	24
458.100	.....do	12
458.10625	.....do	12, 28
458.11250	.....do	12, 24
458.11875	.....do	12, 28
458.125	Radio call boxes, fixed	11, 13
458.13750	Mobile	24
458.150	.....do	12
458.15625	.....do	12, 28
458.16250	.....do	12, 24
458.16875	.....do	12, 28
458.175	Radio call boxes, fixed	11, 13
458.18750	Mobile	24
458.200	.....do	12
458.20625	.....do	12, 28
458.21250	.....do	12, 24
458.21875	.....do	12, 28
458.225	.....do	
458.23125	.....do	28
458.23750	.....do	24
458.24375	.....do	28
458.250	.....do	12
458.25625	.....do	12, 28
458.26250	.....do	12, 24
458.26875	.....do	12, 28
458.275	.....do	
458.28125	.....do	28
458.28750	.....do	24
458.29375	.....do	28
458.300	.....do	12
458.30625	.....do	12, 28
458.31250	.....do	12, 24
458.31875	.....do	12, 28
458.325	.....do	
458.33125	.....do	28
458.33750	.....do	24
458.34375	.....do	28
458.350	.....do	12
458.35625	.....do	12, 28
458.36250	.....do	12, 24
458.36875	.....do	12, 28
458.375	.....do	
458.38125	.....do	28
458.38750	.....do	24
458.39375	.....do	28
458.400	.....do	12
458.40625	.....do	12, 28
458.41250	.....do	12, 24
458.41875	.....do	12, 28
458.425	.....do	
458.43125	.....do	28
458.43750	.....do	24
458.44375	.....do	28
458.450	.....do	12
458.45625	.....do	12, 28
458.46250	.....do	12, 24
458.46875	.....do	12, 28

LOCAL GOVERNMENT RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
458.475	do	
458.48125	do	28
458.48750	do	24
458.49375	do	28
458.500	do	12
458.50625	do	12, 28
458.51250	do	12, 24
458.51875	do	12, 28
458.525	do	
458.53125	do	28
458.53750	do	24
458.54375	do	28
458.550	do	12
458.55625	do	12, 28
458.56250	do	12, 24
458.56875	do	12, 28
458.575	do	
458.58125	do	28
458.58750	do	24
458.59375	do	28
458.600	do	12
458.60625	do	12, 28
458.61250	do	12, 24
458.61875	do	12, 28
458.625	do	
458.63125	do	28
458.63750	do	24
458.64375	do	28
458.650	do	12
458.65625	do	12, 28
458.66250	do	12, 24
458.66875	do	12, 28
458.675	do	
458.68125	do	28
458.68750	do	24
458.69375	do	28
458.700	do	12
458.70625	do	12, 28
458.71250	do	12, 24
458.71875	do	12, 28
458.725	do	
458.73125	do	28
458.73750	do	24
458.74375	do	28
458.750	do	12
458.75625	do	12, 28
458.76250	do	12, 24
458.76875	do	12, 28
458.775	do	
458.78125	do	28
458.78750	do	24
458.79375	do	28
458.800	do	12
458.80625	do	12, 28
458.81250	do	12, 24
458.81875	do	12, 28
458.825	do	
458.83125	do	28
458.83750	do	24
458.84375	do	28
458.850	do	12
458.85625	do	12, 28
458.86250	do	12, 24
458.86875	do	12, 28
458.875	do	
458.88125	do	28
458.88750	do	24
458.89375	do	28
458.900	do	12
458.90625	do	12, 28
458.91250	do	12, 24
458.91875	do	12, 28

LOCAL GOVERNMENT RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
458.925	.....do	
458.93125	.....do	28
458.93750	.....do	24
458.94375	.....do	28
458.950	.....do	12
458.95625	.....do	12, 28
458.96250	.....do	12, 24
458.96875	.....do	12, 28
458.975	.....do	
458.98125	.....do	28
458.98750	.....do	24
458.99375	.....do	28
470 to 512	Base or mobile	14
806 to 824	Mobile	15
851 to 869	Base or mobile	15
928 and above	Operational-fixed	16
929–930	Base only	26
1427 to 1435	Operational fixed, base or mobile	17
2450 to 2500	Base or mobile	18
10,550 to 10,680*	.....do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) This frequency is shared with the Special Emergency Radio Services and is available for assignment to the official state guard or comparable organization of a State, territory, possession, or the District of Columbia which is shown to be duly created by law and subject to the control of the highest official of the governmental entity involved, and may be used for emergency communications and for essential communications related to training and maintenance of an efficient organization. In addition to base and mobile stations, this frequency may be assigned to fixed stations on a secondary basis to base or mobile stations. Upon a showing of need, the use of a second frequency in the band 2505–3500 kHz may be made available to these organizations through appropriate arrangements with Government agencies for restricted area use on a shared basis with maximum power output, emission, and hours of operation determined on the basis of the technical conditions involved in using the selected frequency in the particular area.

(2) This frequency is shared with the Police Radio Service.

(3) The maximum output power of any transmitter authorized to operate on this frequency shall not exceed 2 watts.

(4) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(5) This frequency is not available for assignment in this service in Puerto Rico or the Virgin Islands.

(6) Assignment and use of frequencies in the band 72–76 MHz are governed by § 90.257 for operational-fixed stations and by § 90.241 for emergency call box operations. Specific frequencies are listed at § 90.257(a)(1).

(7) The maximum power output of the transmitter may not exceed 50 watts for fixed stations and 1 watt for mobile stations. A1A, A1D, A2B, A2D, F1B, F1D, F2D, G1B, G1D, G2B, or G2D emission may be authorized.

(8) For FM transmitters, the sum of the highest modulating frequency in hertz and the amount of the frequency deviation or swing in hertz may not exceed 1700 Hz and the maximum deviation may not exceed 1.2 kHz. For AM transmitters, the highest modulating frequency may not exceed 1200 Hz. The carrier frequency must be maintained within .0005 percent of the center of the frequency band, and the authorized bandwidth may not exceed 3 kHz.

(9) The maximum effective radiated power (ERP) may not exceed 20 watts

for fixed stations and 2 watts for mobile stations. The height of the antenna system may not exceed 15.24 meters (50 ft.) above ground. All such operation is on a secondary basis to adjacent channel land mobile operations.

(10) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(11) This frequency is available for systems first licensed prior to March 31, 1980, for radio call box communications related to safety on highways in accordance with the provisions of § 90.241(c). No new systems will be authorized of this nature, but systems authorized prior to March 31, 1980 may be modified, expanded, and renewed. Also, effective April 2, 1993, this frequency is shared with EMRS systems in accordance with § 90.27.

(12) This frequency is available in this service on a shared basis with all other Public-Safety Radio Services.

(13) Available for medical services mobile operations in the Emergency Medical Radio Service in accordance with § 90.27(c)(22).

(14) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(15) Subpart S contains rules for assignment of frequencies in the 806–824 MHz and 851–869 MHz bands.

(16) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(17) This frequency band is available to stations in this service subject to the provisions of § 90.259.

(18) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new stations or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(19) Use of this frequency is limited to stations located at least 120.7 km (75 miles) from the center of any urbanized area of 200,000 or more population (U.S. Census of Population 1970). Operation is on a secondary basis to that of the Power Radio Service.

(20) For FM transmitters, the sum of the highest modulating frequency in Hertz and the amount of the frequency deviation or swing in Hertz may not exceed 2800 Hz and the maximum deviation may not exceed 2.5 kHz. For AM transmitters, the highest modulation frequency may not exceed 2000 Hz. The carrier frequency must be maintained within .0005 percent of the center of the frequency band, and the authorized bandwidth may not exceed 6 kHz.

(21) This frequency is available on a shared basis with the Power, Petroleum, Forest Products, Special Industrial, Business, and Manufacturers Radio Services for remote control and telemetry operations.

(22) Operational fixed stations must employ directional antennas having a front-to-back ratio of at least 20 dB. Omnidirectional antennas having unity gain may be employed for stations communicating with at least three receiving locations separated by 160° of azimuth.

(23) This frequency is available for use by Travelers' Information Stations in accordance with § 90.242.

(24) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(25) Only the central governments of the fifty individual States, the District of Columbia, and the insular areas of the Commonwealth of the Northern Mariana Islands, the Commonwealth of Puerto Rico, and the unincorporated territories of American Samoa, Guam and the United States Virgin Islands are eligible to be licensed to use this spectrum, and then only for disaster communications purposes. Licensees may not use this spectrum to provide operational communications circuits. See also, § 90.264.

(26) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(27) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of § 90.265.

(28) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(29) Assignment of frequencies in this band are subject to the provisions of § 90.173.

(30) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(d) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service. (See also § 90.253.)

(1) Substitution of frequencies available below 25 MHz may be made in accordance with the provisions of § 90.263.

(2) [Reserved]

(3) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. See also § 90.257.

(4) The frequency bands 31.99 to 32.00 MHz, 33.00 to 33.01 MHz, 33.99 to 34.00 MHz, 37.93 to 38.00 MHz, 39.00 to 39.01 MHz, 39.99 to 40.00 MHz and 42.00 to 42.01 MHz, are available for assignment for developmental operation subject to the provisions of subpart Q.

(5) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(e) *Limitation on number of frequencies assignable.* Normally only two frequencies or pairs of frequencies in the paired frequency mode of operation will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with the operation of mobile repeaters in accordance with § 90.247 notwithstanding this limitation.

(2) The frequency 39.06 MHz may be assigned notwithstanding this limitation.

(3) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(4) A licensee of a radio station in this service may operate radio units for the purpose of determining distance, direction, speed, or position by means of a radiolocation device on any frequency available for radiolocation purposes without specific authorization from the Commission, provided type accepted equipment or equipment authorized pursuant to § 90.203(b) (4) and (5) is used and all other rule requirements are satisfied.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307; secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§ 0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3))

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 90.17, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 90.19 Police Radio Service.

(a) *Eligibility.* Any territory, possession, State, county, city, town, and similar governmental entity including a governmental institution authorized by law to provide its own police protection, is eligible to hold authorizations in the Police Radio Service to operate radio stations for transmission of communications essential to official police activities of the licensee.

(b) [Reserved]

(c) *International police radiocommunication.* Police radio licensees which are located in close proximity to the borders of the United States may be authorized to communicate internationally. Request for such authority shall be written and signed and submitted in duplicate. The request shall include information as to the station with which communication will be conducted, and the frequency, power,

emission, etc., that will be used. If authorized, such international communication must be conducted in accordance with Article 5 of the Inter-American Radio Agreement, Washington, DC, 1949 which reads as follows:

Article 5. *Police radio stations.* When the American countries authorize their police radio stations to exchange emergency information by radio with similar stations of another country, the following rules shall be applied.

(a) Only police radio stations located close to the boundaries of contiguous countries shall be allowed to exchange this information.

(b) In general, only important police messages shall be handled, such as those which would lose their value, because of slowness and time limitations if sent on other communication systems.

(c) Frequencies used for radiotelephone communications with mobile police units shall not be used for radiotelegraph communications.

(d) Radiotelephone communications shall be conducted only on frequencies assigned for radiotelephony.

(e) Radiotelegraph communications shall be conducted on the following frequencies: 2804 kHz calling, 2808 kHz working, 2812 kHz working, 5195 kHz day calling, 5185 kHz day working, 5140 kHz day working.

(f) The characteristics of police radio stations authorized to exchange information shall be notified to the International Telecommunication Union, Geneva, Switzerland.

(g) The abbreviations contained in Appendix 9 of the Atlantic City Radio Regulations shall be used to the greatest possible extent. Service indications are as follows: ''P'', priority, for messages that are to be sent immediately, regardless of the number of other messages on file. If no service indication is given, the messages are to be transmitted in the order of receipt.

(h) The message shall contain the preamble, address, text and signature, as follows:

Preamble. The preamble of the message shall consist of the following: the serial number preceded by the letters ''NR'', service indications, as appropriate; the group count according to standard cable count system; the letters ''CK'', followed by numerals indicating the number of words contained in the text of the message: office and country of origin (not abbreviations): day, month, and hour of filing;

Address. The address must be as complete as possible and shall include the name of the addressee with any supplementary particulars necessary for immediate delivery of the message;

Text. The text may be either in plain language or code;

Signature. The signature shall include the name and title of the person originating the message.

(d) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Police Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (e) of this section:

POLICE RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Kilohertz:		
1722	Operational fixed, base or mobile	2, 3
1730	.....do	2, 3
2366	.....do	1, 2
2382	.....do	2
2390	.....do	1, 2
2406	.....do	2
2430	.....do	2
2442	.....do	2
2450	.....do	2
2458	.....do	2
2482	.....do	2
2490	.....do	2, 3
Megahertz:		
37.02	Mobile	
37.04	Base or mobile	
37.06	.....do	
37.08	.....do	
37.10	.....do	9
37.12	.....do	
37.14	.....do	
37.16	.....do	
37.18	.....do	9
37.20	.....do	
37.22	.....do	
37.24	.....do	

POLICE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
37.26	do	9
37.28	do	
37.30	do	
37.32	do	
37.34	Mobile	
37.36	Base or mobile	
37.38	Mobile	
37.40	Base or mobile	
37.42	Mobile	
39.02	Base or mobile	
39.04	do	
39.06	do	9, 10
39.08	do	
39.10	do	9
39.12	do	
39.14	do	
39.16	do	
39.18	do	9
39.20	do	
39.22	do	
39.24	do	
39.26	Mobile	
39.28	Base or mobile	
39.30	Mobile	
39.32	Base or mobile	
39.34	Mobile	
39.36	Base or mobile	
39.38	Mobile	
39.40	Base or mobile	
39.42	do	
39.44	do	
39.46	do	11
39.48	do	
39.50	do	9
39.52	do	
39.54	do	
39.56	do	
39.58	do	9
39.60	do	
39.62	do	
39.64	do	
39.66	Mobile	
39.68	Base or mobile	
39.70	Mobile	
39.72	Base or mobile	
39.74	Mobile	
39.76	Base or mobile	
39.78	Mobile	
39.80	Base or mobile	
39.82	do	9
39.84	do	
39.86	do	
39.88	do	
39.90	do	9
39.92	do	
39.94	do	
39.96	do	
39.98	do	9
42.02	do	2, 3, 12
42.04	do	2, 3, 12
42.06	do	2, 3, 12
42.08	do	2, 3, 12
42.10	do	2, 3, 12
42.12	do	2, 3, 12
42.14	do	2, 3, 12
42.16	do	2, 3, 12
42.18	Mobile	2, 12
42.20	do	2, 12
42.22	do	2, 12
42.24	do	2, 12
42.26	do	2, 12
42.28	do	2, 12

POLICE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
42.30	.....do	2, 12
42.32	Base or mobile	2, 3, 12
42.34	.....do	2, 3, 12
42.36	.....do	2, 3, 12
42.38	.....do	2, 3, 12
42.40	.....do	2, 3, 12, 28
42.42	.....do	2, 3, 12
42.44	.....do	2, 3, 12
42.46	.....do	2, 3, 12
42.48	.....do	2, 3, 12
42.50	.....do	2, 3, 12
42.52	.....do	2, 3, 12
42.54	.....do	2, 3, 12
42.56	.....do	2, 3, 12
42.58	.....do	2, 3, 12
42.60	.....do	2, 3, 12
42.62	.....do	2, 3, 12
42.64	.....do	2, 3, 12
42.66	Mobile	2, 12
42.68	.....do	2, 12
42.70	.....do	2, 12
42.72	.....do	2, 12
42.74	.....do	2, 12
42.76	.....do	2, 12
42.78	.....do	2, 12
42.80	Base or mobile	2, 3, 12
42.82	.....do	2, 3, 12
42.84	.....do	2, 3, 12
42.86	.....do	2, 3, 12
42.88	.....do	2, 3, 12
42.90	.....do	2, 3, 12
42.92	.....do	2, 3, 12
42.94	.....do	2, 3, 12
44.62	.....do	2, 3, 12
44.66	.....do	2, 3, 12
44.70	.....do	2, 3, 12
44.74	.....do	2, 3, 12
44.78	Mobile	2, 12
44.82	.....do	2, 12
44.86	.....do	2, 12
44.90	.....do	2, 12
44.94	Base or mobile	2, 3, 12
44.98	.....do	2, 3, 12
45.02	.....do	2, 3, 12
45.06	.....do	2, 3, 12
45.10	.....do	
45.14	.....do	
45.18	.....do	
45.22	.....do	
45.26	Mobile	
45.30	.....do	
45.34	.....do	
45.38	.....do	
45.42	Base or mobile	
45.46	.....do	
45.50	.....do	
45.54	.....do	
45.58	.....do	
45.62	.....do	
45.66	.....do	
45.70	.....do	
45.74	Mobile	
45.78	.....do	
45.82	.....do	
45.86	Base or mobile	11
45.90	.....do	29
45.94	.....do	
45.98	.....do	
46.02	.....do	
72.00–76.00	Operational fixed	13
150 to 170	Base or mobile	33
154.650	Mobile	

POLICE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
154.6575	.....do	26
154.665	Base or mobile	12
154.6725	.....do	12, 26
154.680	.....do	12
154.6875	.....do	12, 26
154.695	.....do	12
154.7025	.....do	12, 26
154.710	Mobile	
154.7175	.....do	26
154.725	Base or mobile	
154.7325	.....do	26
154.740	.....do	
154.7475	.....do	26
154.755	.....do	
154.7625	.....do	26
154.770	Mobile	
154.7775	.....do	26
154.785	Base or mobile	
154.7925	.....do	26
154.800	.....do	
154.8075	.....do	26
154.815	.....do	
154.8225	.....do	26
154.830	Mobile	
154.8375	.....do	26
154.845	Base or mobile	
154.8525	.....do	26
154.860	.....do	
154.8675	.....do	26
154.875	.....do	
154.8825	.....do	26
154.890	Mobile	
154.8975	.....do	26
154.905	Base or mobile	12
154.9125	.....do	12, 26
154.920	.....do	12
154.9275	.....do	12, 26
154.935	.....do	12
154.9425	.....do	12, 26
154.950	Mobile	
154.9575	.....do	26
155.01	Base or mobile	
155.0175	.....do	26
155.07	.....do	
155.0775	.....do	26
155.13	.....do	
155.1375	.....do	26
155.19	.....do	
155.1975	.....do	26
155.25	.....do	
155.2575	.....do	26
155.31	.....do	
155.3175	.....do	26
155.370	.....do	
155.3775	.....do	26
155.415	.....do	
155.4225	.....do	26
155.430	.....do	
155.4375	.....do	26
155.445	.....do	12
155.4525	.....do	12, 26
155.460	.....do	12
155.4675	.....do	12, 26
155.475	.....do	14
155.4825	.....do	14, 26
155.490	.....do	
155.4975	.....do	26
155.505	.....do	12
155.5125	.....do	12, 26
155.520	.....do	
155.5275	.....do	26
155.535	.....do	

POLICE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
155.5425	.....do	26
155.550	.....do	
155.5575	.....do	26
155.565	.....do	
155.5725	.....do	26
155.580	.....do	
155.5875	.....do	26
155.595	.....do	
155.6025	.....do	26
155.610	.....do	
155.6175	.....do	26
155.625	.....do	
155.6325	.....do	26
155.640	.....do	
155.6475	.....do	26
155.655	.....do	
155.6625	.....do	26
155.670	.....do	
155.6775	.....do	26
155.685	.....do	
155.6925	.....do	26
155.700	.....do	
155.7075	.....do	26
155.730	.....do	
155.7375	.....do	26
155.79	.....do	
155.7975	.....do	26
155.85	Mobile	
155.8575	.....do	26
155.91	.....do	
155.9175	.....do	26
155.97	.....do	
155.9775	.....do	26
156.03	.....do	
156.0375	.....do	26
156.09	.....do	
156.0975	.....do	26
156.15	.....do	
156.1575	.....do	26
156.210	Base or mobile	
156.2175	.....do	26
158.7225	.....do	32
158.730	.....do	
158.7375	.....do	26
158.790	.....do	
158.7975	.....do	26
158.850	.....do	
158.8575	.....do	26
158.910	Mobile	
158.9175	.....do	26
158.970	.....do	
158.9775	.....do	26
159.030	.....do	
159.0375	.....do	26
159.090	Base or mobile	
159.0975	.....do	26
159.150	.....do	
159.1575	.....do	26
159.210	.....do	
159.2175	.....do	26
169–172	Mobile	30
173.075	Base or mobile	31
220–222	Base and mobile	4
450–470	Fixed, base, or mobile	15, 33
453.0375	Mobile	34
453.050	Base or mobile	16
453.05625	.....do	16, 32
453.06250	.....do	16, 26
453.06875	.....do	16, 32
453.0875	Mobile	34
453.100	Base or mobile	16
453.10625	.....do	16, 32

POLICE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
453.11250	.....do	16, 26
453.11875	.....do	16, 32
453.1375	Mobile	34
453.150	Base or mobile	16
453.15625	.....do	16, 32
453.16250	.....do	16, 26
453.16875	.....do	16, 32
453.1875	Mobile	34
453.200	Base or mobile	16
453.20625	.....do	16, 32
453.21250	.....do	16, 26
453.21875	.....do	16, 32
453.2375	Mobile	34
453.250	Base or mobile	16
453.25625	.....do	16, 32
453.26250	.....do	16, 26
453.26875	.....do	16, 32
453.2875	Mobile	34
453.300	Base or mobile	16
453.30625	.....do	16, 32
453.31250	.....do	16, 26
453.31875	.....do	16, 32
453.3375	Mobile	34
453.350	Base or mobile	16
453.35625	.....do	16, 32
453.36250	.....do	16, 26
453.36875	.....do	16, 32
453.3875	Mobile	34
453.400	Base or mobile	16
453.40625	.....do	16, 32
453.41250	.....do	16, 26
453.41875	.....do	16, 32
453.4375	Mobile	34
453.450	Base or mobile	16
453.45625	.....do	16, 32
453.46250	.....do	16, 26
453.46875	.....do	16, 32
453.4875	Mobile	34
453.500	Base or mobile	16
453.50625	.....do	16, 32
453.51250	.....do	16, 26
453.51875	.....do	16, 32
453.5375	Mobile	34
453.550	Base or mobile	16
453.55625	.....do	16, 32
453.56250	.....do	16, 26
453.56875	.....do	16, 32
453.5875	Mobile	34
453.600	Base or mobile	16
453.60625	.....do	16, 32
453.61250	.....do	16, 26
453.61875	.....do	16, 32
453.6375	Mobile	34
453.650	Base or mobile	16
453.65625	.....do	16, 32
453.66250	.....do	16, 26
453.66875	.....do	16, 32
453.6875	Mobile	34
453.700	Base of mobile	16
453.70625	.....do	16, 32
453.71250	.....do	16, 26
453.71875	.....do	16, 32
453.7375	Mobile	34
453.750	Base or mobile	16
453.75625	.....do	16, 32
453.76250	.....do	16, 26
453.76875	.....do	16, 32
453.7875	Mobile	34
453.800	Base or mobile	16
453.80625	.....do	16, 32
453.81250	.....do	16, 26
453.81875	.....do	16, 32

POLICE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
453.8375	Mobile	34
453.850	Base or mobile	16
453.85625	.....do	16, 32
453.86250	.....do	16, 26
453.86875	.....do	16, 32
453.8875	Mobile	34
453.900	Base or mobile	16
453.90625	.....do	16, 32
453.91250	.....do	16, 26
453.91875	.....do	16, 32
453.9375	Mobile	34
453.950	Base or mobile	16
453.95625	.....do	16, 32
453.96250	.....do	16, 26
453.96875	.....do	16, 32
458.0375	Mobile	34
458.050	.....do	16
458.05625	.....do	16, 32
458.06250	.....do	16, 26
458.06875	.....do	16, 32
458.0875	.....do	34
458.100	.....do	16
458.10625	.....do	16, 32
458.11250	.....do	16, 26
458.11875	.....do	16, 32
458.1375	.....do	34
458.150	.....do	16
458.15625	.....do	16, 32
458.16250	.....do	16, 26
458.16875	.....do	16, 32
458.1875	.....do	34
458.200	.....do	16
458.20625	.....do	16, 32
458.21250	.....do	16, 26
458.21875	.....do	16, 32
458.2375	.....do	34
458.250	.....do	16
458.25625	.....do	16, 32
458.26250	.....do	16, 26
458.26875	.....do	16, 32
458.2875	.....do	34
458.300	.....do	16
458.30625	.....do	16, 32
458.31250	.....do	16, 26
458.31875	.....do	16, 32
458.3375	.....do	34
458.350	.....do	16
458.35625	.....do	16, 32
458.36250	.....do	16, 26
458.36875	.....do	16, 32
458.3875	.....do	34
458.400	.....do	16
458.40625	.....do	16, 32
458.41250	.....do	16, 26
458.41875	.....do	16, 32
458.4375	.....do	34
458.450	.....do	16
458.45625	.....do	16, 32
458.46250	.....do	16, 26
458.46875	.....do	16, 32
458.4875	.....do	34
458.500	.....do	16
458.50625	.....do	16, 32
458.51250	.....do	16, 26
458.51875	.....do	16, 32
458.5375	.....do	34
458.550	.....do	16
458.55625	.....do	16, 32
458.56250	.....do	16, 26
458.56875	.....do	16, 32
458.5875	.....do	34
458.600	.....do	16

POLICE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
458.60625	do	16, 32
458.61250	do	16, 26
458.61875	do	16, 32
458.6375	do	34
458.650	do	16
458.65625	do	16, 32
458.66250	do	16, 26
458.66875	do	16, 32
458.6875	do	34
458.700	do	16
458.70625	do	16, 32
458.71250	do	16, 26
458.71875	do	16, 32
458.7375	do	34
458.750	do	16
458.75625	do	16, 32
458.76250	do	16, 26
458.76875	do	16, 32
458.7875	do	34
458.800	do	16
458.80625	do	16, 32
458.81250	do	16, 26
458.81875	do	16, 32
458.8375	do	34
458.850	do	16
458.85625	do	16, 32
458.86250	do	16, 26
458.86875	do	16, 32
458.8875	do	34
458.900	do	16
458.90625	do	16, 32
458.91250	do	16, 26
458.91875	do	16, 32
458.9375	do	34
458.950	do	16
458.95625	do	16, 32
458.96250	do	16, 26
458.96875	do	16, 32
460.0125	do	34
460.01875	Base or mobile	32
460.025	do	
460.03125	do	32
460.03750	do	26
460.04375	do	32
460.050	do	
460.05626	do	32
460.06250	do	26
460.06875	do	32
460.075	do	
460.08125	do	32
460.08750	do	26
460.09375	do	32
460.100	do	
460.10625	do	32
460.11250	do	26
460.11875	do	32
460.125	do	
460.13125	do	32
460.13750	do	26
460.14375	do	32
460.150	do	
460.15625	do	32
460.16250	do	26
460.16875	do	32
460.175	do	
460.18125	do	32
460.18750	do	26
460.19375	do	32
460.200	do	
460.20625	do	32
460.21250	do	26
460.21875	do	32

POLICE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
460.225	do	
460.23125	do	32
460.23750	do	26
460.24375	do	32
460.250	do	
460.25625	do	32
460.26250	do	26
460.26875	do	32
460.275	do	
460.28125	do	32
460.28750	do	26
460.29375	do	32
460.300	do	
460.30625	do	32
460.31250	do	26
460.31875	do	32
460.325	do	
460.33125	do	32
460.33750	do	26
460.34375	do	32
460.350	do	
460.35625	do	32
460.36250	do	26
460.36875	do	32
460.375	do	
460.38125	do	32
460.38750	do	26
460.39375	do	32
460.400	do	
460.40625	do	32
460.41250	do	26
460.41875	do	32
460.425	do	
460.43125	do	32
460.43750	do	26
460.44375	do	32
460.450	do	
460.45625	do	32
460.46250	do	26
460.46875	do	32
460.475	do	
460.48125	do	32
460.48750	do	26
460.49375	do	32
460.500	do	
460.50625	do	32
460.51250	do	26
460.51875	do	32
460.525	do	17
460.53125	do	17, 32
460.53750	do	17, 26
460.54375	do	17, 32
460.550	do	17
460.55625	do	17, 32
460.56250	do	17, 26
460.56875	do	17, 32
465.0125	Mobile	34
465.025	do	
465.03125	do	32
465.03750	do	26
465.04375	do	32
465.050	do	
465.05625	do	32
465.06250	do	26
465.06875	do	32
465.075	do	
465.08125	do	32
465.08750	do	26
465.09375	do	32
465.100	do	
465.10625	do	32
465.11250	do	26

POLICE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
465.11875	do	32
465.125	do	
465.13125	do	32
465.13750	do	26
465.14375	do	32
465.150	do	
465.15625	do	32
465.16250	do	26
465.16875	do	32
465.175	do	
465.18125	do	32
465.18750	do	26
465.19375	do	32
465.200	do	
465.20625	do	32
465.21250	do	26
465.21875	do	32
465.225	do	
465.23125	do	32
465.23750	do	26
465.24375	do	32
465.250	do	
465.25625	do	32
465.26250	do	26
465.26875	do	32
465.275	do	
465.28125	do	32
465.28750	do	26
465.29375	do	32
465.300	do	
465.30625	do	32
465.31250	do	26
465.31875	do	32
465.325	do	
465.33125	do	32
465.33750	do	26
465.34375	do	32
465.350	do	
465.35625	do	32
465.36250	do	26
465.36875	do	32
465.375	do	
465.38125	do	32
465.38750	do	26
465.39375	do	32
465.400	do	
465.40625	do	32
465.41250	do	26
465.41875	do	32
465.425	do	
465.43125	do	32
465.43750	do	26
465.44375	do	32
465.450	do	
465.45625	do	32
465.46250	do	26
465.46875	do	32
465.475	do	
465.48125	do	32
465.48750	do	26
465.49375	do	32
465.500	do	
465.50626	do	32
465.51250	do	26
465.51875	do	32
465.525	do	17
465.53125	do	17, 32
465.53750	do	17, 26
465.54375	do	17, 32
465.550	Base or mobile	17
465.55625	do	17, 32
465.56250	do	17, 26

POLICE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
465.56875	.....do	17, 32
470–512	.....do	21
806–824	Mobile	22
851–869	Base or mobile	22
928 and above	Operational-fixed	23
929–930	Base only	27
1427 to 1435	Operational-fixed, base or mobile	24
2450 to 2500	Base or mobile	25
10,550 to 10,680*	.....do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(e) Explanation of assignment limitations appearing in the frequency table of paragraph (d) of this section:

(1) The use of this frequency is on a secondary basis to any Canadian station.

(2) The frequency is available for assignment only in accordance with a geographical assignment plan.

(3) Base stations operating on this frequency and rendering service to state police mobile units may be authorized to use a maximum output power in excess of the maximum indicated in § 90.205 but not in excess of 7500 watts: *Provided,* That such operation is secondary to other stations.

(4) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(5)–(8) [Reserved]

(9) This frequency is shared with the Local Government Radio Service.

(10) The maximum output power of any transmitter authorized to operate on this frequency, after June 1, 1956, shall not exceed two watts. Licensees holding a valid authorization as of June 1, 1956, for base or mobile station operation on this frequency, with a power in excess of two watts, may continue to be authorized for such operation without regard to this power limitation.

(11) This frequency is reserved for assignment to stations for intersystem operations only: *Provided, however,* That licensees holding a valid authorization to use this frequency for local base or mobile operations as of June 1, 1956, may continue to be authorized for such use.

(12) This frequency is reserved primarily for assignment to state police licensees. Assignments to other police licensees will be made only where the frequency is required for coordinated operation with the state police system to which the frequency is assigned. Any request for such assignment must be supported by a statement from the state police system concerned indicating that the assignment is necessary for coordination of police activities.

(13) The frequencies available for use at operational fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies, are shared with other services and are available only in accordance with the provisions of § 90.257.

(14) This frequency is available nationwide for use in police emergency communications networks operated under statewide law enforcement emergency communications plans. Operations authorized on this frequency which are not in accordance with this limitation may continue until January 1, 1985.

(15) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(16) This frequency is available in this service on a shared basis with all other Public-Safety Radio Services.

(17) This frequency is shared with the Fire and Emergency Medical Radio Services.

(18)–(20) [Reserved]

(21) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(22) Subpart S contains rules for assignment of frequencies in the 806–824 MHz and 851–869 MHz bands.

(23) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(24) This frequency band is available to stations in this service subject to the provisions of § 90.259.

(25) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new stations or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(26) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(27) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(28) In the State of Alaska only, the frequency 42.40 MHz is available for assignment on a primary basis to stations in the Common Carrier Rural Radio Service utilizing meteor burst communications. The frequency may be used by private radio stations for meteor burst communications on a secondary, noninterference basis. Usage shall be in accordance with part 22 or 90 of this chapter. Stations utilizing meteor burst communications shall not cause harmful interference to stations of other radio services operating in accordance with the allocation table.

(29) In the State of Alaska only, the frequency 45.90 MHz is available for assignment on a primary basis to private land mobile radio stations utilizing meteor burst communications. The frequency may be used by common carrier stations for meteor burst communications on a secondary, noninterference basis. Usage shall be in accordance with parts 22 and 90 of this chapter. Stations utilizing meteor burst communications shall not cause harmful interference to stations of other radio services operating in accordance with the allocation table.

(30) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of § 90.265.

(31) This frequency is subject to the provisions of § 90.19(f)(5)(7).

(32) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(33) Assignment of frequencies in this band are subject to the provisions of § 90.173

(34) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(f) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service. (See also § 90.253.)

(1) Substitution of frequencies available below 25 MHz may be made in accordance with the provisions of § 90.263.

(2) [Reserved]

(3) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted.

(4) The frequency bands 31.99 to 32.00 MHz 33.00 to 33.01 MHz, 33.99 to 34.00 MHz, 37.93 to 38.00 MHz, 39.00 to 39.01 MHz, 33.99 to 40.00 MHz and 42.00 to 42.01 MHz are available for assignment for developmental operation subject to the provisions of subpart Q.

(5) A licensee in the Police Radio Service may use transmitters on the frequencies indicated below in connection with official police activities without specific authorization from the Commission, provided that such use shall be on a secondary basis and shall not cause harmful interference to services of other licensees operating on regularly assigned frequencies, and further provided that all such use complies with the requirements of Federal, State and local laws.

The provisions of § 90.429 of this part shall not apply to transmitters authorized under this paragraph. To be eligible for operations in this manner, the transmitter must comply with all of the following requirements.

(i) In accordance with § 90.203 of this part and § 2.803 of part 2 of this chapter, the transmitter must be of a type which has been type accepted by the Commission.

(ii) The carrier frequency shall be within the bands of

30.85–30.87 MHz
30.89–30.91 MHz
30.93–30.95 MHz
30.97–30.99 MHz
31.01–31.03 MHz
31.05–31.07 MHz
31.09–31.11 MHz
31.13–31.15 MHz
31.17–31.19 MHz
31.21–31.23 MHz
31.25–31.27 MHz
31.29–31.31 MHz
31.33–31.35 MHz
31.37–31.39 MHz
31.41–31.43 MHz
31.45–31.47 MHz
31.49–31.51 MHz
31.53–31.55 MHz
31.57–31.59 MHz
31.61–31.63 MHz
31.65–31.67 MHz
31.69–31.71 MHz
31.73–31.75 MHz
31.77–31.79 MHz
31.81–31.83 MHz
31.85–31.87 MHz
31.89–31.91 MHz
31.93–31.95 MHz
31.97–32.00 MHz
33.00–33.03 MHz
33.05–33.07 MHz
33.41–34.00 MHz
37.00–37.43 MHz
37.89–38.00 MHz
39.00–40.00 MHz
42.00–42.91 MHz
44.61–45.91 MHz
45.93–45.95 MHz
45.97–45.99 MHz
46.01–46.03 MHz
46.05–46.60 MHz
47.00–47.41 MHz
150.995–151.490 MHz
153.740–154.445 MHz
154.635–155.195 MHz
155.415–156.250 MHz
158.715–159.465 MHz
453.0125–453.9875 MHz
458.0125–458.9875 MHz
460.0125–460.5125 MHz
460.5625–460.6375 MHz
462.9375–462.9875 MHz
465.0125–465.5125 MHz
465.5625–465.6375 MHz
467.9375–467.9875 MHz

and must be maintained within 0.005 percent of the frequency of operation. Use on assigned channel center frequencies is not required.

(iii) The emitted signal shall be non-voice modulation (type PO emission).

(iv) The maximum occupied bandwidth, containing 99 percent of the radiated power, shall not exceed 2.0 kHz.

(v) The transmitter output power shall not exceed a mean power of 30 mW nor shall any peak exceed 1 watt peak power, as measured into a 50 ohm resistive load. Should the transmitter be supplied with a permanently attached antenna or should the transmitter and antenna combination be contained in a sealed unit, the following standard may be used in lieu of the above: The field strength of the fundamental signal of the transmitter and antenna combination shall not exceed 0.4 V/m mean or 2.3 V/m peak when measured at a distance of 3 meters.

(vi) The transmitter shall contain positive means to limit the transmission time to no more than 10 days. In the event of a malfunction of this positive means, the transmitter signal shall cease. The use of battery life to accomplish the transmission time limitation is permissible.

(6) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(7) The frequency 173.075 MHz is available for stolen vehicle recovery systems on a shared basis with the Federal Government. Stolen vehicle recovery systems are limited to recovering stolen vehicles and are not authorized for general purpose vehicle tracking or monitoring. Mobile transmitters operating on this frequency are limited to 2.5 watts power output and base transmitters are limited 300 watts ERP. F1D and F2D emissions may be used within a maximum authorized 20 kHz bandwidth. Transmissions from mobiles shall be limited to 200 milliseconds every 10 seconds, except that when a vehicle is being tracked actively, transmissions may be increased to 200 milliseconds every second.

Transmissions from base stations will be limited to a total time of 1 second every minute. Applications for base stations operating on this frequency shall require coordination with the Federal Government. Applicants shall perform an analysis for each base station located within 169 km (105 miles) of a TV channel 7 transmitter of potential interference to TV channel 7 viewers. Such stations will be authorized if the applicant has limited the interference contour to fewer than 100 residences or if the applicant:

(i) Shows that the proposed site is the only suitable location;

(ii) Develops a plan to control any interference caused to TV reception from the operations; and

(iii) Agrees to make such adjustments in the TV receivers affected as may be necessary to eliminate interference caused by its operations. The licensee must eliminate any interference caused by its operation to TV channel 7 reception within 30 days of the time it is notified in writing by the Commission. If this interference is not removed within the 30-day period, operation of the base station must be discontinued. The licensee is expected to help resolve all complaints of interference.

(g) *Limitation on number of frequencies assignable.* Normally only one base and one mobile station frequency, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with operation of mobile repeaters in accordance with § 90.247, notwithstanding this limitation.

(2) The frequency 39.06 MHz may be assigned notwithstanding this limitation.

(3) A licensee may use, without special authorization from the Commission, any mobile service frequency between 40 and 952 MHz, listed in subpart B of this part of the rules, for communications in connection with physical surveillance, stakeouts, raids, and other such activities. Such use shall be on a secondary basis to operations of licensees regularly authorized on the assigned frequencies. The maximum output power that may be used for such communications is 2 watts. Transmitters, operating under this provision of the rules, shall be exempted from the station identification requirements of § 90.425. Use of Public Safety frequencies not listed in paragraph (d) of this section is conditional on the approval of the coordinator corresponding to each frequency. Spread spectrum transmitters may be operated on Public Safety frequencies between 37 and 952 MHz, providing that they are type accepted by the Commission under the provisions of §§ 2.803 and 90.203 of the rules, and meet the following conditions:

(i) Frequency hopping transmitters can be operated, with a maximum output power of 2 watts, on any Public Safety mobile service frequency between 37 and 952 MHz listed in subpart B of this part. At least 20 hopping frequencies shall be used and the average time of occupancy on any frequency shall not be greater than 1/10 second in every 2 seconds;

(ii) Use of spread spectrum transmitters under this section of the rules is subject to approval by the applicable frequency coordinator of the radio services of the district in which the license and equipment are to be used.

(iii) The use of direct sequence spread spectrum equipment is also permitted. Equipment must meet the technical standards of 47 CFR 15.247.

(4) In addition to the frequencies assigned for mobile service operation, one base station frequency above 152 MHz may be assigned as a common frequency to all licensees in a particular area to permit intersystem communication between base stations or mobile stations or both. This frequency, use will not be authorized in any area where all available frequencies are required for independent systems.

(5) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(6) A licensee of a radio station in this service may operate radio units for

the purpose of determining distance, direction, speed, or position by means of a radiolocation device on any frequency available for radiolocation purposes without specific authorization from the Commission, provided type accepted equipment or equipment authorized pursuant to §90.203(b)(4) and (5) is used and all other rule requirements are satisfied.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307; secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3))

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.19, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§90.21 Fire Radio Service.

(a) *Eligibility.* Any territory, possession, state, county, city, town, or similar governmental entity, and persons or organizations charged with specific fire protection activities are eligible to hold authorizations in the Fire Radio Service to operate radio stations for transmission of communications essential to official fire activities of the licensee. Applications from persons or organizations other than governmental entities must be accompanied by a statement from the governmental entity having legal jurisdiction over the area to be served, supporting the request.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Fire Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (c) of this section:

FIRE RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Kilohertz		
1630	Base or mobile	
Megahertz:		
33.42	Mobile or fixed	1
33.44	Base or mobile	
33.46	Mobile	
33.48	Base or mobile	
33.50	Mobile	
33.52	Base or mobile	
33.54	Mobile	
33.56	Base or mobile	
33.58	Mobile	
33.60	Base or mobile	
33.62	Mobile	
33.64	Base or mobile	
33.66	Mobile	
33.68	Base or mobile	
33.70	do	
33.72	do	
33.74	do	
33.76	do	
33.78	do	
33.80	do	
33.82	do	
33.84	do	
33.86	do	
33.88	do	
33.90	do	
33.92	do	
33.94	do	
33.96	do	
33.98	do	
45.88	do	2
46.06	do	
46.08	do	
46.10	do	
46.12	do	
46.14	do	
46.16	do	

FIRE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
46.18	.....do	
46.20	.....do	
46.22	Mobile	
46.24	.....do	
46.26	.....do	
46.28	.....do	
46.30	Mobile or fixed	1
46.32	Mobile	
46.34	.....do	
46.36	Base or mobile	
46.38	.....do	
46.40	.....do	
46.42	.....do	
46.44	.....do	
46.46	.....do	
46.48	.....do	
46.50	.....do	
72.00 to 76.00	Operational fixed	3
72.44	Mobile	19
72.48	.....do	19
72.52	.....do	19
72.56	.....do	19
72.60	.....do	19
75.44	.....do	19
75.48	.....do	19
75.52	.....do	19
75.56	.....do	19
75.60	.....do	19
150 to 170	Base or mobile	21
153.77	Mobile	
153.7775	.....do	16
153.83	Mobile	18
153.8375	.....do	18, 16
153.890	Mobile	
153.8975	.....do	16
153.950	.....do	
153.9575	.....do	16
154.010	.....do	
154.0175	.....do	16
154.070	.....do	4
154.0775	.....do	4, 16
154.130	Base or mobile	4
154.1375	.....do	4, 16
154.145	.....do	4
154.1525	.....do	4, 16
154.160	.....do	4
154.1675	.....do	4, 16
154.175	.....do	4
154.1825	.....do	4, 16
154.190	.....do	4
154.1975	.....do	4, 16
154.205	.....do	4
154.2125	.....do	4, 16
154.220	.....do	4
154.2275	.....do	4, 16
154.235	.....do	4
154.2425	.....do	4, 16
154.250	.....do	4
154.2575	.....do	4, 16
154.265	.....do	2, 4
154.2725	.....do	2, 4, 16
154.280	.....do	2, 4
154.2875	.....do	2, 4, 16
154.295	.....do	2, 4
154.3025	.....do	2, 4, 16
154.310	.....do	4
154.3175	.....do	4, 16
154.325	.....do	4
154.3325	.....do	4, 16
154.340	.....do	4
154.3475	.....do	4, 16
154.355	.....do	4

FIRE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
154.3625	.....do	4, 26
154.370	.....do	4
154.3775	.....do	4, 16
154.385	.....do	4
154.3925	.....do	4, 16
154.400	.....do	4
154.4075	.....do	4, 16
154.415	.....do	4
154.4225	.....do	4, 16
154.430	.....do	4
154.4375	.....do	4, 16
154.445	.....do	4
154.4525	.....do	4, 16
166.250	.....do	5
169–172	Mobile	14
170.150	Base or mobile	5
220–222	Base and mobile	17
450–470	Fixed, base, or mobile	6, 21
453.0375	Mobile	22
453.050	Base or mobile	7
453.05625	.....do	20
453.06250	.....do	16
453.06875	.....do	20
453.0875	Mobile	22
453.100	Base or mobile	7
453.10625	.....do	7, 20
453.11250	.....do	7, 16
453.11875	.....do	7, 20
453.1375	Mobile	22
453.150	Base or mobile	7
453.15625	.....do	7, 20
453.16250	.....do	7, 16
453.16875	.....do	7, 20
453.1875	Mobile	22
453.200	Base or mobile	7
453.20625	.....do	7, 20
453.21250	.....do	7, 16
453.21875	.....do	7, 20
453.2375	Mobile	22
453.250	Base or mobile	7
453.25625	.....do	7, 20
453.26250	.....do	7, 16
453.26875	.....do	7, 20
453.2875	Mobile	22
453.300	Base or mobile	7
453.30625	.....do	7, 20
453.31250	.....do	7, 16
453.31875	.....do	7, 20
453.3375	Mobile	22
453.350	Base or mobile	7
453.35625	.....do	7, 20
453.36250	.....do	7, 16
453.36875	.....do	7, 20
453.3875	Mobile	22
453.400	Base or mobile	7
453.40625	.....do	7, 20
453.41250	.....do	7, 16
453.41875	.....do	7, 20
453.4375	Mobile	22
453.450	Base or mobile	7
453.45625	.....do	7, 20
453.46250	.....do	7, 16
453.46875	.....do	7, 20
453.4875	Mobile	22
453.500	Base or mobile	7
453.50625	.....do	7, 20
453.51250	.....do	7, 16
453.51875	.....do	7, 20
453.5375	Mobile	22
453.550	Base or mobile	7
453.55625	.....do	7, 20
453.56250	.....do	7, 16

FIRE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
453.56875	.....do	7, 20
453.5875	Mobile	22
453.600	Base or mobile	7
453.60625	.....do	7, 20
453.61250	.....do	7, 16
453.61875	.....do	7, 20
453.6375	Mobile	22
453.650	Base or mobile	7
453.65625	.....do	7, 20
453.66250	.....do	7, 16
453.66875	.....do	7, 20
453.6875	Mobile	22
453.700	Base or mobile	7
453.70625	.....do	7, 20
453.71250	.....do	7, 16
453.71875	.....do	7, 20
453.7375	Mobile	22
453.750	Base or mobile	7
453.75625	.....do	7, 20
453.76250	.....do	7, 16
453.76875	.....do	7, 20
453.7875	Mobile	22
453.800	Base or mobile	7
453.80625	.....do	7, 20
453.81250	.....do	7, 16
453.81875	.....do	7, 20
453.8375	Mobile	7, 22
453.850	Base or mobile	7
453.85625	.....do	7, 20
453.86250	.....do	7, 16
453.86875	.....do	7, 20
453.8875	Mobile	22
453.900	Base or mobile	7
453.90625	.....do	7, 20
453.91250	.....do	7, 16
453.91875	.....do	7, 20
453.9375	Mobile	22
453.950	Base or mobile	7
453.95625	.....do	7, 20
453.96250	.....do	7, 16
453.96875	.....do	7, 20
458.0375	Mobile	22
458.050	.....do	7
458.05625	.....do	7, 20
458.06250	.....do	7, 16
458.06875	.....do	7, 20
458.0875	.....do	22
458.100	.....do	7
458.10625	.....do	7, 20
458.11250	.....do	7, 16
458.11875	.....do	7, 20
458.1375	.....do	22
458.150	.....do	7
458.15625	.....do	7, 20
458.16250	.....do	7, 16
458.16875	.....do	7, 20
458.1875	.....do	22
458.200	.....do	7
458.20625	.....do	7, 20
458.21250	.....do	7, 16
458.21875	.....do	7, 20
458.2375	.....do	22
458.250	.....do	7
458.25625	.....do	7, 20
458.26250	.....do	7, 16
458.26875	.....do	7, 20
458.2875	.....do	22
458.300	.....do	7
458.30625	.....do	7, 20
458.31250	.....do	7, 16
458.31875	.....do	7, 20
458.3375	.....do	22

FIRE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
458.350	do	7
458.35625	do	7, 20
458.36250	do	7, 16
458.36875	do	7, 20
458.3875	do	22
458.400	do	7
458.40625	do	7, 20
458.41250	do	7, 16
458.41875	do	7, 20
458.4375	do	22
458.450	do	7
458.45625	do	7, 20
458.46250	do	7, 16
458.46875	do	7, 20
458.4875	do	22
458.500	do	7
458.50625	do	7, 20
458.51250	do	7, 16
458.51875	do	7, 20
458.5375	do	22
458.550	do	7
458.55625	do	7, 20
458.56250	do	7, 16
458.56875	do	7, 20
458.5875	do	22
458.600	do	7
458.60625	do	7, 20
458.61250	do	7, 16
458.61875	do	7, 20
458.6375	do	22
458.650	do	7
458.65625	do	7, 20
458.66250	do	7, 16
458.66875	do	7, 20
458.6875	do	22
458.700	do	7
458.70625	do	7, 20
458.71250	do	7, 16
458.71875	do	7, 20
458.7375	do	22
458.750	do	7
458.75625	do	7, 20
458.76250	do	7, 16
458.76875	do	7, 20
458.7875	do	22
458.800	do	7
458.80625	do	7, 20
458.81250	do	7, 16
458.81875	do	7, 20
458.8375	do	22
458.850	do	7
458.85625	do	7, 20
458.86250	do	7, 16
458.86875	do	7, 20
458.8875	do	22
458.900	do	7
458.90625	do	7, 20
458.91250	do	7, 16
458.91875	do	7, 20
458.9375	do	22
458.950	do	7
458.95625	do	7, 20
458.96250	do	7, 16
458.96875	do	7, 20
460.5125	Mobile	22
460.525	Base or mobile	8
460.53125	do	8, 20
460.53750	do	8, 16
460.54375	do	8, 20
460.550	do	8
460.55625	do	8, 20
460.56250	do	8, 16

FIRE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
460.56875	.....do	8, 20
460.575	.....do	
460.58125	.....do	20
460.58750	.....do	16
460.59375	.....do	20
460.600	.....do	
460.60625	.....do	20
460.61250	.....do	16
460.61875	.....do	20
460.625	.....do	
460.63125	.....do	20
460.63750	.....do	16
460.64375	.....do	20
465.5125	Mobile	22
465.525	.....do	8
465.53125	.....do	8, 20
465.53750	.....do	8, 16
465.54375	.....do	8, 20
465.550	.....do	8
465.55625	.....do	8, 20
465.56250	.....do	8, 16
465.56875	.....do	8, 20
465.575	.....do	
465.58125	.....do	20
465.58750	.....do	16
465.59375	.....do	20
465.600	.....do	
465.60625	.....do	20
465.61250	.....do	16
465.61875	.....do	20
465.625	.....do	
465.63125	.....do	20
465.63750	.....do	16
465.64375	.....do	20
470–512	Base or mobile	9
806–824	Mobile	10
851–869	Base or mobile	10
928 and above	Operational fixed	11
929–930	Base only	15
1427 to 1435	Operational fixed, base or mobile	12
2450 to 2500	Base or mobile	13
10,550 to 10,680*	.....do	

*The frequencies in the band 10.55–1068 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) The maximum output power of any transmitter authorized to operate on this frequency shall not exceed 10 watts.

(2) This frequency is reserved for assignment to stations in this service for intersystem operations only and these operations must be primarily base-mobile communications.

(3) The frequencies available for use at operational fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(4) This frequency is not available for assignment to stations in this service in Puerto Rico or the Virgin Islands.

(5) This frequency may be assigned to stations in the Fire Radio Service, only at points within 240 km. (150 mi.) of New York, NY.

(6) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(7) This frequency is available in this service on a shared basis with all other Public-Safety Radio Services.

(8) This frequency is shared with the Police and Emergency Medical Radio Services.

(9) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(10) Subpart S contains rules for assignment of frequencies in the 806–824 MHz and 851–869 MHz bands.

(11) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(12) This frequency band is available to stations in this service subject to the provisions of § 90.259.

(13) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new stations or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(14) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of § 90.265.

(15) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(16) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(17) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(18) The maximum output power of any transmitter authorized to operate on this frequency shall not exceed 100 watts. Stations authorized prior to July 15, 1992 for fixed operations will be permitted to continue such operations, but at a maximum transmitter power output of 10 watts.

(19) This frequency is available to the Fire Radio Service for fire call box operations on a shared basis in the Manufacturers, Forest Products, Special Industrial, Railroad, and Fire Radio Services and interservice coordination is required. All communications on this frequency must be conducted with persons or organizations charged with specific fire protection responsibility. All operations on this frequency are subject to the provisions of § 90.257(b).

(20) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(21) Assignment of frequencies in this band are subject to the provisions of § 90.173

(22) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(d) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service. (See also § 90.253.)

(1) Substitution of frequencies available below 25 MHz may be made in accordance with the provisions of § 90.263.

(2) [Reserved]

(3) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(4) The frequency bands 31.99 to 32.00 MHz, 33.00 to 33.01 MHz, 33.99 to 34.00 MHz, 37.93 to 38.00 MHz, 39.00 to 39.01 MHz, 39.99 to 40.00 MHz and 42.00 to 42.01 MHz, are available for assignment for developmental operation subject to the provisions of subpart Q.

(5) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(e) *Limitation on number of frequencies assignable.* Normally only two frequencies or pairs of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with the operation of mobile repeaters in accordance with § 90.247, notwithstanding this limitation.

(2) The assignment of an additional frequency or frequencies may be authorized notwithstanding this limitation for common, intra-county, intra-fire-district, or intrastate fire coordination operations. The frequency or frequencies requested must be in accordance with a frequency utilization plan, for the area involved, on file with the Commission.

(3) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(4) A licensee of a radio station in this service may operate radio units for the purpose of determining distance, direction, speed, or position by means of a radiolocation device on any frequency available for radiolocation purposes without specific authorization from the Commission, provided type accepted equipment or equipment authorized pursuant to § 90.203(b) (4) and (5) is used and all other rule requirements are satisfied.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307; secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§ 0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3))

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 90.21, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 90.23 Highway Maintenance Radio Service.

(a) *Eligibility.* Any territory, possession, State, county, city, town, and similar governmental entity is eligible to hold authorizations in the Highway Maintenance Radio Service to operate stations for transmission of communications essential to official highway activities of the licensee.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Highway Maintenance Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (c) of this section:

HIGHWAY MAINTENANCE RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Megahertz:		
33.02	Base or mobile	1
33.06	do	1
33.10	do	1
37.90	do	1
37.92	do	
37.94	do	1
37.96	do	
37.98	do	1
45.68	do	
45.72	do	
45.76	do	
45.80	do	
45.84	do	
47.02	do	2, 17
47.04	do	2, 17
47.06	do	2, 17
47.08	do	2, 17
47.10	do	2, 17
47.12	do	2, 17
47.14	do	2, 17
47.16	do	2, 17
47.18	do	2, 17
47.20	do	2, 17
47.22	do	2, 17
47.24	do	2, 17
47.26	do	2, 17
47.28	do	2, 17
47.30	do	2, 17

HIGHWAY MAINTENANCE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
47.32	.....do	2, 17
47.34	.....do	2, 17
47.36	.....do	2, 17
47.38	.....do	2, 17
47.40	.....do	2, 17
72.00 to 76.00	Operational fixed	3
150 to 170	Base or mobile	21
150.995	.....do	4
151.0025	.....do	4, 18
151.010	.....do	4
151.0175	.....do	4, 18
151.025	.....do	4
151.0325	.....do	4, 18
151.040	.....do	4
151.0475	.....do	4, 18
151.055	.....do	4
151.070	.....do	4, 22
151.085	.....do	4
151.0925	.....do	4, 18
151.100	.....do	4
151.1075	.....do	4, 18
151.115	.....do	4
151.1225	.....do	4, 18
151.130	.....do	4
151.1375	.....do	4, 18
156.045	Mobile	14
156.0525	.....do	14, 18
156.060	.....do	14
156.0675	.....do	14, 18
156.075	.....do	
156.0825	.....do	18
156.105	Base or mobile	
156.1125	.....do	18
156.120	.....do	
156.1275	.....do	18
156.135	.....do	
156.1425	.....do	18
156.165	.....do	5, 14
156.1725	.....do	5, 14, 18
156.180	.....do	5, 14
156.1875	.....do	5, 14, 18
156.195	.....do	5
156.2025	.....do	5, 18
156.225	.....do	5
156.2325	.....do	5, 18
156.240	.....do	5
156.2475	.....do	5, 20
158.985	Mobile	5
158.9925	.....do	5, 18
159.000	.....do	5
159.0075	.....do	5, 18
159.015	.....do	5
159.0225	.....do	5, 18
159.045	.....do	5
159.0525	.....do	5, 18
159.060	.....do	5
159.0675	.....do	5, 18
159.075	.....do	5
159.0825	.....do	5, 18
159.105	Base or mobile	5
159.1125	.....do	5, 18
159.120	.....do	5
159.1275	.....do	5, 18
159.135	.....do	5
159.1425	.....do	5, 18
159.165	.....do	5
159.1725	.....do	5, 18
159.180	.....do	
159.1875	.....do	18
159.195	.....do	
159.2025	.....do	18
169–172	Mobile	15

HIGHWAY MAINTENANCE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
220–222	Base and mobile	19
450–470	Fixed, base, or mobile	7, 21
453.0375	Mobile	23
453.050	Base or mobile	8
453.05625	.....do	8, 20
453.06250	.....do	8, 18
453.06875	.....do	8, 20
453.0875	Mobile	23
453.100	Base or mobile	8
453.10625	.....do	8, 20
453.11250	.....do	8, 18
453.11875	.....do	8, 20
453.1375	Mobile	23
453.150	Base or mobile	8
453.15625	.....do	8, 20
453.16250	.....do	8, 18
453.16875	.....do	8, 20
453.1875	Mobile	23
453.200	Base or mobile	8
453.20625	.....do	8, 20
453.21250	.....do	8, 18
453.21875	.....do	8, 20
453.2375	Mobile	23
453.250	Base or mobile	8
453.25625	.....do	8, 20
453.26250	.....do	8, 18
453.26875	.....do	8, 20
453.2875	Mobile	23
453.300	Base or mobile	8
453.30625	.....do	8, 20
453.31250	.....do	8, 18
453.31875	.....do	8, 20
453.3375	Mobile	23
453.350	Base or mobile	8
453.35625	.....do	8, 20
453.36250	.....do	8, 18
453.36875	.....do	8, 20
453.3875	Mobile	23
453.400	Base or mobile	8
453.40625	.....do	8, 20
453.41250	.....do	8, 18
453.41875	.....do	8, 20
453.4375	Mobile	23
453.450	Base or mobile	8
453.45625	.....do	8, 20
453.46250	.....do	8, 18
453.46875	.....do	8, 20
453.4875	Mobile	23
453.500	Base or mobile	8
453.50625	.....do	8, 20
453.51250	.....do	8, 18
453.51875	.....do	8, 20
453.5375	Mobile	23
453.550	Base or mobile	8
453.55625	.....do	8, 20
453.56250	.....do	8, 18
453.56875	.....do	8, 20
453.5875	Mobile	23
453.600	Base or mobile	8
453.60625	.....do	8, 20
453.61250	.....do	8, 18
453.61875	.....do	8, 20
453.6375	Mobile	23
453.650	Base or mobile	8
453.65625	.....do	8, 20
453.66250	.....do	8, 18
453.66875	.....do	8, 20
453.6875	Mobile	23
453.700	Base or mobile	9
453.70625	.....do	9, 20
453.71250	.....do	9, 18
453.71875	.....do	9, 20

HIGHWAY MAINTENANCE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
453.7375	Mobile	23
453.750	Base or mobile	8
453.75625	.....do	8, 20
453.76250	.....do	8, 18
453.76875	.....do	8, 20
453.7875	Mobile	23
453.800	Base or mobile	8
453.80625	.....do	8, 20
453.81250	.....do	8, 18
453.81875	.....do	8, 20
453.8375	Mobile	23
453.850	Base or mobile	8
453.85625	.....do	8, 20
453.86250	.....do	8, 18
453.86875	.....do	8, 20
453.8875	Mobile	23
453.900	Base or mobile	8
453.90625	.....do	8, 20
453.91250	.....do	8, 18
453.91875	.....do	8, 20
453.9375	Mobile	23
453.950	Base or mobile	8
453.95625	.....do	8, 20
453.96250	.....do	8, 18
453.96875	.....do	8, 20
458.0375	Mobile	23
458.050	.....do	8
458.05625	.....do	8, 20
458.06250	.....do	8, 18
458.06875	.....do	8, 20
458.0875	.....do	23
458.100	.....do	8
458.10625	.....do	8, 20
458.11250	.....do	8, 18
458.11875	.....do	8, 20
458.1375	.....do	23
458.150	.....do	8
458.15625	.....do	8, 20
458.16250	.....do	8, 18
458.16875	.....do	8, 20
458.1875	.....do	23
458.200	.....do	8
458.20625	.....do	8, 20
458.21250	.....do	8, 18
458.21875	.....do	8, 20
458.2375	.....do	23
458.250	.....do	8
458.25625	.....do	8, 20
458.26250	.....do	8, 18
458.26875	.....do	8, 20
458.2875	.....do	23
458.300	.....do	8
458.30625	.....do	8, 20
458.31250	.....do	8, 18
458.31875	.....do	8, 20
458.3375	.....do	23
458.350	.....do	8
458.35625	.....do	8, 20
.		
458.36250	.....do	8, 18
458.36875	.....do	8, 20
458.3875	.....do	23
458.400	.....do	8
458.40625	.....do	8, 20
458.41250	.....do	8, 18
458.41875	.....do	8, 20
458.4375	.....do	23
458.450	.....do	8
458.45625	.....do	8, 20
458.46250	.....do	8, 18
458.46875	.....do	8, 20
458.4875	.....do	23

HIGHWAY MAINTENANCE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
458.500	do	8
458.50625	do	8, 20
458.51250	do	8, 18
458.51875	do	8, 20
458.5375	do	23
458.550	do	8
458.55625	do	8, 20
458.56250	do	8, 18
458.56875	do	8, 20
458.5875	do	23
458.600	do	8
458.60625	do	8, 20
458.61250	do	8, 18
458.61875	do	8, 20
458.6375	do	23
458.650	do	8
458.65625	do	8, 20
458.66250	do	8, 18
458.66875	do	8, 20
458.6875	do	23
458.700	do	8
458.70625	do	8, 20
458.71250	do	8, 18
458.71875	do	8, 20
458.7375	do	23
458.750	do	8
458.75625	do	8, 20
458.76250	do	8, 18
458.76875	do	8, 20
458.7875	do	23
458.800	do	8
458.80625	do	8, 20
458.81250	do	8, 18
458.81875	do	8, 20
458.8375	do	23
458.850	do	8
458.85625	do	8, 20
458.86250	do	8, 18
458.86875	do	8, 20
458.8875	do	23
458.900	do	8
458.90625	do	8, 20
458.91250	do	8, 18
458.91875	do	8, 20
458.9375	do	23
458.950	do	8
458.95625	do	8, 20
458.96250	do	8, 18
458.96875	do	8, 20
470–512	Base or mobile	9
806–824	Mobile	10
851–869	Base or mobile	10
928 and above	Operational-fixed	11
929–930	Base only	16
1427–1435	Operational fixed, base or mobile	12
2450–2500	Base or mobile	13
10,550 to 10,680*	do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) This frequency is shared with the Special Emergency Radio Service.

(2) This frequency will be assigned only in accordance with a geographical assignment plan and is reserved primarily for assignment to Highway Maintenance systems operated by states. The use of this frequency by other Highway maintenance licensees will be authorized only where such use

is necessary to coordinate activities with the particular state to which the frequency is assigned. Any request for such use must be supported by a statement from the state concerned.

(3) The frequencies available for use at operational fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies, are shared with other services and are available only in accordance with the provisions of § 90.257.

(4) This frequency is not available for assignment to stations in the Highway Maintenance Radio Service located in Puerto Rico and the Virgin Islands.

(5) This frequency is reserved for assignment for use in highway maintenance systems operated by licenses other than States.

(6) This frequency is only assigned to Highway Maintenance stations licensed for its use prior to April 28, 1952. Such use may continue on a secondary basis to any government or non-government radio operation.

(7) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(8) This frequency is available in this service on a shared basis with all other Public-Safety Radio Services.

(9) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(10) Subpart S contains rules for assignment of frequencies in the 806–824 MHz and 851–869 MHz bands.

(11) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(12) This frequency band is available to stations in this service subject to the provisions of § 90.259.

(13) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(14) This frequency may not be assigned within 161 km (100 miles) of New Orleans (coordinates 29–56–53 N and 90–04–10 W).

(15) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of § 90.265.

(16) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(17) Notwithstanding the provisions of limitation (2) above, this frequency may be used by licensees in any of the Public Safety Radio Services without a separate license for the purpose of operating self-powered vehicle detectors for traffic control and safety purposes, on a secondary basis, in accordance with § 90.269 of this chapter.

(18) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(19) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(20) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(21) Assignment of frequencies in this band are subject to the provisions of § 90.173.

(22) This frequency will be authorized a channel bandwidth of 25 kHz.

(23) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(d) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service. (See also § 90.253.)

(1) [Reserved]

(2) The frequency bands 31.99 to 32.00 MHz, 33.00 to 33.01 MHz, 33.00 to 33.01 MHz, 33.99 to 34.00 MHz, 37.93 to 38.00 39.00 to 39.01 MHz, 39.99 to 40.00 MHz

and 42.00 to 42.01 MHz are available for assignment for developmental operation subject to the provisions of subpart Q.

(3) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(4) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(e) *Limitation on number of frequencies assignable.* Normally only two frequencies or pairs of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with the operation of mobile repeaters in accordance with § 90.247, notwithstanding this limitation.

(2) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(3) A licensee of a radio station in this service may operate radio units for the purpose of determining distance, direction, speed, or position by means of a radiolocation device on any frequency available for radiolocation purposes without specific authorization from the Commission, provided type accepted equipment or equipment authorized pursuant to § 90.203(b)(4) and (5) is used and all other rule requirements are satisfied.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§ 0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 90.23, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 90.25 Forestry-Conservation Radio Service.

(a) *Eligibility.* Any territory, possession, State, county, city, town, and similiar governmental entity, or persons or organizations charged with specific forestry-conservation activities are eligible to hold authorizations in the Forestry-Conservation Radio Service to operate radio stations for transmission of communications essential to official forestry-conservation activities of the licensee. Application from persons or organizations other than governmental entities must be accompanied by a statement from the governmental entity having legal jurisdiction over the area to be served, supporting the request.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Foresty-Conservation Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (c) of this section:

FORESTRY-CONSERVATION RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Kilohertz:		
2212	Base or mobile	1
2226	do	1
2236	do	1
2244	do	1
Megahertz:		
30.86	do	2
30.90	do	2
30.94	do	2
30.98	do	2
31.02	do	2
31.06	do	2, 3, 4
31.10	do	2, 3, 4
31.14	do	2, 3, 4

FORESTRY-CONSERVATION RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
31.18	do	3, 4
31.22	do	3, 4
31.26	do	3, 4
31.30	do	3, 4
31.34	do	3, 4
31.38	do	3, 4
31.42	do	3, 4
31.46	do	3, 4
31.50	do	3, 4
31.54	do	3, 4
31.58	do	3, 4
31.62	do	3, 4
31.66	do	3, 4
31.70	do	3, 4
31.74	do	3, 4
31.78	do	3, 4
31.82	do	3, 4
31.86	do	3, 4
31.90	do	3, 4
31.94	do	3, 4
31.98	do	3, 4
44.64	do	
44.68	do	
44.72	do	
44.76	do	
44.80	do	
44.84	do	
44.88	do	
44.92	do	
44.96	do	
45.00	do	
45.04	do	
72.00 to 76.00	Operational fixed	5
150 to 170	Base or mobile	25
151.145	do	6
151.1525	do	6, 22
151.160	do	6
151.1675	do	6, 22
151.175	do	6
151.190	do	6, 26
151.205	do	6
151.2125	do	6, 22
151.220	do	6
151.2275	do	6, 22
151.235	do	6
151.2425	do	6, 22
151.250	do	6
151.2575	do	6, 22
151.265	do	6
151.2725	do	6, 22
151.280	do	6
151.2875	do	6, 22
151.295	do	6
151.310	do	6, 26
151.325	do	6
151.3325	do	6, 22
151.340	do	6
151.3475	do	6, 22
151.355	do	6
151.3625	do	6, 22
151.370	do	6
151.3775	do	6, 22
151.385	do	6
151.3925	do	6, 22
151.400	do	6
151.4075	do	6, 22
151.415	do	6
151.4225	do	6, 22
151.430	do	6
151.4375	do	6, 22
151.445	do	6
151.4525	do	6, 22

FORESTRY-CONSERVATION RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
151.460	.....do	6
151.4675	.....do	6, 22
151.475	.....do	6
151.4825	.....do	6, 22
151.490	.....do	6, 7
151.4975	.....do	6, 7, 22
159.225	.....do	
159.2325	.....do	22
159.240	.....do	8
159.2475	.....do	8, 22
159.255	.....do	8
159.2625	.....do	8, 22
159.270	.....do	8
159.2775	.....do	8, 22
159.285	.....do	8
159.2925	.....do	8, 22
159.300	.....do	8
159.3075	.....do	8, 22
159.315	.....do	8
159.3225	.....do	8, 22
159.330	.....do	8
159.3375	.....do	8, 22
159.345	.....do	8
159.3525	.....do	8, 22
159.360	.....do	8
159.3675	.....do	8, 22
159.375	.....do	8
159.3825	.....do	8, 22
159.390	.....do	8
159.3975	.....do	8, 22
159.405	.....do	8
159.4125	.....do	8, 22
159.420	.....do	8
159.4275	.....do	8, 22
159.435	.....do	8
159.4425	.....do	8, 22
159.450	.....do	
159.4575	.....do	22
159.465	.....do	
159.4725	.....do	22
169–172	Mobile	20
170.425	Base or mobile	4, 9, 10
170.475	.....do	4, 9, 11
170.575	.....do	4, 9, 10
171.425	.....do	4, 9, 11
171.475	.....do	4, 10, 12
171.575	.....do	4, 9, 11
172.225	.....do	4, 9, 10
172.275	.....do	4, 11, 12
172.375	.....do	4, 9, 10
220–222	Base and mobile	23
450–470	Fixed, base or mobile	13, 25
453.0375	Mobile	27
453.050	Base or mobile	14
453.05625	.....do	14, 24
453.06250	.....do	14, 22
453.06875	.....do	14, 24
453.0875	Mobile	27
453.100	Base or mobile	14
453.10625	.....do	14, 24
453.11250	.....do	14, 22
453.11875	.....do	14, 24
453.1375	Mobile	27
453.150	Based or mobile	14
453.15625	.....do	14, 24
453.16250	.....do	14, 22
453.16875	.....do	14, 24
453.1875	Mobile	27
453.200	Base or mobile	14
453.20625	.....do	14, 24
453.21250	.....do	14, 22
453.21875	.....do	14, 24

FORESTRY-CONSERVATION RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
453.2375	Mobile	27
453.250	Base or mobile	14
453.25625	.....do	14, 24
453.26250	.....do	14, 22
453.26875	.....do	14, 24
453.2875	Mobile	27
453.300	Base or mobile	14
453.30625	.....do	14, 24
453.31250	.....do	14, 22
453.31875	.....do	14, 24
453.3375	Mobile	27
453.350	Base or mobile	14
453.35625	.....do	14, 24
453.36250	.....do	14, 22
453.36875	.....do	14, 24
453.3875	Mobile	27
453.400	Base or mobile	14
453.40625	.....do	14, 24
453.41250	.....do	14, 22
453.41875	.....do	14, 24
453.4375	Mobile	27
453.450	Base or mobile	14
453.45625	.....do	14, 24
453.46250	.....do	14, 22
453.46875	.....do	14, 24
453.4875	Mobile	27
453.500	Base or mobile	14
453.50625	.....do	14, 24
453.51250	.....do	14, 22
453.51875	.....do	14, 24
453.5375	Mobile	27
453.550	Base or mobile	14
453.55625	.....do	14, 24
453.56250	.....do	14, 22
453.56875	.....do	14, 24
453.5875	Mobile	27
453.600	Base or mobile	14
453.60625	.....do	14, 24
453.61250	.....do	14, 22
453.61875	.....do	14, 24
453.6375	Mobile	27
453.650	Base or mobile	14
453.65625	.....do	14, 24
453.66250	.....do	14, 22
453.66875	.....do	14, 24
453.6875	Mobile	27
453.700	Base or mobile	14
453.70625	.....do	14, 24
453.71250	.....do	14, 22
453.71875	.....do	14, 24
453.7375	Mobile	27
453.750	Base or mobile	14
453.75625	.....do	14, 24
453.76250	.....do	14, 22
453.76875	.....do	14, 24
453.7875	Mobile	27
453.800	Base or mobile	14
453.80625	.....do	14, 24
453.81250	.....do	14, 22
453.81875	.....do	14, 24
453.8375	Mobile	27
453.850	Base or mobile	14
453.85625	.....do	14, 24
453.86250	.....do	14, 22
453.86875	.....do	14, 24
453.8875	Mobile	27
453.900	Base or mobile	14
453.90625	.....do	14, 24
453.91250	.....do	14, 22
453.91875	.....do	14, 24
453.9375	Mobile	27
453.950	Base or mobile	14

FORESTRY-CONSERVATION RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
453.95625	do	14, 24
453.96250	do	14, 22
453.96875	do	14, 24
458.0375	Mobile	27
458.050	do	14
458.05625	do	14, 24
458.06250	do	14, 22
458.06875	do	14, 24
458.0875	do	27
458.100	do	14
458.10625	do	14, 24
458.11250	do	14, 22
458.11875	do	14, 24
458.1375	do	27
458.150	do	14
458.15625	do	14, 24
458.16250	do	14, 22
458.16875	do	14, 24
458.1875	do	27
458.200	do	14
458.20625	do	14, 24
458.21250	do	14, 22
458.21875	do	14, 24
458.2375	do	27
458.250	do	14
458.25625	do	14, 24
458.26250	do	14, 22
458.26875	do	14, 24
458.2875	do	27
458.300	do	14
458.30625	do	14, 24
458.31250	do	14, 22
458.31875	do	14, 24
458.3375	do	27
458.350	do	14
458.35625	do	14, 24
458.36250	do	14, 22
458.36875	do	14, 24
458.3875	do	27
458.400	do	14
458.40625	do	14, 24
458.41250	do	14, 22
458.41875	do	14, 24
458.4375	do	27
458.450	do	14
458.45625	do	14, 24
458.46250	do	14, 22
458.46875	do	14, 24
458.4875	do	27
458.500	do	14
458.50625	do	14, 24
458.51250	do	14, 22
458.51875	do	14, 24
458.5375	do	27
458.550	do	14
458.55625	do	14, 24
458.56250	do	14, 22
458.56875	do	14, 24
458.5875	do	27
458.600	do	14
458.60625	do	14, 24
458.61250	do	14, 22
458.61875	do	14, 24
458.6375	do	27
458.650	do	14
458.65625	do	14, 24
458.66250	do	14, 22
458.66875	do	14, 24
458.6875	do	27
458.700	do	14
458.70625	do	14, 24
458.71250	do	14, 22

FORESTRY-CONSERVATION RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
458.71875	.....do	14, 24
458.7375	.....do	27
458.750	.....do	14
458.75625	.....do	14, 24
458.76250	.....do	14, 22
458.76875	.....do	14, 24
458.7875	.....do	27
458.800	.....do	14
458.80625	.....do	14, 24
458.81250	.....do	14, 22
458.81875	.....do	14, 24
458.8375	.....do	27
458.850	.....do	14
458.85625	.....do	14, 24
458.86250	.....do	14, 22
458.86875	.....do	14, 24
458.8875	.....do	27
458.900	.....do	14
458.90625	.....do	14, 24
458.91250	.....do	14, 22
458.91875	.....do	14, 24
458.9375	.....do	27
458.950	.....do	14
458.95625	.....do	14, 24
458.96250	.....do	14, 22
458.96875	.....do	14, 24
470 to 512	Base or mobile	15
806 to 824	Mobile	16
851 to 869	Base or Mobile	16
928 and above	Operational fixed	17
929 to 930	Base only	21
1427 to 1435	Operational fixed, base or mobile	18
2450 to 2500	Base or mobile	19
10,550 to 10,680*	.....do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) The use of this frequency is on a secondary basis to any Canadian station.

(2) This frequency is shared with the Motor Carrier Radio Service.

(3) This frequency is available for assignment only in accordance with a geographical assignment plan. This frequency may be used for conservation activities on a secondary basis to any station using the frequency for forest fire prevention, detection, and suppression.

(4) This frequency is reserved primarily for assignment to state licensees. Assignments to other licensees will be made only where the frequency is required for coordinated operation with the State system to which the frequency is assigned. Any request for such assignment must be supported by a statement from the State system concerned, indicating that the assignment is necessary for coordination of activities.

(5) The frequencies available for use at operational-fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(6) This frequency is not available for assignment to stations in this service located in Puerto Rico or the Virgin Islands.

(7) This frequency is shared with stations in the Special Industrial Radio Service and evidence of interservice coordination is required.

(8) This frequency is shared with the Special Industrial Radio Service in Puerto Rico and the Virgin Islands. All applications for the assignment of a new frequency or to change existing facilities in such a manner as to require frequency coordination as specified in

§ 90.175 for stations in Puerto Rico or the Virgin Islands, shall be accompanied by evidence of interservice frequency coordination.

(9) This frequency will be assigned only to licensees directly responsible for the prevention, detection, and suppression of forest fires, on a secondary basis to any U.S. Government station.

(10) This frequency will be assigned for use only in areas west of the Mississippi River.

(11) This frequency will be assigned for use only in areas east of the Mississippi.

(12) In addition to agencies responsible for forest fire prevention, detection, and suppression, this frequency may be assigned to conservation agencies which do not have forest fire responsibilities on a secondary basis to any U.S. Government stations, *Provided,* That such assignment is necessary to permit mobile relay operation by such agencies.

(13) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(14) This frequency is available in this service on a shared basis with all other Public Safety Services.

(15) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(16) Subpart S contains rules for assignment of frequencies in the 806–824 MHz and 851–869 MHz bands.

(17) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(18) This frequency band is available to stations in this service subject to the provisions of § 90.259.

(19) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new stations or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered, and their operation is co-primary with the Radiodetermination Satellite Service.

(20) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of § 90.265.

(21) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(22) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(23) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(24) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(25) Assignment of frequencies in this band are subject to the provisions of § 90.173.

(26) This frequency will be authorized a channel bandwidth of 25 kHz.

(27) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(d) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service. (See also § 90.253.)

(1) Substitution of frequencies available below 25 MHz may be made in accordance with the provisions of § 90.263.

(2) [Reserved]

(3) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(4) The frequency bands 31.99 to 32.00 MHz, 33.00 to 33.01 MHz, 33.99 to 34.00 MHz, 37.93 to 38.00 MHz, 39.00 to 39.01 MHz, 39.99 to 40.00 MHz, and 42.00 to 42.01 MHz are available for assignment for developmental operation subject to the provisions of subpart Q.

(5) Frequencies in the 421–430 MHz band are available in the Detroit,

Cleveland, and Buffalo areas in accordance with the rules in §§90.273 through 90.281.

(e) *Limitation on number of frequencies assignable.* Normally only two frequencies or pairs of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with the operation of mobile repeaters in accordance with §90.247 notwithstanding this limitation.

(2) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(3) A licensee of a radio station in this service may operate radio units for the purpose of determining distance, direction, speed, or position by means of a radiolocation device on any frequency available for radiolocation purposes without specific authorization from the Commission, provided type accepted equipment or equipment authorized pursuant to §90.203(b)(4) and (5) is used and all other rule requirements are satisfied.

(f) A licensee in the Forestry-Conservation Radio Service may use, without a specific authorization from the Commission, transmitters on the frequencies indicated below in connection with wildlife tracking and/or telemetry and in connection with official forestry-conservation activities, provided that such use shall be on a secondary basis and shall not cause harmful interference to services of other licensees operating on regularly assigned frequencies. The provisions of §§90.203, 90.425, and 90.429 of this part shall not apply to transmitters complying with this subparagraph. To be eligible for operations in this manner, the transmitter must comply with all of the following requirements.

(1) The carrier frequency shall be within the bands of:

(MHz)

31.17 to 31.19	31.85 to 31.87
31.21 to 31.23	31.89 to 31.91
31.25 to 31.27	31.93 to 31.95
31.29 to 31.31	31.97 to 31.99
31.33 to 31.35	44.63 to 44.65
31.37 to 31.39	44.67 to 44.69
31.41 to 31.43	44.71 to 44.73
31.45 to 31.47	44.75 to 44.77
31.49 to 31.51	44.79 to 44.81
31.53 to 31.55	44.83 to 44.85
31.57 to 31.59	44.87 to 44.89
31.61 to 31.63	44.91 to 44.93
31.65 to 31.67	44.95 to 44.97
31.69 to 31.71	44.99 to 45.01
31.73 to 31.75	45.03 to 45.05
31.77 to 31.79	151.145 to 151.475
31.81 to 31.83	159.225 to 159.465

The carrier frequency must be maintained within 0.005 percent of the frequency of operation. Use on assigned channel center frequencies is not required.

(2) The emitted signal shall be non-voice modulation (A1D, A2D, F1D, or F2D emission).

(3) The maximum occupied bandwidth, containing 99 percent of the radiated power, shall not exceed 0.25 kHz.

(4) The transmitter output power shall not exceed a mean power of 5 mW nor shall any peak exceed 100 mW peak power, as measured into a permanently attached antenna; or if the transmitter and antenna combination are contained in a sealed unit, the field strength of the fundamental signal of the transmitter and antenna combination shall not exceed 0.29 V/m mean or 1.28 V/m peak when measured at a distance of 3 meters.

(5) The requirements of §90.175 regarding frequency coordination apply.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.25, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§90.27 Emergency Medical Radio Service.

(a) *Eligibility.* Persons or entities engaged in the provision of basic or advanced life support services on an ongoing basis are eligible to hold authorizations in the Emergency Medical

Radio Service to operate stations for transmission of communications essential for the delivery or rendition of emergency medical services for the provision of basic or advanced life support. Applications submitted by persons or organizations (governmental or otherwise) other than the governmental body having jurisdiction over the state's emergency medical service plans must be accompanied by a statement prepared by the governmental body having jurisdiction over the state's emergency medical services plan indicating that the applicant is included in the state's emergency plan or otherwise supporting the application.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Emergency Medical Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations explained in paragraph (c) of this section. (Frequencies below 450 MHz indicated for base or mobile stations may be authorized to fixed stations on a secondary basis to stations in the mobile service):

EMERGENCY MEDICAL RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Megahertz:		
72.00 to 76.00	Operational fixed	1
150 to 170	Base or mobile	28
150.775	Mobile.	
150.7825	.....do	2
150.790	.....do	
150.7975	.....do	
150.805	.....do	
155.325	Base or mobile	3, 4
155.3325	.....do	2, 3, 4
155.340	.....do	4, 5
155.3475	.....do	2, 4, 5
155.355	.....do	3, 4
155.3625	.....do	2, 3, 4
155.385	.....do	3, 4
155.3925	.....do	2, 3, 4
155.400	.....do	3, 4
155.4075	.....do	2, 3, 4
169–172	Mobile	6
220.9025	Base	25
220.9075	.....do	25
220.9125	.....do	25
220.9175	.....do	25
220.9225	.....do	25
221.9025	Mobile	25
221.9075	.....do	25
221.9125	.....do	25
221.9175	.....do	25
221.9225	.....do	25
450 to 470	Fixed, base, or mobile	7, 28
453.025	Base or mobile	9, 19, 22, 26
453.03125	.....do	9, 19, 22, 26, 27
453.03750	.....do	2, 9, 19, 22, 26
453.04375	.....do	9, 19, 22, 26, 27
453.050	Base or mobile	8
453.05625	.....do	8, 27
453.06250	.....do	2, 8
453.06875	.....do	8, 27
453.075	Base or mobile	9, 19, 22, 26
453.08125	.....do	9, 19, 22, 26, 27
453.08750	.....do	2, 9, 19, 22, 26
453.09375	.....do	9, 19, 22, 26, 27
453.100	Base or mobile	8
453.10625	.....do	8, 27
453.11250	.....do	2, 8
453.11875	.....do	8, 27
453.125	Base or mobile	9, 19, 22, 26
453.13125	.....do	9, 19, 22, 26, 27
453.13750	.....do	2, 9, 19, 22, 26
453.14375	.....do	9, 19, 22, 26, 27
453.150	Base or mobile	8

EMERGENCY MEDICAL RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
453.15625	.....do	8, 27
453.16250	.....do	2, 8
453.16875	.....do	8, 27
453.175	Base or mobile	9, 19, 22, 26
453.18125	.....do	9, 19, 22, 26, 27
453.18750	.....do	2, 9, 19, 22, 26
453.19375	.....do	9, 19, 22, 26, 27
453.200	Base or mobile	8
453.20625	.....do	8, 27
453.21250	.....do	2, 8
453.21875	.....do	8, 27
453.250	.....do	8
453.25625	.....do	8, 27
453.26250	.....do	2, 8
453.26875	.....do	8, 27
453.300	.....do	8
453.30625	.....do	8, 27
453.31250	.....do	2, 8
453.31875	.....do	8, 27
453.350	.....do	8
453.35625	.....do	8, 27
453.36250	.....do	2, 8
453.36875	.....do	8, 27
453.400	.....do	8
453.40625	.....do	8, 27
453.41250	.....do	2, 8
453.41875	.....do	8, 27
453.450	.....do	8
453.45625	.....do	8, 27
453.46250	.....do	2, 8
453.46875	.....do	8, 27
453.500	.....do	8
453.50625	.....do	8, 27
453.51250	.....do	2, 8
453.51875	.....do	8, 27
453.550	.....do	8
453.55625	.....do	8, 27
453.56250	.....do	2, 8
453.56875	.....do	8, 27
453.600	.....do	8
453.60625	.....do	8, 27
453.61250	.....do	2, 8
453.61875	.....do	8, 27
453.650	.....do	8
453.65625	.....do	8, 27
453.66250	.....do	2, 8
453.66875	.....do	8, 27
453.700	.....do	8
453.70625	.....do	8, 27
453.71250	.....do	2, 8
453.71875	.....do	8, 27
453.750	.....do	8
453.75625	.....do	8, 27
453.76250	.....do	2, 8
453.76875	.....do	8, 27
453.800	.....do	8
453.80625	.....do	8, 27
453.81250	.....do	2, 8
453.81875	.....do	8, 27
453.850	.....do	8
453.85625	.....do	8, 27
453.86250	.....do	2, 8
453.86875	.....do	8, 27
453.900	.....do	8
453.90625	.....do	8, 27
453.91250	.....do	2, 8
453.91875	.....do	8, 27
453.950	.....do	8
453.95625	.....do	8, 27
453.96250	.....do	2, 8
453.96875	.....do	8, 27
458.025	Mobile	9, 22, 26

EMERGENCY MEDICAL RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
458.03125	do	9, 22, 26, 27
458.03750	do	2, 9, 22, 26
458.04375	do	9, 22, 26, 27
458.050	do	8
458.05625	do	8, 27
458.06250	do	2, 8
458.06875	do	8, 27
458.075	do	9, 22, 26
458.08125	do	9, 22, 26, 27
458.08750	do	2, 9, 22, 26
458.09375	do	9, 22, 26, 27
458.100	do	8
458.10625	do	8, 27
458.11250	do	2, 8
458.11875	do	8, 27
458.125	do	9, 22, 26
458.13125	do	9, 22, 26, 27
458.13750	do	2, 9, 22, 26
458.14375	do	9, 22, 26, 27
458.150	do	8
458.15625	do	8, 27
458.16250	do	2, 8
458.16875	do	8, 27
458.175	do	9, 22, 26
458.18125	do	9, 22, 26, 27
458.18750	do	2, 9, 22, 26
458.19375	do	9, 22, 26, 27
458.200	do	8
458.20625	do	8, 27
458.21250	do	2, 8
458.21875	do	8, 27
458.250	do	8
458.25625	do	8, 27
458.26250	do	2, 8
458.26875	do	8, 27
458.300	do	8
458.30625	do	8, 27
458.31250	do	2, 8
458.31875	do	8, 27
458.350	do	8
458.35625	do	8, 27
458.36250	do	2, 8
458.36875	do	8, 27
458.400	do	8
458.40625	do	8, 27
458.41250	do	2, 8
458.41875	do	8, 27
458.450	do	8
458.45625	do	8, 27
458.46250	do	2, 8
458.46875	do	8, 27
458.500	do	8
458.50625	do	8, 27
458.51250	do	2, 8
458.51875	do	8, 27
458.550	do	8
458.55625	do	8, 27
458.56250	do	2, 8
458.56875	do	8, 27
458.600	do	8
458.60625	do	8, 27
458.61250	do	2, 8
458.61875	do	8, 27
458.650	do	8
458.65625	do	8, 27
458.66250	do	2, 8
458.66875	do	8, 27
458.700	do	8
458.70625	do	8, 27
458.71250	do	2, 8
458.71875	do	8, 27
458.750	do	8

EMERGENCY MEDICAL RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
458.75625	.....do	8, 27
458.76250	.....do	2, 8
458.76875	.....do	8, 27
458.800	.....do	8
458.80625	.....do	8, 27
458.81250	.....do	2, 8
458.81875	.....do	8, 27
458.850	.....do	8
458.85625	.....do	8, 27
458.86250	.....do	2, 8
458.86875	.....do	8, 27
458.900	.....do	8
458.90625	.....do	8, 27
458.91250	.....do	2, 8
458.91875	.....do	8, 27
458.950	.....do	8
458.95625	.....do	8, 27
458.96250	.....do	2, 8
458.96875	.....do	8, 27
460.525	Base or mobile	10
460.53125	.....do	10, 27
460.53750	.....do	2, 10
460.54375	.....do	10, 27
460.550	.....do	10
460.55625	.....do	10, 27
460.56250	.....do	2, 10
460.56875	.....do	10, 27
462.950	.....do	3, 11
462.95625	.....do	3, 11, 27
462.96250	.....do	2, 3, 11
462.96875	.....do	3, 11, 27
462.975	.....do	3, 11
462.98125	.....do	3, 11, 27
462.98750	.....do	2, 3, 11
462.99375	.....do	3, 11, 27
463.000	.....do	9, 13, 20
463.00625	.....do	9, 13, 20, 27
463.01250	.....do	2, 9, 13, 20
463.01875	.....do	9, 13, 20, 27
463.025	.....do	9, 13, 20
463.03125	.....do	9, 13, 20, 27
463.03750	.....do	2, 9, 13, 20
463.04375	.....do	9, 13, 20, 27
463.050	.....do	9, 13, 20
463.05625	.....do	9, 13, 20, 27
463.06250	.....do	2, 9, 13, 20
463.06875	.....do	9, 13, 20, 27
463.075	.....do	9 ,13, 21
463.08125	.....do	9, 13, 21, 27
463.08750	.....do	2, 9, 13, 21
463.09375	.....do	9, 13, 21, 27
463.100	.....do	9, 13, 21
463.10625	.....do	9, 13, 21, 27
463.11250	.....do	2, 9, 13, 21
463.11875	.....do	9, 13, 21, 27
463.125	.....do	9, 13, 21
463.13125	.....do	9, 13, 21, 27
463.13750	.....do	2, 9, 13, 21
463.14375	.....do	9, 13, 21, 27
463.150	.....do	9, 13, 21
463.15625	.....do	9, 13, 21, 27
463.16250	.....do	2, 9, 13, 21
463.16875	.....do	9, 13, 21, 27
463.175	.....do	9, 13, 21
463.18125	.....do	9, 13, 21, 27
463.18750	.....do	2, 9, 13, 21
463.19375	.....do	9, 13, 21, 27
465.525	Mobile	10
465.53125	.....do	10, 27
465.53750	.....do	2, 10
465.54375	.....do	10, 27
465.550	.....do	10

EMERGENCY MEDICAL RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
465.55625	.....do	10, 27
465.56250	.....do	2, 10
465.56875	.....do	10, 27
467.950	.....do	3, 11
467.95625	.....do	3, 11, 27
467.96250	.....do	2, 3, 11
467.96875	.....do	3, 11, 27
467.975	.....do	3, 11
467.98125	.....do	3, 11, 27
467.98750	.....do	2, 3, 11
467.99375	.....do	3, 11, 27
468.000	.....do	9, 13, 20
468.00625	.....do	9, 13, 20, 27
468.01250	.....do	2, 9, 13, 20
468.01875	.....do	9, 13, 20, 27
468.025	.....do	9, 13, 20
468.03125	.....do	9, 13, 20, 27
468.03750	.....do	2, 9, 13, 20
468.04375	.....do	9, 13, 20, 27
468.050	.....do	9, 13, 20
468.05625	.....do	9, 13, 20, 27
468.06250	.....do	2, 9, 13, 20
468.06875	.....do	9, 13, 20, 27
468.075	.....do	9, 13, 21
468.08125	.....do	9, 13, 21, 27
468.08750	.....do	2, 9, 13, 21
468.09375	.....do	9, 13, 21, 27
468.100	.....do	9, 13, 21
468.10625	.....do	9, 13, 21, 27
468.11250	.....do	2, 9, 13, 21
468.11875	.....do	9, 13, 21, 27
468.125	.....do	9, 13, 21
468.13125	.....do	9, 13, 21, 27
468.13750	.....do	2, 9, 13, 21
468.14375	.....do	9, 13, 21, 27
468.150	.....do	9, 13, 21
468.15625	.....do	9, 13, 21, 27
468.16250	.....do	2, 9, 13, 21
468.16875	.....do	9, 13, 21, 27
468.175	.....do	9, 13, 21
468.18125	.....do	9, 13, 21, 27
468.18750	.....do	2, 9, 13, 21
468.19375	.....do	9, 13, 21, 27
470 to 512	Base or Mobile	14
806 to 824	Mobile	15
851 to 869	Base or Mobile	15
928 and above	Operational fixed	16
929 to 930	Base only	24
1427 to 1435	Operational fixed base or mobile	17
2450 to 2500	Base or Mobile	18
10,550 to 10,680	.....do	23

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) The frequencies available for use at operational-fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(2) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(3) A licensee regularly conducting two-way communications operations on this frequency may, on a secondary basis, also transmit one-way alert-paging signals to ambulance and rescue squad personnel.

(4) In addition to other authorized uses, the use of F1B, F1D, F2B or F2D

emission is permitted on this frequency for the operation of biomedical telemetry systems except in the following geographic locations:

(i) New York, N.Y.-Northeastern New Jersey; Los Angeles-Long Beach, Calif.; Chicago, Ill.-Northwestern Indiana; Philadelphia, Pa.-N.J.; Detroit, Mich.; San Francisco-Oakland, Calif.; Boston, Mass.; Washington, D.C.-Md.-Va.; Cleveland, Ohio; St. Louis, Mo.-Ill.; Pittsburgh, Pa.; Minneapolis-St. Paul, Minn.; Houston, Tex.; Baltimore, Md.; Dallas, Tex.; Milwaukee, Wis.; Seattle-Everett, Wash.; Miami, Fla.; San Diego, Calif.; Atlanta, Ga.; Cincinnati, Ohio-Ky.; Kansas City, Mo.-Kans.; Buffalo, N.Y.; Denver, Colo.; San Jose, Calif.; New Orleans, La.; Phoenix, Ariz.; Portland, Oreg.-Wash.; Indianapolis, Ind.; Providence-Pawtucket-Warwick, R.I.-Mass.; Columbus, Ohio; San Antonio, Tex.; Louisville, Ky.-Ind.; Dayton, Ohio; Forth Worth, Tex.; Norfolk-Portsmouth, Va.; Memphis, Tenn.-Miss.; Sacramento, Calif.; Fort Lauderdale-Hollywood, Fla.; Rochester, N.Y.; Tampa-St. Petersburg, Fla.

(ii) The continuous carrier mode of operation may be used for telemetry transmissions on this frequency for periods up to two-minutes duration; following which there must be a break in the carrier for at least a one-minute period.

(iii) Geographical coordinates for the above-listed urbanized areas may be found at table 1 of § 90.635.

(5) This frequency may be designated by common consent as an intersystem mutual assistance frequency under an area-wide medical communications plan.

(6) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of § 90.265.

(7) The frequencies available for use at fixed stations in this band and the requirements for assignment are set forth in § 90.261. Operation on these frequencies is secondary to stations in the Industrial and Land Transportation Radio Service where they are assigned for land mobile operations.

(8) This frequency is available in this service on a shared basis with all other Public-Safety Radio Services.

(9) The continuous carrier mode of operation may be used for telemetry transmission on this frequency.

(10) This frequency is shared with the Police and Fire Radio Services. This frequency may be designated by common consent for intra-system and inter-system mutual assistance purposes and is subject to the coordination requirements specified in § 90.175.

(11) This frequency is primarily authorized for use in the dispatch of medical care vehicles and personnel for the rendition or delivery of medical services. This frequency may also be assigned for intra-system and inter-system mutual assistance purposes. For uniformity in usage these frequency pairs may be referred to by channel name as follows:

Frequencies base and mobile (Megahertz)	Mobile only (MHz)	Channel name
462.950	467.950	MED–9
462.95625	467.95625	
462.9625	467.9625	
462.96875	467.96875	
462.975	467.975	MED–10
462.98125	467.98125	
462.9875	467.9875	
462.99375	467.99375	

(12) [Reserved]

(13) For applications for new radio systems received after August 15, 1974, the thirty-two frequency pairs listed in paragraph (c)(13)(i) of this section will be assigned in a block for shared operation under § 90.27(a) subject to the following:

(i) For uniformity in usage, these frequency pairs may be referred to by channel name as follows:

Frequencies base and mobile (Megahertz)	Mobile only (MHz)	Channel name
463.000	468.000	MED–1
463.00625	468.00625	MED–A
463.0125	468.0125	MED–B
463.01875	468.01875	MED–C
463.025	468.025	MED–2
463.03125	468.03125	MED–D
463.0375	468.0375	MED–E
463.04375	468.04375	MED–F
463.050	468.050	MED–3
463.05625	468.05625	MED–G
463.0625	468.0625	MED–H
463.06875	468.06875	MED–I
46.075	46.075	MED–4
463.08125	468.08125	MED–J
463.0875	468.0875	MED–K
463.09375	468.09375	MED–L
463.100	468.100	MED–5

Frequencies base and mobile (Megahertz)	Mobile only (MHz)	Channel name
463.10625	468.10625	MED–M
463.1125	468.1125	MED–N
463.11875	468.11875	MED–O
463.125	468.125	MED–6
463.13125	468.13125	MED–P
463.1375	468.1375	MED–Q
463.14375	468.14375	MED–R
463.150	468.150	MED–7
463.15625	468.15625	MED–S
463.1625	468.1625	MED–T
463.16875	468.16875	MED–U
463.175	468.175	MED–8
463.18125	468.18125	MED–V
463.1875	468.1875	MED–W
463.19375	468.19375	MED–X

(ii) Except as provided in paragraphs (c)(13) (iii) and (iv) of this section, mobile or portable stations must employ equipment that is both wired and equipped to transmit/receive, respectively, on each of these

MED frequency pairs with transmitters operated on the 468 MHz frequencies.

(iii) Portable (hand-held) units operated with a maximum output power of 2.5 watts are exempted from the multchannel equipment requirements specified in paragraph (c)(13)(ii) in this section.

(iv) Stations located in areas above line A, as defined in § 90.7 will be required to meet multi-channel equipment requirements only for those frequencies up to the number specified in paragraph (c)(13)(ii) of this section that have been assigned and coordinated with Canada in accordance with the applicable U.S.-Canada agreement.

(14) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(15) Subpart S contains rules for assignment of frequencies in the 806–824 MHz and 851–869 MHz bands.

(16) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(17) This frequency band is available in this service subject to the provisions of § 90.259.

(18) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modifications to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radio-determination Satellite Service.

(19) Paging licensees as of March 20, 1991, may continue to operate on a primary basis until January 14, 1998.

(20) This frequency is authorized for use only for operations in biomedical telemetry stations. F1B, F1D, F2B, F2D, F3E, G1B, G1D, G2B, G2D and G3E emissions may be authorized. Entities eligible in this Radio Service may use this frequency on a secondary basis for any other permissible communications consistent with § 90.27(a).

(21) This frequency is authorized only for communications between medical facilities vehicles and personnel related to medical supervision and instruction for the treatment and transport of patients in the rendition or delivery of medical services. F1B, F1D, F2B, F2D, G1B, G1D, G2B, F3E and G3E emissions are authorized. Entities eligible in this Radio Service may use this frequency on a secondary basis for any other permissible communications consistent with § 90.27(a).

(22) Local government highway radio call box operations first licensed prior to 3/31/80 on this frequency may continue to operate in accordance with § 90.17(c)(11).

(23) This band is available for Digital Termination Systems and for associated internodal links under part 94 of this chapter. No new licenses will be issued under this subpart but current licenses will be renewed.

(24) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(25) Rules concerning the use of this frequency are set forth in subpart T.

(26) This frequency is also authorized for use for operations in biomedical telemetry stations. FIB, FID, F2B, F2D, F3E, G1B, G1D, G2B, G2D, and G3E emissions may be authorized for biomedical transmissions.

(27) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned

with an authorized bandwidth not to exceed 6 kHz.

(28) Assignment of frequencies in this band are subject to the provisions of §90.173.

[58 FR 12178, Mar. 3, 1993, as amended at 60 FR 37188, July 19, 1995; 61 FR 6576, Feb. 21, 1996]

Subpart C—Special Emergency Radio Service

§90.33 Scope.

The Special Emergency Radio Service (SERS) covers the licensing of the radio communications of the following categories of activities: medical services, rescue organizations, veterinarians, handicapped persons, disaster relief organizations, school buses, beach patrols, establishments in isolated places, communications standby facilities, and emergency repair of public communications facilities. Entities not meeting these eligibility criteria may also be licensed in the SERS solely to provide service to SERS eligibles on one-way paging-only frequencies below 800 MHz, *i.e.*, those frequencies with the assignment limitations appearing at §90.53(b)(4) or (26). Private carrier systems licensed on other SERS channels prior to June 1, 1990, may continue to operate on those channels solely to provide radio communications service to SERS eligibles. Rules as to eligibility for licensing, permissible communications and classes and number of stations, and any special requirements as to each of these categories are set forth in the following sections. Frequencies available for these categories of services are shown in a separate frequency table.

[55 FR 24896, June 19, 1990]

§90.34 Public Safety National Plan.

The Commission has established a National Plan which specifies special policies and procedures governing the Public Safety Radio Services and the Special Emergency Radio Service. The National Plan is contained in the *Report and Order* in General Docket No. 87–112. The principal spectrum resource for the National Plan is the 821–824 MHz and the 866–869 MHz bands. The National plan establishes planning regions covering all parts of the United States, Puerto Rico, and the U.S. Virgin Islands. No assignments will be made in the 821–824 MHz and 866–869 MHz bands until a regional plan for the area has been accepted by the Commission.

[53 FR 1024, Jan. 15, 1988]

§90.35 Medical services.

(a) *Eligibility*. The following persons are eligible to hold authorization to operate radio stations for the delivery or rendition of medical services to the public and on a secondary basis, for transmission of messages related to the efficient administration of organizations and facilities engaged in medical services operations.

(1) Hospital establishments that offer services, facilities, and beds for use beyond 24 hours in rendering medical treatment.

(2) Institutions and organizations regularly engaged in providing medical services through clinics, public health facilities, and similar establishments.

(3) Ambulance companies regularly engaged in providing medical ambulance services.

(4) Rescue organizations for the limited purpose of participation in providing medical services.

(5) Associations comprised of two or more of the organizations eligible under paragraphs (a)(1), (2), (3), and (4) of this section, for the purpose of active participation in and direct operational control of the medical services communication activities of such organizations.

(6) Physicians, schools of medicine, oral surgeons, and associations of physicians or oral surgeons.

(7) Governmental entities and governmental agencies for their own medical activities.

(8) Governmental entities and governmental agencies for providing medical services communications to other eligible persons through direct participation in and direct operational control of the system, such as through central dispatch service.

(b) [Reserved]

[43 FR 54791, Nov. 22, 1978, as amended at 47 FR 19538, May 6, 1982; 48 FR 9272, Mar. 4, 1983; 48 FR 26620, June 9, 1983; 49 FR 36376, Sept. 17, 1984]

§ 90.37 Rescue organizations.

(a) *Eligibility.* Persons or organizations operating a rescue squad are eligible to hold authorizations to operate radio stations for transmission of messages pertaining to the safety of life or property and urgent messages necessary for the rendition of an efficient emergency rescue service.

(b) *Class and number of stations available.* Each rescue squad will normally be authorized to operate one base station, and a number of mobile units (excluding hand carried mobile units) not exceeding the number of vehicles actually used in emergency rescue operations. In addition, each rescue squad will be authorized to operate a number of hand carried mobile units not exceeding two such units for each radio equipped vehicle actually used in emergency rescue operations.

[43 FR 54791, Nov. 22, 1978; 45 FR 43418, June 27, 1980]

§ 90.38 Physically handicapped.

(a) *Eligibility.* (1) Any person having a hearing deficiency such that average hearing threshold levels are 90 dB above ANSI (American National Standards Institute) 1969 or ISO (International Standards Organization) 1964 levels and such other persons who submit medical certification of similar hearing deficiency.

(2) Any person having visual acuity corrected to no better than 20/200 in the better eye or having a field of vision of less than 20 degrees.

(3) Any person, who, through loss of limbs or motor function, is confined to a wheelchair, or is nonambulatory.

(4) Any person actively awaiting an organ transplant.

(5) Parents or guardians of persons under 18 years eligible under (1), (2), (3), or institutions devoted to the care or training of those persons.

(b) *Special eligibility showing.* The initial application from a person claiming eligibility under paragraph (a) shall be accompanied by a statement from a physician attesting to the condition of the applicant or the applicant's child (or ward in case of guardianship).

[46 FR 15276, Mar. 5, 1981, as amended at 57 FR 45751, Oct. 5, 1992]

§ 90.39 Veterinarians.

(a) *Eligibility.* A veterinarian, veterinary clinic, or a school of veterinary medicine is eligible to hold authorizations to operate radio stations for the transmission of messages pertaining to the care and treatment of animals.

(b) *Class and number of stations available.* Each licensee may be authorized to operate one base station and two mobile units. Additional base stations or mobile units will be authorized only on a showing of need.

§ 90.41 Disaster relief organizations.

(a) *Eligibility.* Organizations established for disaster relief purposes having an emergency radio communications plan are eligible to hold authorizations to operate radio stations for the transmission of communications relating to the safety of life or property, the establishment and maintenance of temporary relief facilities, and the alleviation of the emergency situation during periods of actual or impending emergency, or disaster, and until substantially normal conditions are restored.

(b) *Special eligibility showing.* The initial application from a disaster relief organization shall be accompanied by a copy of the charter or other authority under which the organization was established and a copy of its communications plan. The plan shall fully describe the operation of the radio facilities and describe the method of intergration into other communications facilities which normally would be available to assist in the alleviation of the emergency condition.

[43 FR 54791, Nov. 22, 1978, as amended at 48 FR 9272, Mar. 4, 1983]

§ 90.43 School buses.

(a) *Eligibility.* Persons or organizations operating school buses on a regular basis over regular routes are eligible to hold authorizations to operate radio stations for the transmission of messages pertaining to either the efficient operation of the school bus service or the safety or general welfare of the students they are engaged in transporting.

(b) *Class and number of stations available.* Each school bus operator may be

authorized to operate one base station and a number of mobile units not in excess of the total of the number of buses and maintenance vehicles regularly engaged in the school bus operation. Additional base stations or mobile units will be authorized only in exceptional circumstances when the applicant can show a specific need.

§90.45 Beach Patrols.

(a) *Eligibility*. Persons or organizations operating beach patrols having responsibility for life-saving activities are eligible to hold authorizations to operate radio stations for the transmission of messages required for the safety of life or property.

[43 FR 54791, Nov. 22, 1978, as amended at 48 FR 9272, Mar. 4, 1983]

§90.47 Establishment in isolated areas.

(a) *Eligibility*. Persons or organizations maintaining establishment in isolated areas where public communications facilities are not available and where the use of radio is the only feasible means of establishing communication with a center of population, or other point from which emergency assistance might be obtained if needed, are eligible to hold authorizations to operate radio stations for the transmission of messages only during an actual or impending emergency endangering life, health or property for the transmission of essential communications arising from the emergency. The transmission of routine or non-emergency communications is strictly prohibited.

(b) *Special eligibility showing*. The initial application requesting a station authorization for an establishment in an isolated area shall be accompanied by a statement describing the status of public communication facilities in the area of the applicant's establishment; the results of any attempts the applicant may have made to obtain public communication service, and; in the event radio communications service is to be furnished under subparagraph (d)(2) of this section, a copy of the agreement involved must be submitted.

(c) *Class and number of stations available*. Persons or organizations in this category may be authorized to operate not more than one fixed station at any isolated establishment and not more than one fixed station in a center of population.

(d) *Communication service rendered and received*. (1) The licensee of a station at any establishment in an isolated area shall make the communication facilities of such station available at no charge to any person desiring the transmission of any communication permitted by paragraph (a) of this section.

(2) For the purpose of providing the communications link desired the licensee of a station at an establishment in an isolated area either may be the licensee of a similar station at another location or may obtain communication service under a mutual agreement from the licensee of any station in the Public Safety or Special Emergency Radio Services or any other station which is authorized to communicate with the special emergency fixed station.

§90.49 Communications standby facilities.

(a) *Eligibility*. A communications common carrier operating communications circuits that normally carry essential communication of such a nature that their disruption would endanger life or public property is eligible to hold authorizations for standby radio facilities for the transmission of messages only during periods when the normal circuits are inoperative due to circumstances beyond the control of the user. During such periods the radio facilities may be used to transmit any communication which would be carried by the regular circuit.

(b) *Special eligibility showing*. Initial applications for authorization to operate a standby radio facility must include a statement describing radio communication facilities desired, the proposed method of operation, a description of the messages normally being carried, and an explanation of how their disruption will endanger life or public property.

[43 FR 54791, Nov. 22, 1978, as amended at 48 FR 9272, Mar. 4, 1983]

§90.51 Emergency repair of public communications facilities.

(a) *Eligibility*. Communications common carriers are eligible in this service

for radio facilities to be used in effecting expeditious repairs to interruption of public communications facilities where such interruptions have resulted in disabling intercity circuits or service to a multiplicity of subscribers in a general area. Stations authorized under this section may be used only when no other means of communication is readily available, for the transmission of messages relating to the safety of life and property and messages which are necessary for the efficient restoration of the public communication facilities which have been disrupted.

(b) [Reserved]

[43 FR 54791, Nov. 22, 1978, as amended at 48 FR 9272, Mar. 4, 1983]

§ 90.53 Frequencies available.

(a) The following table indicates frequencies available for assignment to stations in the Special Emergency Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (b) of this section. (Frequencies below 450 MHz indicated for base or mobile stations may be authorized to fixed stations on a secondary basis to stations in the mobile service):

SPECIAL EMERGENCY SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Kilohertz:		
2000–3000	Fixed	
2726	Base or mobile	2
3201	.....do	
Megahertz:		
33.02	.....do	3, 25
33.04	.....do	25
33.06	.....do	3, 25
33.08	.....do	25
33.10	.....do	3, 25
35.02	Mobile	27
35.64	Base	4
35.68	.....do	4
37.90	Base or mobile	3, 25
37.94	.....do	3, 25
37.98	.....do	3, 25
43.64	Base	4, 28
43.68	.....do	4
45.92	Base or mobile	25
45.96	.....do	25
46.00	.....do	25
46.04	.....do	25
47.42	.....do	5, 25
47.46	.....do	25
47.50	.....do	25
47.54	.....do	25
47.58	.....do	25
47.62	.....do	25
47.66	.....do	25
72.00 to 76.00	Operational fixed	6
150 to 170	Base or mobile	36
152.0075	Base	4, 31, 37
155.160	Base or mobile	25
155.1675	.....do	25, 30
155.175	.....do	25
155.1825	.....do	25, 30
155.205	.....do	25
155.2125	.....do	25, 30
155.220	.....do	25
155.2275	.....do	25, 30
155.235	.....do	25
155.2425	.....do	25, 30
155.265	.....do	25
155.2725	.....do	25, 30
155.280	.....do	25
155.2875	.....do	25, 30
155.295	.....do	25
155.3025	.....do	25, 30
157.450	.....do	4, 11, 37

SPECIAL EMERGENCY SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
163.250	.....do	4, 37
169–172	Mobile	33
450–470	Fixed, base, or mobile	12, 36
453.0125	Mobile	38
453.025	Base	26
453.03125	.....do	26, 35
453.03750	.....do	26, 30
453.04375	.....do	26, 35
453.075	.....do	26
453.08125	.....do	26, 35
453.08750	.....do	26, 30
453.09375	.....do	26, 35
453.125	.....do	26
453.13125	.....do	26, 35
453.13750	.....do	26, 30
453.14375	.....do	26, 35
453.175	.....do	26
453.18125	.....do	26, 35
453.18750	.....do	26, 30
453.19375	.....do	26, 35
458.0375	Mobile	38
458.0625	.....do	38
458.0875	.....do	38
458.1125	.....do	38
458.1375	.....do	38
458.1625	.....do	38
458.1875	.....do	38
460.5125	.....do	38
460.5375	.....do	38
460.5625	.....do	38
462.9375	.....do	38
462.9625	.....do	38
462.9875	.....do	38
462.0125	.....do	38
462.0375	.....do	38
462.0625	.....do	38
462.0875	.....do	38
462.1125	.....do	38
462.1375	.....do	38
462.1625	.....do	38
462.1775	.....do	38
465.5125	.....do	38
465.5375	.....do	38
465.5625	.....do	38
467.9375	.....do	38
467.9625	.....do	38
467.9875	.....do	38
467.0125	.....do	38
467.0375	.....do	38
467.0625	.....do	38
467.0875	.....do	38
467.1125	.....do	38
467.1375	.....do	38
467.1625	.....do	38
467.1875	.....do	38
806 to 824	Mobile	21
851 to 869	Base or mobile	21
928 and above	Operational fixed	22
929 to 930	Base only	7
1427 to 1435	Operational fixed, base or mobile	23
2450 to 2500	Base or mobile	24
10,550 to 10,680	.....do	9

(b) Explanation of assignment limitations appearing in the frequency table of paragraph (a) of this section:

(1) Appropriate frequencies in the band 2000–3000 kHz which are designated in part 80 of this chapter as available to Public Ship Stations for telephone communications with Public Coast Stations may be assigned on a secondary basis to Special Emergency

fixed Stations for communication with Public Coast Stations only, provided such stations are located in the United States and the following conditions are met:

(i) That such fixed station is established pursuant to the eligibility provisions of § 90.47 and that the isolated area involved is an island or other location not more than 480 km (300 statute miles) removed from the desired point of communication and isolated from that point by water.

(ii) That evidence is submitted showing that an arrangement has been made with the coast station licensee for the handling of emergency communications permitted by §§ 80.453 and 90.47(d) of this chapter.

(iii) That operation of the Special Emergency fixed station shall at no time conflict with any provision of part 80 of this chapter and further, that such operation in general shall conform to the practices employed by Public Ship Stations for radiotelephone communication with the same Public Coast Station.

(2) This frequency is shared with the Local Government Radio Service where it is available for State Guard operations.

(3) This frequency is shared with the Highway Maintenance Radio Service.

(4) This frequency will be assigned only for one-way paging communications to mobile receivers. Transmissions for the purpose of activating or controlling remote objects on this frequency are not authorized.

(5) Thus frequency is reserved for assignment only to national organizations eligible for disaster relief operations under § 90.41.

(6) The frequencies available for use at operational-fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(7) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(8) [Reserved]

(9) The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated intermodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(10) [Reserved]

(11) Operations on this frequency are limited to 30 watts transmitter output power.

(12) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(13)–(20) [Reserved]

(21) Subpart S contains rules for assignment of frequencies in the 806–824 MHz and 851–869 MHz bands.

(22) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(23) This frequency band is available in this service subject to the provisions of § 90.259.

(24) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to the existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(25) A licensee regularly conducting two-way communication operations on this frequency may, on a secondary basis, also transmit one-way alert-paging signals to ambulance and rescue squad personnel.

(26) Paging licensees as of March 20, 1991, may continue to operate on a primary basis until January 14, 1998.

(27) This frequency is available in this service only to persons eligible under the provisions of § 90.38(a) for operation of transmitters having a maximum power output of three watts using A1A, A1D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B, or G2D emission. This frequency is also available in the Business Radio Service on a co-equal basis with the Special Emergency Radio Service users.

(28) No new licenses will be granted for one-way paging under § 90.487 for use on this frequency after August 1,

1980. This frequency is available to persons eligible for station licenses under the provisions of § 90.38(a) on a co-equal basis with one-way paging users under § 90.487 prior to August 1, 1985, and on a primary basis after August 1, 1985. Only A1A, A1D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B, G2D emissions and power not exceeding 10 watts will be authorized. Antennas having gain greater than 0 dBd will not be authorized. Transmissions shall not exceed two seconds duration.

(29) [Reserved]

(30) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(31) This frequency is removed by 22.5 kHz from frequencies assigned to other radio services. Utilization of this frequency may result in, as well as be subject to, interference under certain operating conditions. In considering the use of this frequency, adjacent channel operations should be taken into consideration. If interference occurs, the licensee may be required to take the necessary steps to resolve the problem. See § 90.173(b).

(32) [Reserved]

(33) Frequencies in this band will be assigned for low power wireless microphones in accordance with provisions of § 90.265.

(34) [Reserved]

(35) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(36) Assignment of frequencies in this band are subject to the provisions of § 90.173.

(37) This frequency will be authorized a channel bandwidth of 25 kHz.

(38) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(c) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service. (See also § 90.253).

(1) Substitution of frequencies available below 25 MHz may be made in accordance with the provisions of § 90.263.

(2) [Reserved]

(3) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(4) The frequency bands 31.99 to 32.00 MHz, 33.00 to 33.01 MHz, 33.99 to 34.00 MHz, 37.93 to 38.00 MHz, 39.00 to 39.01 MHz, 39.99 to 40.00 MHz and 42.00 to 42.01 MHz are available for assignment for developmental operation subject to the provisions of subpart Q.

(5) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(d) *Limitation on number of frequencies assignable.* Normally only one frequency below 450 MHz will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with the operation of mobile repeaters in accordance with § 90.247, notwithstanding this limitation.

(2) An additional frequency may be assigned for paging operations from those frequencies available under § 90.53(b)(4).

(3) The frequency 155.340 MHz may be assigned as an additional frequency when it is designated as a mutual assistance frequency as provided in § 90.53(b)(10).

(4) Additional frequencies may be assigned for fixed station operations.

(5) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with

the provisions of subpart M of this part, notwithstanding this limitation.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307; secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.53, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 90.55 Paging operations.

Paging operations may be authorized in this service only on frequencies assigned under the provisions of §90.53(b)(4), (7), (25) and (26). Paging operations on other frequencies authorized before August 15, 1974, may be continued only if they do not cause harmful interference to regular operations on the same frequencies. Such paging operations may be renewed indefinitely on a secondary basis to regular operations, except within 125 kilometers (75 mi.) of the following urbanized areas:

Urbanized area	North latitude	West longitude
New York, NY-Northeastern NJ	40–45–06	73–59–39
Los Angeles-Long Beach, CA	34–03–15	118–14–28
Chicago, IL	41–52–28	87–38–22
Philadelphia, PA-NJ	39–56–58	75–09–21
Detroit, MI	42–19–48	83–02–57
San Francisco-Oakland, CA	37–46–39	122–24–40
Boston, MA	42–21–24	71–03–25
Washington, DC-MD-VA	38–53–51	77–00–33
Cleveland, OH	41–29–51	81–41–50
St. Louis, MO-IL	38–37–45	90–12–22
Pittsburgh, PA	40–26–19	80–00–00
Minneapolis-St. Paul, MN	44–58–57	93–15–43
Houston, TX	29–45–26	95–21–37
Baltimore, MD	39–17–26	76–36–45
Dallas, TX	32–47–09	96–47–37
Milwaukee, WI	43–02–19	87–54–15
Seattle-Everett, WA	47–36–32	122–20–12
Miami, FL	25–46–37	80–11–32
San Diego, CA	32–42–53	117–09–21
Atlanta, GA	33–45–10	84–23–37
Cincinnati, OH-KY	39–06–07	84–30–35
Kansas City, MO-KS	39–04–56	94–35–20
Buffalo, NY	42–52–52	78–52–21
Denver, CO	39–44–58	104–59–22
San Jose, CA	37–20–16	121–53–24
Tampa-St. Petersburg, FL	27–51–48	82–33–11
Phoenix, AZ	33–41–10	111–31–15

[45 FR 13087, Feb. 28, 1980; 45 FR 43418, June 27, 1980, as amended at 50 FR 39678, Sept. 30, 1985; 50 FR 40976, Oct. 8, 1985; 58 FR 12181, Mar. 3, 1993]

Subpart D—Industrial Radio Services

§ 90.59 Scope.

The Industrial Radio Services include the Power, Petroleum, Forest Products, Film and Video Production, Relay Press, Special Industrial, Business, Manufacturers, and Telephone Maintenance Radio Services. Rules as to eligibility for licensing, specific frequencies available, and any special requirements as to each of these radio services are set forth in the following sections.

[43 FR 54791, Nov. 22, 1978, as amended at 58 FR 31476, June 3, 1993]

§ 90.61 General eligibility.

(a) In addition to the eligibility shown in each Industrial Radio Service, eligibility is also provided for any corporation proposing to furnish nonprofit radiocommunication service to its parent corporation, to another subsidiary of the same parent, or to its own subsidiary provided the party served is regularly engaged in any of the eligibility activities set forth in the particular service involved. This corporate eligibility is not subject to the cooperative use provisions of §90.179.

(b) Eligibility is also provided for a nonprofit corporation or association that is organized for the purpose of furnishing a radio communications service to persons actually engaged in any of the eligibility activities set forth in the particular service involved. Such use is subject to the cooperative use provisions of §90.179.

[47 FR 19533, May 6, 1982]

§ 90.63 Power Radio Service.

(a) *Eligibility*. Persons primarily engaged in any of the following activities are eligible to hold authorizations in the Power Radio Service to operate radio stations for transmission of communications essential to such activities of the licensee:

(1) The generation, transmission, or distribution of electrical energy for use by the general public or by the members of a cooperative organization.

(2) The distribution of manufactured or natural gas by means of pipe line,

for use by the general public or by the members of a cooperative organization, or, in a combination of that activity with the production, transmission or storage of manufactured or natural gas preparatory to such distribution.

(3) The distribution of steam by means of pipeline or, of water by means of pipeline, canal, or open ditch, for use by the general public or by the members of a cooperative organization, or in a combination of that activity with the collection, transmission, storage, or purification of water or the generation of steam preparatory to such distribution.

(4) The providing of a supporting service by a corporation directly related to activities of its parent corporation, of another subsidiary of the same parent, or of its own subsidiary, where the party served is regularly engaged in any of the eligibility activities set forth in this section.

(b) *Special use of service.* (1) Radio facilities licensed to an electric power entity, in addition to being used primarily for the installation and maintenance of the electric power system, may also be used for the installation and maintenance of any other wireline facilities where such facilities employ in whole or in part the same pole line or duct distribution system as that of the electric power entity and where the licensee has the responsibility to maintain such additional wireline facilities through common ownership or contractual arrangement.

(2) Persons licensed under the provisions of paragraph (a)(2) of this section may utilize their radio facilities in conjunction with the supplying of liquefied petroleum gas to consumers in areas beyond gas distribution pipelines.

(c) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Power Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (d) of this section:

POWER RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Kilohertz:		
2000 to 25,000	Fixed, base or mobile	1
2292	Base or mobile	1
2398	.....do	1
4637.5	.....do	1
Megahertz:		
37.46	.....do	
37.48	.....do	
37.50	.....do	
37.52	.....do	
37.54	.....do	
37.56	.....do	
37.58	.....do	
37.60	Base, mobile or operational fixed	2
37.62	Base or mobile	
37.64	.....do	
37.66	.....do	
37.68	.....do	
37.70	.....do	
37.72	.....do	
37.74	.....do	
37.76	.....do	
37.78	.....do	
37.80	.....do	
37.82	.....do	
37.84	Operational fixed, base or mobile	2
37.86	Base or mobile	
47.70	.....do	
47.72	.....do	
47.74	.....do	
47.76	.....do	
47.78	.....do	
47.80	.....do	
47.82	.....do	
47.84	.....do	
47.86	.....do	
47.88	.....do	

POWER RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
47.90	.....do	
47.92	.....do	
47.94	.....do	
47.96	.....do	
47.98	.....do	
48.00	.....do	
48.02	.....do	
48.04	.....do	
48.06	.....do	
48.08	.....do	
48.10	.....do	
48.12	.....do	
48.14	.....do	
48.16	.....do	
48.18	.....do	
48.20	.....do	
48.22	.....do	
48.24	.....do	
48.26	.....do	
48.28	.....do	
48.30	.....do	
48.32	.....do	
48.34	.....do	
48.36	.....do	
48.38	.....do	
48.40	.....do	
48.42	.....do	
48.44	.....do	
48.46	.....do	
48.48	.....do	
48.50	.....do	
48.52	.....do	
48.54	.....do	
72.00 to 76.00	Operational fixed	3
74.61	Mobile	27
74.63	.....do	27
74.65	.....do	27
74.67	.....do	27
74.69	.....do	27
74.71	.....do	27
74.73	.....do	27
74.75	.....do	27
74.77	.....do	27
74.79	.....do	27
75.21	.....do	27
75.23	.....do	27
75.25	.....do	27
75.27	.....do	27
75.29	.....do	27
75.31	.....do	27
75.33	.....do	27
75.35	.....do	27
75.37	.....do	27
75.39	.....do	27
150 to 170	Base or mobile	29
153.410	.....do	
153.4175	.....do	24
153.425	.....do	4
153.4325	.....do	4, 24
153.440	.....do	5
153.4475	.....do	5, 24
153.455	.....do	4
153.4625	.....do	4, 24
153.470	.....do	
153.4775	.....do	24
153.485	.....do	4
153.4925	.....do	4, 24
153.500	.....do	5
153.5075	.....do	5, 24
153.515	.....do	4
153.5225	.....do	4, 24
153.530	.....do	

POWER RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
153.5375	.....do	24
153.545	.....do	4
153.5525	.....do	4, 24
153.560	.....do	5
153.5675	.....do	5, 24
153.575	.....do	4
153.5825	.....do	4, 24
153.590	.....do	
153.5975	.....do	24
153.605	.....do	4
153.6125	.....do	4, 24
153.620	.....do	5
153.6275	.....do	5, 24
153.635	.....do	4
153.6425	.....do	4, 24
153.650	.....do	
153.6575	.....do	24
153.665	.....do	4
153.6725	.....do	4, 24
153.680	.....do	5
153.6875	.....do	5, 24
153.695	.....do	
153.7025	.....do	24
153.710	.....do	
153.7175	.....do	24
153.725	.....do	
153.7325	.....do	24
154.45625	Fixed or mobile	7, 21, 22, 23
154.46375	.....do	6, 7, 21
154.47125	.....do	7, 11, 21, 22
154.47875	.....do	7, 21, 22, 23
158.1225	Base or mobile	28
158.130	.....do	
158.1375	.....do	24
158.145	.....do	8
158.1525	.....do	8, 24
158.160	.....do	9
158.1675	.....do	9, 24
158.175	.....do	8
158.1825	.....do	8, 24
158.190	.....do	
158.1975	.....do	24
158.205	.....do	8, 24
158.2125	.....do	8
158.220	.....do	9, 24
158.2275	.....do	9
158.235	.....do	8, 24
158.2425	.....do	8
158.250	.....do	
158.2575	.....do	24
158.265	.....do	8
158.2725	.....do	8, 24
169–172	Mobile, operational fixed	10
173.20375	Fixed or mobile	7, 11, 21, 22
173.2100	.....do	11, 12, 21, 22
173.2375	.....do	7, 21, 22, 23
173.250	Base or mobile	9
173.2625	Fixed or mobile	7, 21, 22, 23
173.2875	.....do	7, 21, 22, 23
173.300	Base or mobile	9
173.3125	Fixed or mobile	7, 21, 22, 23
173.3375	.....do	7, 21, 22, 23
173.350	Base or mobile	9
173.3625	Fixed or mobile	7, 21, 22, 23
173.3900	.....do	11, 12, 21, 22
173.39625	.....do	7, 11, 21, 22
216–220	Base and mobile	13
220–222	Base and mobile	26
406–413	Operational fixed	10
450–470	Fixed, base, or mobile	14, 29
451.01875	Base or mobile	28
451.025	.....do	

POWER RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
451.03125	do	28
451.03750	do	24
451.04375	do	28
451.050	do	
451.05625	do	28
451.06250	do	24
451.06875	do	28
451.075	do	
451.08125	do	28
451.08750	do	24
451.09375	do	28
451.100	do	
451.10625	do	28
451.11250	do	24
451.11875	do	28
451.125	do	
451.13125	do	28
451.13750	do	24
451.14375	do	28
451.150	do	
451.15625	do	28
451.16250	do	24
451.16875	do	28
451.175	do	15
451.18125	do	15, 28
451.18750	do	15, 24
451.19375	do	15, 28
451.200	do	
451.20625	do	28
451.21250	do	24
451.21875	do	28
451.225	do	15
451.23125	do	15, 28
451.23750	do	15, 24
451.24375	do	15, 28
451.250	do	
451.25625	do	28
451.26250	do	24
451.26875	do	28
451.275	do	15
451.28125	do	15, 28
451.28750	do	15, 24
451.29375	do	15, 28
451.3625	Mobile	30
451.375	Base and mobile	15
451.38125	do	28
451.38750	do	24
.		
451.39375	do	28
451.4125	Mobile	30
451.425	Base or mobile	15
451.431251	do	15, 28
451.43750	do	15, 24
451.44375	do	15, 28
451.4625	Mobile	30
451.475	Base or mobile	15
451.48125	do	28
451.48750	do	24
451.49375	do	28
451.5125	Mobile	30
451.525	Base or mobile	15
451.53125	do	15, 28
451.53750	do	15, 24
451.54375	do	15, 28
451.5625	Mobile	30
451.575	Base or mobile	15
451.58125	do	15, 28
451.58750	do	15, 24
451.59375	do	15, 28
451.6125	Mobile	30
451.625	Base or mobile	15
451.63125	do	15, 28

POWER RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
451.63750	.....do	15, 24
451.64375	.....do	15, 28
451.6625	Mobile	30
451.675	Base or mobile	15
451.68125	.....do	15, 28
451.68750	.....do	15, 24
451.69375	.....do	15, 28
456.01875	.....do	28
456.025	Mobile	
456.03125	.....do	28
456.03750	.....do	24
456.04375	.....do	28
456.050	.....do	
456.05625	.....do	28
456.06250	.....do	24
456.06875	.....do	28
456.075	.....do	
456.08125	.....do	28
456.08750	.....do	24
456.09375	.....do	28
456.100	.....do	
456.10625	.....do	28
456.11250	.....do	24
456.11875	.....do	28
456.125	.....do	
456.13125	.....do	28
456.13750	.....do	24
456.14375	.....do	28
456.150	.....do	
456.15625	.....do	28
456.16250	.....do	24
456.16875	.....do	28
456.175	.....do	15
456.18125	.....do	15, 28
456.18750	.....do	15, 24
456.19375	.....do	15, 28
456.200	.....do	
456.20625	.....do	28
456.21250	.....do	24
456.21875	.....do	28
456.225	.....do	15
456.23125	.....do	15, 28
456.23750	.....do	15, 24
456.24375	.....do	15, 28
456.250	.....do	
456.25625	.....do	28
456.26250	.....do	24
456.26875	.....do	28
456.275	.....do	15
456.28125	.....do	15, 28
456.28750	.....do	15, 24
456.29375	.....do	15, 28
456.3625	Mobile	30
456.375	.....do	15
456.38125	.....do	15, 28
456.38750	.....do	15, 24
456.39375	.....do	15, 28
456.4125	.....do	30
456.425	.....do	15
456.43125	.....do	15, 28
456.43750	.....do	15, 24
456.44375	.....do	15, 28
456.4625	.....do	30
456.475	.....do	15
456.48125	.....do	15, 28
456.48750	.....do	15, 24
456.49375	.....do	15, 28
456.5125	.....do	30
456.525	.....do	15
456.53125	.....do	15, 28
456.53750	.....do	15, 24
456.54375	.....do	15, 28

POWER RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
456.5625	.....do	30
456.575	.....do	15
456.58125	.....do	15, 28
456.58750	.....do	15, 24
456.59375	.....do	15, 28
456.6125	.....do	30
456.625	.....do	15
456.63125	.....do	15, 28
456.63750	.....do	15, 24
456.64375	.....do	15, 28
456.6625	.....do	30
456.675	.....do	15
456.68125	.....do	15, 28
456.68750	.....do	15, 24
456.69375	.....do	15, 28
462.4625	.....do	30
462.475	Base or mobile	15
462.48125	.....do	15, 28
462.48750	.....do	15, 24
462.49375	.....do	15, 28
462.5125	Mobile	30
462.525	Base or mobile	15
462.53125	.....do	15, 28
467.4625	Mobile	30
467.475	.....do	15
467.48125	.....do	15, 28
467.48750	.....do	15, 24
467.49375	.....do	15, 28
467.5125	.....do	30
467.525	.....do	15
467.53125	.....do	15, 28
470 to 512	Base or mobile	16
806 to 821	Mobile	17
851 to 866	Base or mobile	17
896 to 901	Mobile	17
928 and above	Operational fixed	18
929–930	Base only	25
935 to 940	Base or mobile	17
1427 to 1435	Base, mobile or operational fixed	13
2450 to 2500	Base or mobile	19
8400 to 8500	.....do	20
10,550 to 10,680*	.....do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(d) Explanation of assignment limitations appearing in the frequency tabulation of paragraph (c) of this section:

(1) Only utilities and power pools engaged in the distribution of electric power, or the distribution of by pipeline of fuels or water are eligible to use this spectrum, and then only in accordance with § 90.266. Except as provided in this part, licensees may not use these frequencies in the place of other operational circuits permitted by the Commission's Rules. Circuits operating on these frequencies may be used only for the following purposes:

(i) Providing backup standby communications for circuits which have been disrupted and which are used for coordinating inter-utility, intra-utility, and power pool distribution of electric power; or,

(ii) Coordinating the repair of inter-utility, intra-utility, and power pool electric power distribution networks, or the repair of pipelines.

(2) This frequency may be assigned only to stations operating in an interconnected or coordinated utility system in accordance with an operational communications plan which sets forth all points of communications. Authorizations at variance with an established operational communications plan will be made only on a secondary basis.

(3) The frequencies available for use at operational fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(4) This frequency is shared with the Forest Products and Petroleum Radio Services in the States of Arkansas, Louisiana, Oklahoma, and Texas.

(5) This frequency is not available for assignment in this service in the States of Arkansas, Louisiana, Oklahoma, and Texas. In these States, this frequency is available to the Petroleum and Forest Products Radio Services.

(6) This frequency is available for assignment to multiple address fixed stations employing omnidirectional antennas used for Power Utility peak load shaving and shedding and to mobile stations used for the remote control of objects and devices. The maximum power that may be authorized to fixed stations is 300 watts output, and the maximum power that may be authorized for mobile stations is 1 watt output. This frequency may also be assigned to operational fixed stations employing directional antenna systems (front-to-back ratio of 20 dB) when such stations are located at least 120 km. (75 mi.) from the boundaries of any urbanized area of 200,000 or more population. (U.S Census of Population, 1960). The maximum power output of the transmitter for such fixed stations may not exceed 50 watts. A1A, A1D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B, or G2D emission may be authorized.

(7) For FM transmitters the sum of the highest modulating frequency and the amount of frequency deviation may not exceed 2.8 kHz and the maximum frequency deviation may not exceed 2.5 kHz. For AM transmitters the highest modulating frequency may not exceed 2.0 kHz. The carrier frequency must be maintained within 0.0005 percent, and the authorized bandwidth may not exceed 6 kHz.

(8) This frequency is shared with Forest Products and Petroleum Radio Services in the States of Arkansas, Louisiana, Oklahoma, Oregon, Texas, and Washington.

(9) This frequency is not available for assignment in this service in the States of Arkansas, Louisiana, Oklahoma, Oregon, Texas, and Washington. In these States this frequency is available only in the Petroleum and Forest Products Radio Services.

(10) Frequencies in this band will be assigned only for transmitting hydrological or meteorological data or for low power wireless microphones in accordance with the provisions of § 90.265.

(11) The maximum output power of the transmitter may not exceed 50 watts for fixed stations and 1 watt for mobiles. A1A, A1D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B, or G2D emission may be authorized.

(12) For FM transmitters the sum of the highest modulating frequency and the amount of frequency deviation may not exceed 1.7 kHz and the maximum deviation may not exceed 1.2 kHz. For AM transmitters the highest modulating frequency may not exceed 1.2 kHz. The carrier frequency must be maintained within 0.0005 percent and the authorized bandwidth may not exceed 3 kHz.

(13) This band is available to stations operating in this service subject to the provisions of § 90.259.

(14) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(15) This frequency is available on a shared basis in the Power, Petroleum, Forest Products, Manufacturers, and Telephone Maintenance Radio Services. It may be assigned only when all of the frequencies in the 450–470 MHz band allocated to the service in which the applicant is primarily eligible are assigned within 56 km. (35 mi) of the proposed base station.

(16) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(17) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(18) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(19) Available only on a shared basis with stations in other services, and

subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(20) Use of frequencies in this band is limited to developmental operation and is subject to the provisions of subpart Q.

(21) This frequency is available on a shared basis with the Local Government, Petroleum, Forest Products, Special Industrial, Business and Manufacturers Radio Services for remote control and telemetry operations.

(22) Operational fixed stations must employ directional antennas having a front-to-back ratio of at least 20 dB. Omnidirectional antennas having unity gain may be employed for stations communicating with at least three receiving locations separated by 160° of azimuth.

(23) The maximum effective radiated power (ERP) may not exceed 20 watts for fixed stations and 2 watts for mobile stations. The height of the antenna system may not exceed 15.24 meters (50 ft.) above the ground. All such operation is on a secondary basis to adjacent channel land mobile operations.

(24) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(25) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(26) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(27) This frequency is available on a shared basis with the Petroleum, Business, Manufacturers, and Railroad Radio Services and interservice coordination is required. All communications on this frequency must be conducted within the boundaries or confines of a power plant, factory, liquified natural gas facility, shipyard, mine, substation, pumping station, or operations control room. Operations on this frequency are subject to the provisions of § 90.257(b). Pulsed modulations will not be authorized.

(28) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(29) Assignment of frequencies in this band are subject to the provisions of § 90.173.

(30) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(e) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service. (See also § 90.253.)

(1) Frequencies may be substituted for those available below 25 MHz in accordance with the provisions of § 90.263.

(2) [Reserved]

(3) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(4) Persons eligible under the provisions of paragraph (a)(2) of this section who are engaged in the distribution of natural gas directly to consumers and who have a substantial requirement for mobile service communication with a gas supplier may be authorized to operate on the Petroleum Radio Service frequency or frequencies assigned to the supplier. However, such operation shall be limited to communications in a local area common to both parties, and shall relate only to gas supply and distribution activities. The application of any person seeking a frequency assignment under the provisions of this paragraph shall be accompanied by a written statement from the natural gas supplier which concurs in the need for such intercommunication and consents

to the use by the natural gas distributor of the frequency or frequencies involved.

(5) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§90.273 through 90.281.

(f) *Limitation on number of frequencies assignable.* Normally only one frequency, or pair of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with operation of mobile repeaters in accordance with §90.247 notwithstanding this limitation.

(2) Frequencies in the ranges 30.56–30.57 MHz, 35.00–35.01 MHz, 35.99–36.00 MHz, and 37.00–37.01 MHz are available for developmental operation by applicants in this service subject to the provisions of subpart Q, notwithstanding this limitation.

(3) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(g) The frequencies 10–490 kHz are used to operate electric utility Power Line Carrier (PLC) systems on power transmission lines for communications essential to the reliability and security of electric service to the public, in accordance with part 15 of this chapter. Any electric utility fulfilling requirements in paragraph (a)(1) of this section may operate PLC systems and shall supply to a Federal Communications Commission/National Telecommunications and Information Administration recognized industry-operated entity, information on all existing, changes to existing, and proposed systems for inclusion in a data base. Such information shall include the frequency, power, location of transmitter(s), location of receivers and other technical and operational parameters, which would characterize the system's potential both to interfere with authorized radio users, and to receive harmful interference from these users. In an agreed upon format, the industry-operated entity shall inform the National Telecommunications and Information Administration and the Commission of these system characteristics prior to implementation of any proposed PLC system and shall provide monthly or periodic lists with supplements of PLC systems. The Federal Communications Commission and National Telecommunications and Information Administration will supply appropriate application and licensing information to the notification activity regarding authorized radio stations operating in the band. PLC systems in this band operate on a noninterference basis to radio systems assigned frequencies by the NTIA or licensed by the FCC and are not protected from interference due to these radio operations.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.63, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§90.65 Petroleum Radio Service.

(a) *Eligibility.* Persons primarily engaged in prospecting for, producing, collecting, refining, or transporting by means of pipeline, petroleum or petroleum products (including natural gas) are eligible to hold authorizations in the Petroleum Radio Service to operate radio stations for transmissions of communications essential to such activities of the licensee: However, persons engaged solely in the containment or cleanup of oil spills will only be assigned those frequencies designated by limitations (6) or (9) in this section.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Petroleum Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (c) of this section:

PETROLEUM RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Kilohertz:		
1614	Base or mobile	1, 2, 3, 4
1628	do	1, 2, 3, 4
1652	do	1, 2, 3, 4
1676	do	1, 2, 3, 4
1700	do	1, 2, 3, 4
2000 to 25,000	Fixed, base or mobile	1
2292	Base or mobile	1, 2, 4, 5
2398	do	1, 2, 4, 5
4637.5	do	1, 2, 4, 5
Megahertz:		
25.02	do	3, 4
25.04	do	6
25.06	do	3, 4
25.08	do	6, 7
25.10	do	3, 4, 7
25.12	do	
25.14	do	3, 4
25.16	do	
25.18	do	3, 4
25.20	do	
25.22	do	4, 5
25.24	do	
25.26	do	4, 5
25.28	do	
25.30	do	4, 5
25.32	do	
30.66	do	4, 5, 8
30.70	do	4, 5
30.74	do	4, 5, 8
30.78	do	4, 5
30.82	do	4, 5, 8
31.32	do	37
31.40	do	37
31.44	do	37
31.48	do	37
31.52	do	37
31.60	do	37
31.64	do	37
31.72	do	37
31.76	do	37
33.18	do	
33.20	do	
33.22	do	
33.24	do	
33.26	do	
33.28	do	
33.30	do	
33.32	do	
33.34	do	
33.36	do	
33.38	do	
35.48	do	37
36.25	do	9
41.71	do	9
48.56	do	10
48.58	do	10
48.60	do	10
48.62	do	10
48.64	do	10
48.66	do	10
48.68	do	10
48.70	do	10
48.72	do	10
48.74	do	10
48.76	do	10, 44
48.78	do	10
48.80	do	10
48.82	do	10
48.84	do	10, 44
48.86	do	10, 44
48.88	do	10

PETROLEUM RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
48.90	do	10
48.92	do	10, 44
48.94	do	10
48.96	do	10
48.98	do	10
49.00	do	10
49.02	do	10, 44
49.04	do	10
49.06	do	10
49.08	do	10, 44
49.10	do	10, 44
49.12	do	10
49.14	do	10
49.16	do	10, 44
49.18	do	10
49.20	do	10, 44
49.22	do	10
49.24	do	10, 44
49.26	do	10
49.28	do	10, 44
49.30	do	10
49.32	do	10
49.34	do	10
49.36	do	10, 44
49.38	do	10
49.40	do	10, 44
49.42	do	10
49.44	do	10
49.46	do	10,44
49.48	do	10
49.50	do	10,44
72.00 to 76.00	Operational fixed	11
74.61	Mobile	43
74.63	do	43
74.65	do	43
74.67	do	43
74.69	do	43
74.71	do	43
74.73	do	43
74.75	do	43
74.77	do	43
74.79	do	43
75.21	do	43
75.23	do	43
75.25	do	43
75.27	do	43
75.29	do	43
75.31	do	43
75.33	do	43
75.35	do	43
75.37	do	43
75.39	do	43
150 to 170	Base or mobile	45
150.980	do	6
150.9875	do	6, 41
153.035	do	12
153.0425	do	12, 41
153.050	do	4, 5, 13, 38, 40
153.0575	do	4, 5, 13, 38, 40, 41
153.0650	do	4, 5, 13, 38, 40
153.065	do	13
153.0725	do	13, 41
153.080	do	4, 5, 13
153.0875	do	4, 5, 13, 41
153.095	do	13
153.1025	do	13, 14
153.110	do	4, 5, 13
153.1175	do	4, 5, 13, 41
153.125	do	13, 38, 40
153.1325	do	13, 38, 40, 41
153.140	do	4, 5, 13
153.1475	do	4, 5, 13, 41

PETROLEUM RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
153.155	do	13
153.1625	do	13, 41
153.170	do	4, 5, 13
153.1775	do	4, 5, 13, 41
153.185	do	13
153.1925	do	13, 41
153.200	do	4, 5, 13
153.2075	do	4, 5, 13, 41
153.215	do	13
153.2225	do	13, 41
153.230	do	4, 5, 13
153.2375	do	4, 5, 13, 41
153.245	do	13
153.2525	do	13, 41
153.260	do	4, 5, 13
153.2675	do	4, 5, 13, 41
153.275	do	13
153.2825	do	13, 41
153.290	do	4, 5, 13
153.2975	do	4, 5, 13, 41
153.305	do	13
153.3125	do	13, 41
153.320	do	4, 5, 13
153.3275	do	4, 5, 13, 41
153.335	do	13, 38
153.3425	do	13, 38, 41
153.350	do	4, 5, 13, 38
153.3575	do	4, 5, 13, 38, 41
153.365	do	13, 38
153.3725	do	13, 38, 41
153.380	do	13, 38
153.3875	do	13, 38, 41
153.395	do	13, 38
153.4025	do	13, 38, 41
153.425	do	14
153.4325	do	14, 41
153.440	do	10, 15
153.4475	do	10, 15, 41
153.455	do	14
153.4625	do	14, 41
153.485	do	14
153.4925	do	14, 41
153.500	do	10, 15
153.5075	do	10, 15, 41
153.515	do	14
153.5225	do	14, 41
153.545	do	14
153.5525	do	14, 41
153.560	do	10, 15
153.5675	do	10, 15, 41
153.575	do	14
153.5825	do	14, 41
153.605	do	14
153.6125	do	14, 41
153.620	do	10, 15
153.6275	do	10, 15, 41
153.635	do	14
153.6425	do	14, 41
153.665	do	14
153.6725	do	14, 41
153.680	do	10, 15
153.6875	do	10, 15, 41
154.45625	Fixed or mobile	16, 18, 24, 34
154.46375	do	16, 18, 24, 35, 36
154.47125	do	16, 18, 24, 35
154.47875	do	16, 18, 24, 34
154.585	Mobile	6, 19
158.145	Base or mobile	20
158.1525	do	20, 41
158.160	do	10, 21
158.1675	do	10, 21, 41
158.175	do	20

PETROLEUM RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
158.1825	.....do	20, 41
158.205	.....do	20
158.2125	.....do	20, 41
158.220	.....do	10,21
158.2275	.....do	20, 21, 41
158.235	.....do	20
158.2425	.....do	20, 41
158.265	.....do	20
158.2725	.....do	20, 41
158.280	.....do	13
158.2875	.....do	13, 41
158.295	.....do	13
158.3025	.....do	13, 41
158.310	.....do	4, 5, 13
158.3175	.....do	4, 5, 13, 41
158.325	.....do	13, 38, 40
158.3325	.....do	13, 38, 40, 41
158.355	.....do	10, 39
158.3625	.....do	10, 39, 41
158.370	.....do	4, 5, 10
158.3775	.....do	4, 5, 10, 41
158.415	.....do	13, 38, 40
158.4225	.....do	13, 38, 40, 41
158.430	.....do	4, 5, 13
158.4375	.....do	4, 5, 13, 41
158.445	Mobile	6, 22
159.480	Based or mobile	6
159.4875	.....do	6, 41
169–172	Mobile, operational fixed	23
173.20375	Fixed or mobile	16, 18, 24, 35
173.2100	.....do	16, 24, 25, 35
173.2375	.....do	16, 18, 24, 34
173.250	Base or mobile	10, 21
173.2625	Fixed or mobile	16, 18, 24, 34
173.2875	.....do	16, 18, 24, 34
173.300	Base or mobile	10, 21
173.3125	Fixed or mobile	16, 18, 24, 34
173.3375	.....do	16, 18, 24, 34
173.350	Base or mobile	10, 21
173.3625	Fixed or mobile	16, 18, 24, 34
173.3900	.....do	16, 24, 25, 35
173.39625	.....do	16, 18, 24, 35
216–220	Base or mobile	26
220–222	Base or mobile	17
406–413	Operational fixed	23
450–470	Fixed, base, or mobile	27, 45
451.1625	Mobile	46
451.175	Base or mobile	28
451.18125	.....do	28, 47
451.18750	.....do	28, 41
451.19375	.....do	28, 47
451.2125	Mobile	46
451.225	Base or mobile	28
451.23125	.....do	28, 47
451.23750	.....do	28, 41
451.24375	.....do	28, 47
451.2625	Mobile	46
451.275	Base or mobile	28
451.28125	.....do	28, 47
451.28750	.....do	28, 41
451.29375	.....do	28, 47
451.3625	Mobile	46
451.375	Base or mobile	28
451.38125	.....do	28, 47
451.38750	.....do	28, 41
451.39375	.....do	28, 47
451.4125	Mobile	46
451.425	Base or mobile	28
451.43125	.....do	28, 47
451.43750	.....do	28, 41
451.44375	.....do	28, 47
451.4625	Mobile	46

PETROLEUM RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
451.475	Base or mobile	28
451.48125	do	28, 47
451.48750	do	28, 41
451.49375	do	28, 47
451.5125	Mobile	46
451.525	Base or mobile	28
451.53125	do	28, 47
451.53750	do	28, 41
451.54375	do	28, 47
451.550	do	4, 5, 10
451.55625	do	4, 5, 10, 47
451.56250	do	4, 5, 10, 41
451.56875	do	4, 5, 10, 47
451.575	do	28
451.58125	do	28, 47
451.58750	do	28, 41
451.59375	do	28, 47
451.600	do	4, 5, 10
451.60625	do	4, 5, 10, 47
451.61250	do	4, 5, 10, 41
451.61875	do	4, 5, 10, 47
451.625	do	28
451.63125	do	28, 47
451.63750	do	28, 41
451.64375	do	28, 47
451.650	do	4, 5, 10
451.65625	do	4, 5, 10, 47
451.66250	do	4, 5, 10, 41
451.66875	do	4, 5, 10, 47
451.675	do	28
451.68125	do	28, 47
451.68750	do	28, 41
451.69375	do	28, 47
451.700	do	4, 5, 10
451.70625	do	4, 5, 10, 47
451.71250	do	4, 5, 10, 41
451.71875	do	4, 5, 10, 47
451.7375	Mobile	46
451.750	Base or mobile	4, 5, 10
451.75625	do	4, 5, 10, 47
451.76250	do	4, 5, 10, 41
451.76875	do	4, 5, 10, 47
454.000	do	6
456.1625	Mobile	46
456.175	do	28
456.18125	do	28, 47
456.18750	do	28, 41
456.19375	do	28, 47
456.2125	do	46
456.225	do	28
456.23125	do	28, 47
456.23750	do	28, 41
456.24375	do	28, 47
456.2625	do	46
456.275	do	28
456.28125	do	28, 47
456.28750	do	28, 41
456.29375	do	28, 47
456.3625	do	46
456.375	do	28
456.38125	do	28, 47
456.38750	do	28, 41
456.39375	do	28, 47
456.4125	do	46
456.425	do	28
456.43125	do	28, 47
456.43750	do	28, 41
456.44375	do	28, 47
456.4625	do	46
456.475	do	28
456.48125	do	28, 47
456.48750	do	28, 41

PETROLEUM RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
456.49375	.....do	28, 47
456.5125	.....do	46
456.525	.....do	28
456.53125	.....do	28, 47
456.53750	.....do	28, 41
456.54375	.....do	28, 47
456.550	.....do	10
456.55625	.....do	10, 47
456.56250	.....do	10, 41
456.56875	.....do	10, 47
456.575	.....do	28
456.58125	.....do	28, 47
456.58750	.....do	28, 41
456.59375	.....do	28, 47
456.600	.....do	10
456.60625	.....do	10, 47
456.61250	.....do	10, 41
456.61875	.....do	10, 47
456.625	.....do	28
456.525	Base or mobile	28
456.63125	.....do	28, 47
456.63750	.....do	28, 41
456.64375	.....do	28, 47
456.650	.....do	10
456.65625	.....do	10, 47
456.66250	.....do	10, 41
456.66875	.....do	10, 47
456.675	.....do	28
456.68125	.....do	28, 47
456.68750	.....do	28, 41
456.69375	.....do	28, 47
456.700	.....do	10
456.70625	.....do	10, 47
456.71250	.....do	10, 41
456.71875	.....do	10, 47
456.750	.....do	10
456.75625	.....do	10, 47
456.76250	.....do	10, 41
456.76875	.....do	10, 47
459.000	Base or mobile	6
462.4625	Mobile	46
462.475	Base or mobile	28
462.48125	.....do	28, 47
462.48750	.....do	28, 41
462.49375	.....do	28, 47
462.5125	Mobile	46
462.53125	.....do	28, 47
467.4625	Mobile	46
467.475	.....do	28, 41
467.48125	.....do	28, 47
467.48750	.....do	28
467.49375	.....do	28, 47
467.5125	.....do	46
467.525	.....do	28, 41
467.53125	.....do	28, 47
470 to 512	Base or mobile	29
806–821	Mobile only	30
851–866	Base or mobile	30
896 to 901	Mobile	30
928 and above	Operational fixed	31
929–930	Base only	42
935 to 940	Base or mobile	30
1427 to 1435	Operational fixed, base or mobile	26
2450 to 2500	Base or mobile	32
8400 to 8500	.....do	33
10,550 to 10,680*	.....do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) Only entities engaged in prospecting for petroleum, natural gas or petroleum products are eligible to use this spectrum, and then only in accordance with § 90.266. Except as provided in this part, licensees may not use these frequencies in the place of other operational circuits permitted by the Commission's Rules. Circuits operating on these frequencies may be used only for the following purposes:

(i) Providing standby backup communications for circuits which have been disrupted and which directly affect the safety of life, property, or the national interest; or,

(ii) Providing operational circuits during exploration.

(2) Use of this frequency is limited to an amplitude modulation mode of operation.

(3) This frequency is available for assignment only to stations utilized for geophysical purposes.

(4) Geophysical operations may use tone or impulse signaling for purposes other than indicating failure of equipment or abnormal conditions on this frequency. All such tone or impulse signaling shall be on a secondary basis and subject to the following limitations:

(i) Maximum duration of a single nonvoice transmission, may not exceed 3 minutes.

(ii) The bandwidth utilized for secondary tone or impulse signaling shall not exceed that authorized to the licensee for voice emission on the frequency concerned.

(iii) Frequency loading resulting from the use of secondary tone or impulse signaling will not be considered in whole or in part, as a justification for authorizing additional frequencies in the licensee's mobile service system.

(iv) The maximum transmitter output power for tone or impulse transmissions shall not exceed 50 watts.

(5) This frequency is available for assignment to geophysical stations on a secondary basis to other petroleum licensees. Geophysical stations must cease operations on this frequency immediately upon receiving notice that interference is being caused to mobile service stations.

(6) This frequency is primarily available for oil spill containment and cleanup operations and for training and drills essential in the preparations for the containment and cleanup of oil spills. It is secondarily available for general base-mobile operations in the Petroleum Radio Service on a non-interference basis. Secondary users of this frequency are required to forego its use should oil spill containment and cleanup activities be present in their area of operation or upon notice by the Commission or a primary user that harmful interference is being caused to oil spill containment or cleanup activities in other areas.

(7) Operation on this frequency is secondary to stations in the maritime mobile service operating in accordance with the International table of frequency allocations.

(8) This frequency is shared with the Motor Carrier Radio Service.

(9) This Government frequency is available for shared Government/non-Government use by stations engaged in oil spill containment and cleanup operations and for training and drills essential in the preparation for containment and cleanup of oil spills. Such use will be confined to inland and coastal waterways.

(10) This frequency is shared with the Forest Products Radio Service.

(11) The frequencies available for use at operational fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257. Seismic telemetry transmitters type accepted with 1 watt or less power and a frequency tolerance not exceeding ±0.005% may be used as temporary operational fixed stations.

(12) This frequency is shared with the Special Industrial Radio Service.

(13) This frequency is shared with the Forest Products and Manufacturers Radio Services.

(14) This frequency is shared with Power and Forest Products Radio Services and is available in this service only in the States of Arkansas, Louisiana, Oklahoma, and Texas. Elsewhere

this frequency is available in the Power Radio Service.

(15) This frequency is available for assignment in this service only in the States of Arkansas, Louisiana, Oklahoma, and Texas. Elsewhere this frequency is available in the Power Radio Service.

(16) Operational fixed stations must employ directional antennas having a front-to-back ratio of at least 20 dB. Omnidirectional antennas having unity gain may be employed for stations communicating with at least three receiving locations separated by 160° of azimuth.

(17) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(18) For FM transmitters the sum of the highest modulating frequency and the amount of frequency deviation may not exceed 2.8 kHz and the maximum deviation may not exceed 2.5 kHz. For AM transmitters the highest modulating frequency may not exceed 2 kHz. The carrier frequency must be maintained within 0.0005 percent of the center of the frequency band, and the authorized bandwidth may not exceed 6 kHz.

(19) This frequency is limited to a maximum power of 20 watts.

(20) This frequency is shared with Power and Forest Products Radio Services and is available in this service only in the States of Arkansas, Louisiana, Oklahoma, Oregon, Texas, and Washington. Elsewhere, this frequency is available only in the Power Radio Service.

(21) This frequency is available for assignment in this service only in the States of Arkansas, Louisiana, Oklahoma, Oregon, Texas, and Washington. Elsewhere, it is available in the Power Radio Service.

(22) This frequency is limited to a maximum output power of 75 watts.

(23) Frequencies in this band will be assigned only for transmitting hydrological or meteorological data or for low power wireless microphones in accordance with the provisions of § 90.265.

(24) This frequency band is shared with Power, Forest Products, Special Industrial, Petroleum, Manufacturers, Business, and Local Government Radio Service's for remote control and telemetry operations.

(25) For FM transmitters the sum of the highest modulating frequency and the amount of frequency deviation may not exceed 1.7 kHz and the maximum deviation may not exceed 1.2 kHz. For AM transmitters the highest modulating frequency may not exceed 1.2 kHz. The carrier frequency must be maintained within 0.0005 percent, and the authorized bandwidth may not exceed 3 kHz.

(26) This band is available to stations operating in this service subject to the provisions of § 90.259.

(27) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(28) This frequency is available on a shared basis in the Power, Petroleum, Forest Products, Manufacturers, and Telephone Maintenance Radio Services. It may be assigned only when all of the frequencies in the 450–470 MHz band allocated to the service in which the applicant is primarily eligible are assigned within 56 km. (35 mi.) of the proposed base station.

(29) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(30) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(31) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(32) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(33) Use of this frequency band is limited to developmental operation and is subject to the provisions of subpart Q.

(34) The maximum effective radiated power (ERP) may not exceed 20 watts

for fixed stations and 2 watts for mobile stations. The height of the antenna system may not exceed 15.24 meters (50 feet) above ground. All such operation is on a secondary basis to adjacent channel land mobile operations.

(35) The maximum output power of the transmitter may not exceed 50 watts for fixed stations and 1 watt for mobile stations. A1A, A1D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B, or G2D emission may be authorized.

(36) Use of this frequency is limited to stations located at least 120.7 km. (75 miles) from the center of an urbanized areas of 200,000 or more population (U.S. Census of Population, 1970). Operation is on a secondary basis to that in the Power Radio Service.

(37) This frequency is shared with the Special Industrial Radio Service and is available for assignment in the Petroleum Radio Service only in the States of Texas and Louisiana within 120 km (75 miles) of the Gulf of Mexico and in adjacent offshore waters. Mobile relay stations will not be authorized.

(38) This frequency is shared with the Special Industrial Radio Service in the States of North Dakota; South Dakota; Iowa; Nebraska; Kansas and Missouri beyond 80 km (50 miles) from St. Louis and Kansas City; Colorado and Wyoming east of Longitude 106 degrees; and Minnesota south of Latitude 47 degrees.

(39) This frequency is shared with the Special Industrial Radio Service in the States of North Dakota; Iowa; Nebraska; Kansas; Missouri; Colorado and Wyoming east of Longitude 106 degrees; and Minnesota south of Latitude 47 degrees.

(40) This frequency may not be shared in the Special Industrial Radio Service within 32 km (20 miles) of the cities of Duluth, Minnesota; Des Moines and Davenport, Iowa; Omaha, Nebraska; Colorado Springs, Colorado; and Wichita, Kansas.

(41) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(42) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(43) This frequency is available on a shared basis with the Power, Business, Manufacturers, and Railroad Radio Services and interservice coordination is required. All communications on this frequency must be conducted within the boundaries or confines of a plant, factory, or drilling platform primarily engaged in the production or refining of petroleum products (including natural gas). Operations on this frequency are subject to the provisions of § 90.257(b). Pulsed modulations will not be authorized.

(44) This frequency is also used on a secondary basis by cordless telephones under part 15 of this chapter.

(45) Assignment of frequencies in this band are subject to the provisions of § 90.173.

(46) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(47) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(d) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service. (See also § 90.253.)

(1) Frequencies may be substituted for those available below 25 MHz in accordance with the provisions of § 90.263.

(2) [Reserved]

(3) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(4) Persons eligible in this service who are engaged in the transportation of natural gas by pipeline and who have a substantial requirement for mobile service communication with a public utility company purchasing such gas for distribution to the consumer may be authorized to operate on the Power Radio Service frequency or frequencies

assigned to such distributor(s). However, such operation shall be limited to communications in the local area common to both parties and shall relate only to gas supply and distribution activities. The application of any person seeking a frequency assignment under the provisions of this paragraph shall be accompanied by a written statement from the natural gas distributor which concurs in the need for such intercommunication, and consents to the use by the natural gas supplier of the frequencies involved.

(5) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§90.273 through 90.281.

(e) *Limitation on number of frequencies assignable.* Normally only one frequency, or pair of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with operation of mobile repeaters in accordance with §90.247 not withstanding this limitation.

(2) Frequencies in the ranges 30.56–30.57 MHz, 35.00–35.01 MHz, 35.99–36.00 MHz, and 37.00–37.01 MHz are available for developmental operation by applicants in this service subject to the provisions of subpart Q notwithstanding this limitation.

(3) Authorizations for multiple frequencies for geophysical operations will be granted on the frequencies governed by the limitations in paragraphs (c)(3) and (4) of this section notwithstanding this limitation. However, each geophysical exploration party may only use a maximum of four frequencies at any one time.

(4) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3))

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.65, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§90.67 Forest Products Radio Service.

(a) *Eligibility.* Persons primarily engaged in any of the following activities are eligible to hold authorizations in the Forest Products Radio Service to operate radio stations for transmission of communications essential to such activities of the licensee:

(1) Tree logging, tree farming, or related woods operations, including related hauling activities, if the hauling activities are performed under contract to, and exclusively for, persons engaged in woods operations;

(2) Manufacturing lumber, plywood, hardboard, or pulp and paper products from wood fiber by persons eligible under the provisions of subparagraph (1) of this paragraph.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Forest Products Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (c) of this section:

FOREST PRODUCTS RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Kilohertz:		
1676	Base or mobile	1
1700	do	1
2398	do	1
Megahertz:		
29.71	do	
29.73	do	
29.75	do	
29.77	do	

FOREST PRODUCTS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
29.79	do	
30.68	do	
30.72	do	
31.48	do	30
31.52	do	30
31.64	do	30
31.72	do	30
31.76	do	30
37.44	do	
37.88	do	
43.02	do	30
43.28	do	30
43.36	do	30
43.40	do	30
43.52	do	30
48.56	do	2
48.58	do	2
48.60	do	2
48.62	do	2
48.64	do	2
48.66	do	2
48.68	do	2
48.70	do	2
48.72	do	2
48.74	do	2
48.76	do	2, 38
48.78	do	2
48.80	do	2
48.82	do	2
48.84	do	2, 38
48.86	do	2, 38
48.88	do	2
48.90	do	2
48.92	do	2, 38
48.94	do	2
48.96	do	2
48.98	do	2
49.00	do	2
49.02	do	2, 38
49.04	do	2
49.06	do	2
49.08	do	2, 38
49.10	do	2, 38
49.12	do	2
49.14	do	2
49.16	do	2, 38
49.18	do	2
49.20	do	2, 38
49.22	do	2
49.24	do	2, 38
49.26	do	2
49.28	do	2, 38
49.30	do	2
49.32	do	2
49.34	do	2
49.36	do	2, 38
49.38	do	2
49.40	do	2, 38
49.42	do	2
49.44	do	2
49.46	do	2, 38
49.48	do	2
49.50	do	2, 38
49.54	do	3
49.58	do	3
72.00 to 76.00	Operational fixed	4
72.44	Mobile	34
72.48	do	34
72.52	do	34
72.56	do	34
72.60	do	34
75.44	do	34

FOREST PRODUCTS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
75.48	.....do	34
75.52	.....do	34
75.56	.....do	34
75.60	.....do	34
150 to 170	Base or mobile	39
152.465	.....do	29
152.480	.....do	5, 40
153.050	.....do	6, 31, 33
153.0575	.....do	6, 31, 33, 36
153.065	.....do	6
153.0725	.....do	6, 36
153.080	.....do	6
153.0875	.....do	6, 36
153.095	.....do	6
153.1025	.....do	6, 36
153.110	.....do	6
153.1175	.....do	6, 36
153.125	.....do	6, 31, 33
153.1325	.....do	6, 31, 33, 36
153.140	.....do	6
153.1475	.....do	6, 36
153.155	.....do	6
153.1625	.....do	6, 36
153.170	.....do	6
153.1775	.....do	6, 36
153.185	.....do	6
153.1925	.....do	6, 36
153.200	.....do	6
153.2075	.....do	6, 36
153.215	.....do	6
153.2225	.....do	6, 36
153.230	.....do	6
153.2375	.....do	6, 36
153.245	.....do	6
153.2525	.....do	6, 36
153.260	.....do	6
153.2675	.....do	6, 36
153.275	.....do	6
153.2825	.....do	6, 36
153.290	.....do	6
153.2975	.....do	6, 36
153.305	.....do	6
153.3125	.....do	6, 36
153.320	.....do	6
153.3275	.....do	6, 36
153.335	.....do	6, 31
153.3425	.....do	6, 31, 36
153.350	.....do	6, 31
153.3575	.....do	6, 31, 36
153.365	.....do	6, 31
153.3725	.....do	6, 31, 36
153.380	.....do	6, 31
153.3875	.....do	6, 31, 36
153.395	.....do	6, 31
153.4025	.....do	6, 31, 36
153.425	.....do	7
153.4325	.....do	7, 36
153.440	.....do	2, 8
153.4475	.....do	2, 8, 36
153.455	.....do	7
153.4625	.....do	7, 36
153.485	.....do	7
153.4925	.....do	7, 36
153.500	.....do	2, 8
153.5075	.....do	2, 8, 36
153.515	.....do	7
153.5225	.....do	7, 36
153.545	.....do	7
153.5525	.....do	7, 36
153.560	.....do	2, 8
153.5675	.....do	2, 8, 36
153.575	.....do	7

FOREST PRODUCTS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
153.5825	.....do	7, 36
153.605	.....do	7
153.6125	.....do	7, 36
153.620	.....do	2, 8
153.6275	.....do	2, 8, 36
153.635	.....do	7
153.6425	.....do	7, 36
153.665	.....do	7
153.6725	.....do	7, 36
153.680	.....do	2, 8
153.6875	.....do	2, 8, 36
154.45625	Fixed or mobile	13, 14, 25, 27
154.46375	.....do	13, 14, 24, 25, 26
154.47125	.....do	13, 14, 24, 25
154.47875	.....do	13, 14, 25, 27
154.570	Mobile	9
154.600	.....do	9
154.625	Base or mobile	5, 40
154.640	.....do	5, 36
157.725	.....do	29
157.740	.....do	5, 40
158.145	.....do	10
158.1525	.....do	10, 36
158.160	.....do	2, 11
158.1675	.....do	2, 11, 36
158.175	.....do	10
158.1825	.....do	10, 36
158.205	.....do	10
158.2125	.....do	10, 36
158.220	.....do	2, 11
158.2275	.....do	2, 11, 36
158.235	.....do	10
158.2425	.....do	10, 36
158.265	.....do	10
158.2725	.....do	10, 36
158.280	.....do	6
158.2875	.....do	6, 36
158.295	.....do	6
158.3025	.....do	6, 36
158.310	.....do	6
158.3175	.....do	6, 36
158.325	.....do	6, 31, 33
158.3325	.....do	6, 31, 33, 36
158.355	.....do	2, 32
158.3625	.....do	2, 32, 36
158.370	.....do	2
158.3775	.....do	2, 36
158.415	.....do	6, 31, 33
158.4225	.....do	6, 31, 33, 36
158.430	.....do	6
158.4375	.....do	6, 36
158.460	.....do	5, 40
169–172	Mobile, operational fixed	12
173.20375	Fixed or mobile	13, 14, 24, 25
173.2100	.....do	13, 15, 24, 25
173.2375	.....do	13, 14, 25, 27
173.250	Base or mobile	2, 11
173.2625	Fixed or mobile	13, 14, 25, 27
173.2875	.....do	13, 14, 25, 27
173.300	Base or mobile	2, 11
173.3125	Fixed or mobile	13, 14, 25, 27
173.3375	.....do	13, 14, 25, 27
173.350	Base or mobile	2, 11
173.3625	Fixed or mobile	13, 14, 25, 27
173.3900	.....do	13, 15, 24, 25
173.39625	.....do	13, 14, 24, 25
216–220	Base or mobile	16
220–222	Base and mobile	37
406–413	Operational fixed	12
450–470	Fixed, base, or mobile	17, 39
451.1625	Mobile	41
451.175	Base or mobile	18

FOREST PRODUCTS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
451.18125	.....do	18, 42
.		
451.18750	.....do	18, 36
451.19375	.....do	18, 42
451.2125	Mobile	41
451.225	Base or mobile	18
451.23125	.....do	18, 42
451.23750	.....do	18, 36
451.24375	.....do	18, 42
451.2625	Mobile	41
451.275	Base or mobile	18
451.28125	.....do	18, 42
451.28750	.....do	18, 36
451.29375	.....do	18, 42
451.3625	Mobile	41
451.375	Base or mobile	18
451.38125	.....do	18, 42
451.38750	.....do	18, 36
451.39375	.....do	18, 42
451.4125	Mobile	41
451.425	Base or mobile	18
451.43125	.....do	18, 42
451.43750	.....do	18, 36
451.44375	.....do	18, 42
451.4625	Mobile	41
451.475	Base or mobile	18
451.48125	.....do	18, 42
451.48750	.....do	18, 36
451.49375	.....do	18, 42
451.5125	Mobile	41
451.525	Base or mobile	18
451.53125	.....do	18, 42
451.53750	.....do	18, 36
451.54375	.....do	18, 42
451.550	.....do	2
451.55625	.....do	2, 42
451.56250	.....do	2, 36
451.56875	.....do	2, 42
451.575	.....do	18
451.58125	.....do	18, 42
451.58750	.....do	18, 36
451.59375	.....do	18, 42
451.600	.....do	2
451.60625	.....do	2, 42
451.61250	.....do	2, 36
451.61875	.....do	2, 42
451.625	.....do	18
451.63125	.....do	18, 42
451.63750	.....do	18, 36
451.64375	.....do	18, 42
451.650	.....do	2
451.65625	.....do	2, 42
451.66250	.....do	2, 36
451.66875	.....do	2, 42
451.675	.....do	18
451.68125	.....do	18, 42
451.68750	.....do	18, 36
451.69375	.....do	18, 42
451.700	.....do	2
451.70625	.....do	2, 42
451.71250	.....do	2, 36
451.71875	.....do	2, 42
451.7375	Mobile	41
451.750	Base or mobile	2
451.75625	.....do	2, 42
451.76250	.....do	2, 36
451.76875	.....do	2, 42
452.100	.....do	28
452.10625	.....do	28, 42
452.11250	.....do	28, 36
452.11875	.....do	28, 42
452.200	.....do	28

FOREST PRODUCTS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
452.20625	do	28, 42
452.21250	do	28, 36
452.21875	do	28, 42
452.225	do	28
452.23125	do	28, 42
452.23750	do	28, 36
452.24375	do	28, 42
452.250	do	28
452.25625	do	28, 42
452.26250	do	28, 36
452.26875	do	28, 42
452.275	do	28
452.28125	do	28, 42
452.28750	do	28, 36
452.29375	do	28, 42
452.350	do	28
452.35625	do	28, 42
452.36250	do	28, 36
452.36875	do	28, 42
452.400	do	28
452.40625	do	28, 42
452.41250	do	28, 36
452.41875	do	28, 42
452.450	do	28
452.45625	do	28, 42
452.46250	do	28, 36
452.46875	do	28, 42
456.1625	Mobile	41
456.175	do	18
456.18125	do	18, 42
456.18750	do	18, 36
456.19375	do	18, 42
456.2125	do	41
456.225	do	18
456.23125	do	18, 42
456.23750	do	18, 36
456.24375	do	18, 42
456.2625	do	41
456.275	do	18
456.28125	do	18, 42
456.28750	do	18, 36
456.29375	do	18, 42
456.3625	do	41
456.375	do	18
456.38125	do	18, 42
456.38750	do	18, 36
456.39375	do	18, 42
456.4125	do	41
456.425	do	18
456.43125	do	18, 42
456.43750	do	18, 36
456.44375	do	18, 42
456.4625	do	41
456.475	do	18
456.48125	do	18, 42
456.48750	do	18, 36
456.49375	do	18, 42
456.5125	do	41
456.525	do	18
456.53125	do	18, 42
456.53750	do	18, 36
456.54375	do	18, 42
456.550	do	2
456.55625	do	2, 42
456.56250	do	2, 36
456.56875	do	2, 42
456.575	do	18
456.58125	do	18, 42
456.58750	do	18, 36
456.59375	do	18, 42
456.600	do	2
456.60625	do	2, 42

FOREST PRODUCTS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
456.61250	do	2, 36
456.61875	do	2, 42
456.625	do	18
456.63125	do	18, 42
456.63750	do	18, 36
456.64375	do	18, 42
456.650	do	2
456.65625	do	2, 42
456.66250	do	2, 36
456.66875	do	2, 42
456.675	do	18
456.68125	do	18, 42
456.68750	do	18, 36
456.69375	do	18, 42
456.700	do	2
456.70625	do	2, 42
456.71250	do	2, 36
456.71875	do	2, 42
456.7375	do	41
456.750	do	2
456.75625	do	2, 42
456.76250	do	2, 36
456.76875	do	2, 42
457.100	do	28
457.10625	do	28, 42
457.11250	do	28, 36
457.11875	do	28, 42
457.200	do	28
457.20625	do	28, 42
457.21250	do	28, 36
457.21875	do	28, 42
457.225	do	28
457.23125	do	28, 42
457.23750	do	28, 36
457.24375	do	28, 42
457.250	do	28
457.25625	do	28, 42
457.26250	do	28, 36
457.26875	do	28, 42
457.275	do	28
457.28125	do	28, 42
457.28750	do	28, 36
457.29375	do	28, 42
457.350	do	28
457.35625	do	28, 42
457.36250	do	28, 36
457.36875	do	28, 42
457.400	do	28
457.40625	do	28, 42
457.41250	do	28, 36
457.41875	do	28, 42
457.450	do	28
457.45625	do	28, 42
457.46250	do	28, 36
457.46875	do	28, 42
462.4625	do	41
462.475	Base or mobile	18
462.48125	do	18, 42
462.48750	do	18, 36
462.49375	do	18, 42
462.5125	do	41
462.525	Base or mobile	18
462.53125	do	18, 42
467.4625	Mobile	41
467.475	do	18
467.48125	do	18, 42
467.48750	do	18, 36
467.49375	do	18, 42
467.5125	do	41
467.525	do	18
467.53125	do	18, 42
470–512	Base or mobile	19

FOREST PRODUCTS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
806–821	Mobile only	20
851–866	Base or mobile	20
896–901	Mobile	20
928 and above	Operational fixed	21
929–930	Base only	35
935–940	Base or mobile	20
1427–1435	Operational fixed, base or mobile	16
2450–2500	Base or mobile	22
8400–8500	.....do	23
10,550–10,680*	.....do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(c) Explanation of assignment limitations appearing in the frequency tabulation of paragraph (b) of this section:

(1) Frequencies below 25 MHz will be assigned to base or mobile stations in this service only upon a satisfactory showing that, from a safety of life standpoint, frequencies above 25 MHz will not meet the operational requirements of the applicant.

(2) This frequency is shared with the Petroleum Radio Service.

(3) This frequency is shared with the Special Industrial Radio Service.

(4) The frequencies available for use at operational fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(5) This frequency is available in this service and in the Special Industrial Radio Service on a secondary basis to one-way paging communications authorized in the Business Radio Service.

(6) This frequency is shared with the Petroleum and Manufacturers Radio Services.

(7) This frequency is shared with the Power and Petroleum Radio Service and is available in this service only in the States of Arkansas, Louisiana, Oklahoma, and Texas. Elsewhere it is available in the Power Radio Service.

(8) This frequency is available for assignment in this service, only in the States of Arkansas, Louisiana, Oklahoma, and Texas. Elsewhere, this frequency is available in the Power Radio Service.

(9) Authorizations to operate on this frequency will be issued for A2B, A2D, F2B or F2D emission for tone signaling or for a combination of such emission with A3E, F3E or G3E emission with a maximum bandwidth of 20 kHz. The output power shall not exceed 2 watts. The maximum distance between any transmitter and the center of the radiating portion of its antenna shall not exceed 8 m. (25 ft.) Operation on this frequency is secondary to stations in the Business Radio Service.

(10) This frequency is shared with Power and Petroleum Radio Services and is available in this service only in the States of Arkansas, Louisiana, Oklahoma, Oregon, Texas, and Washington.

(11) This frequency is available for assignment in this service, only in the States of Arkansas, Louisiana, Oklahoma, Oregon, Texas, and Washington. Elsewhere it is available in the Power Radio Service.

(12) Frequencies in this band will be assigned only for transmitting hydrological or meteorological data or for low power wireless microphones in accordance with the provisions of § 90.265.

(13) This frequency is available on a shared basis with the Local Government, Power, Petroleum, Special Industrial, Business, and Manufacturers Radio Services for remote control and telemetry operations.

(14) For FM transmitters the sum of the highest modulating frequency and the amount of frequency deviation may not exceed 2.8 kHz and the maximum deviation may not exceed 2.5 kHz. For AM transmitters the highest modulating frequency may not exceed 2 kHz.

The carrier frequency must be maintained within 0.0005 percent and the authorized bandwidth may not exceed 6 kHz.

(15) For FM transmitters the sum of the highest modulating frequency and the amount of frequency deviation may not exceed 1.7 kHz and the maximum deviation may not exceed 1.2 kHz. For AM transmitters the highest modulating frequency may not exceed 1.2 kHz. The carrier frequency must be maintained within 0.0005 percent and the authorized bandwidth may not exceed 3 kHz.

(16) This band is available to stations in this service subject to the provisions of § 90.259.

(17) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(18) This frequency is available on a shared basis in the Power, Petroleum, Forest Products, Manufacturers, and Telephone Maintenance Radio Services. It may be assigned only when all of the frequencies in the 450–470 MHz band allocated to the service in which the applicant is primarily eligible are assigned within the 56 km. (35 mi) of the proposed base station.

(19) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(20) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(21) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(22) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(23) Use of this frequency band is limited to developmental operation and is subject to the provisions of subpart Q.

(24) The maximum output power of the transmitter may not exceed 50 watts for fixed stations and 3 watts for mobile stations. A1A, A1D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B, or G2D emission may be authorized.

(25) Operational fixed stations must employ directional antennas having a front-to-back ratio of at least 20 db. Omnidirectional antennas having unity gain may be employed for stations communicating with at least three receiving locations separated by 160° of azimuth.

(26) Use of this frequency is limited to stations located at least 120.7 km (75 miles) from the center of any urbanized area of 200,000 or more population (U.S. Census of Population, 1970). Operation is on a secondary basis to that in the Power Radio Service.

(27) The maximum effective radiated power (ERP) may not exceed 20 watts for fixed stations and 2 watts for mobile stations. The height of the antenna system may not exceed 15.24 meters (50 feet) above ground. All such operation is on a secondary basis to adjacent land mobile operations.

(28) This frequency is shared with the Taxicab Radio Service. It is available for assignment in this service only in the States of Washington, Oregon, Idaho, and Montana in areas at least 64 km (40 miles) from the center of urbanized areas of 200,000 or more population (U.S. Census of Population, 1970). The maximum output power is limited to 75 watts.

(29) This frequency is shared with the Taxicab and Special Industrial Radio Services. Use of this frequency is limited to stations located at least 80.5 km (50 miles) from the center of any urbanized area of 600,000 or more population (U.S. Census of Population, 1970). All operations on this frequency are limited to a maximum transmitter output power of 75 watts.

(30) This frequency is shared with the Special Industrial Radio Service, and is available for assignment in the Forest Products Radio Service only in the States of Washington; Oregon; Idaho; Nevada, and Montana west of Longitude 110 degrees; and California north at Latitude 39 degrees. Evidence of interservice frequency coordination is

required, and mobile relay stations will not be authorized.

(31) This frequency is shared with the Special Industrial Radio Service in the States of North Dakota; South Dakota; Iowa; Nebraska; Kansas and Missouri beyond 80 km (50 miles) from St. Louis and Kansas City; Colorado and Wyoming east of Longitude 106 degrees; and Minnesota south of Latitude 47 degrees.

(32) This frequency is shared with the Special Industrial Radio Service in the States of North Dakota; South Dakota; Iowa; Nebraska; Kansas; Missouri; Colorado and Wyoming east of Longitude 106 degrees; and Minnesota south of Latitude 47 degrees.

(33) This frequency may not be shared in the Special Industrial Radio Service within 32 km (20 miles) of the cities of Duluth, Minnesota; Des Moines and Davenport, Iowa; Omaha, Nebraska; Colorado Springs, Colorado; and Wichita, Kansas.

(34) This frequency is available on a shared basis in the Manufacturers, Forest Products, Special Industrial, Railroad, and Fire Radio Services and interservice coordination is required. All communications on this frequency must be conducted within the boundaries of a logging site or confines of a plant, factory, lumber or paper mill. All operations on this frequency are subject to the provisions of § 90.257(b).

(35) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(36) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(37) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(38) This frequency is also used on a secondary basis by cordless telephones under part 15 of this chapter.

(39) Assignment of frequencies in this band are subject to the provisions of § 90.173.

(40) This frequency will be authorized a channel bandwidth of 25 kHz.

(41) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(42) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(d) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service (See also § 90.253.)

(1) Frequencies may be substituted for those available below 25 MHz in accordance with the provisions of § 90.253.

(2) [Reserved]

(3) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(4) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(e) *Limitation on number of frequencies assignable.* Normally only one frequency or pair of frequencies in the pair frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with Operation of mobile repeaters in accordance with § 90.247 notwithstanding this limitation.

(2) Frequencies in the ranges 30.56–30.57 MHz, 35.00–35.01 MHz, 35.99–36.00 MHz, and 37.00–37.01 MHz are available for developmental operation by applicants in this service subject to the provisions of subpart Q notwithstanding this limitation.

(3) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with

the provisions of subpart M of this part, notwithstanding this limitation.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.67, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§90.69 Film and Video Production Radio Service.

(a) Eligibility. The following are eligible to hold authorizations in the Film and Video Production Radio Service to operate radio stations for transmission of communications essential to such activities of the licensee.

(1) Persons primarily engaged in the production, videotaping or filming of motion pictures or television programs, such as movies, programs, news programs, special events, educational programs or training films, regardless of whether the productions are prepared primarily for final exhibition at theatrical outlets or on television or for distribution through other mass communications outlets. Television or cable entities that are eligible to be licensed under part 74 or 78 of the Rules are not eligible to use the Film and Video Production Radio Service:

(i) To transmit programming (see §90.415),

(ii) To coordinate the live transmission of an event, or

(iii) To coordinate the taping of an event, where the taped material is to be transmitted to the public within 48 hours.

(2) Persons providing direct technical support to eligibles identified in paragraph (a)(1) of this section.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Film and Video Production Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (c) of this section:

FILM AND VIDEO PRODUCTION RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Kilohertz:		
1628	Base or mobile	1
1652	.....do	1
2292	.....do	1
2398	.....do	1
4637.5	.....do	1
Megahertz:		
72 to 76	Operational fixed	2
150 to 170	Base or mobile	15
152.8625	.....do	3, 14
152.87	.....do	3
152.8775	.....do	3, 12
152.90	.....do	3
152.9075	.....do	3, 12
152.93	.....do	3
152.9375	.....do	3, 12
152.96	.....do	3
152.9675	.....do	3, 12
152.99	.....do	3
152.9975	.....do	3, 12
153.02	.....do	3
153.0275	.....do	3, 12
169–172	Mobile	11
173.225	Base or mobile	4
173.275	.....do	4
173.325	.....do	4
173.375	.....do	4
220–222	Base and mobile	13
806 to 821	Mobile	5
851 to 866	Base or mobile	5
896 to 901	Mobile	5
928 and above	Operational fixed	6
929–930	Base only	10
935 to 940	Base or mobile	5
1427 to 1435	Base, mobile or operational fixed	7

FILM AND VIDEO PRODUCTION RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
2450 to 2500	Base or mobile	8
8400 to 8500	.....do	9
10,550 to 10,680*	.....do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) Frequencies below 25 MHz will be assigned to base or mobile stations in this service only upon a satisfactory showing that, from a safety of life standpoint, frequencies above 25 MHz will not meet the operational requirements of the applicant.

(2) The frequencies available for use at operational fixed stations in the band 72–76 MHz are listed in §90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of §90.257.

(3) This frequency is shared with the Special Industrial Radio Service.

(4) This frequency is shared with the Relay Press Radio Service.

(5) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(6) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(7) This band is available in this service subject to the provisions of §90.259.

(8) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(9) Use of this frequency band is limited to developmental operation and is subject to the provisions of subpart Q.

(10) Frequencies in this band are available only for one-way paging operations in accordance with §90.494.

(11) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of §90.265.

(12) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to §90.238(e) will be authorized on this frequency.

(13) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(14) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(15) Assignment of frequencies in this band are subject to the provisions of §90.173

(d) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service.

(1) Frequencies may be substituted for those available below 25 MHz in accordance with the provisions of §90.263.

(2) [Reserved]

(3) Frequencies in the band 73–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted.

(4) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§90.273 through 90.281.

(e) *Limitation on number of frequencies assignable.* Normally only one frequency, or pair of frequencies in the

paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with operation of mobile repeaters in accordance with §90.247, notwithstanding this limitation.

(2) Frequencies in the ranges 30.56–30.57 MHz, 35.00–35.01 MHz, 35.99–36.00 MHz, and 37.00–37–01 MHz are available for assignment for developmental operation by applicants in this service subject to the provisions of subpart Q notwithstanding this limitation.

(3) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.69, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§90.71 Relay Press Radio Service.

(a) *Eligibility.* Persons primarily engaged in the publication of a newspaper or in the operation of an established press association are eligible to hold authorizations in the Relay Press Radio Service to operate radio stations for transmission of communications essential to such activities of the licensee.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Relay Press Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (c) of this section:

RELAY PRESS RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Megahertz:		
72.0 to 76.0	Operational fixed	1
169–172	Mobile	8
173.225	Base or mobile	2
173.275	.....do	2
173.325	.....do	2
173.375	.....do	2
220–222	Base and mobile	10
450–470	Fixed or mobile	11, 14
452.9625	Mobile	15
452.975	Fixed or mobile	
452.98125	.....do	13
452.98750	.....do	12
452.99375	.....do	13
453.000	.....do	
453.00625	.....do	13
453.01250	.....do	12
453.01875	.....do	13
457.9625	Mobile	15
457.975	.....do	
457.98125	.....do	13
457.98750	.....do	12
457.99375	.....do	13
458.000	.....do	
458.00625	.....do	13
458.01250	.....do	12
458.01875	.....do	13
806 to 821	.....do	3
851 to 866	Base or mobile	3
896 to 901	Mobile	3
929–930	Base only	9

RELAY PRESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
928 and above	Operational fixed	4
935 to 940	Base or mobile	3
1427 to 1435	Operational fixed, base or mobile	5
2450 to 2500	Base or mobile	6
8400 to 8500	.....do	7
10,550 to 10,680*	.....do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) The frequencies available in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(2) This frequency is shared with the Film and Video Production Radio Service.

(3) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(4) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(5) This band is available in this service subject to the provisions of § 90.259.

(6) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(7) Use of this frequency band is limited to developmental operation and is subject to the provisions of subpart Q.

(8) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of § 90.265.

(9) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(10) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(11) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(12) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(13) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(14) Assignment of frequencies in this band are subject to the provisions of § 90.173

(15) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(d) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section the following frequencies are available in this service. (See § 90.253.)

(1) [Reserved]

(2) Frequencies in the band 73–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(3) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(e) *Limitation on number of frequencies assignable.* Normal only one frequency, or pair of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single application in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with operation of mobile repeaters in accordance with §90.247 notwithstanding this limitation.

(2) Frequencies in the ranges 30.56–30.57 MHz, 35.00–35.01 MHz, 35.99–36.00 MHz, and 37.00–37.01 MHz are available for assignment to applicants in this service subject to the provisions of subpart Q notwithstanding this limitation.

(3) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.71, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§90.73 Special Industrial Radio Service.

(a) *Eligibility.* Persons regularly engaged in any of the following activities are eligible to hold authorizations in the Special Industrial Radio Service to operate radio stations for the transmission of only those communications essential to such activities of the licensee. (Persons engaging in some activities which are eligible under this paragraph and in some which are not, and desiring to use radio in connections with both types of activities should apply for authorization in the Business Radio Service.)

(1) The operation of farms, ranches, or similar land areas, for the quantity production of crops or plants; vines or trees (excluding forestry operations); or for the keeping, grazing or feeding of livestock for animal products, animal increase, or value enhancement. Persons establishing eligibility under this subparagraph may use their radio facilities in connection with the gathering or processing of products grown or raised for them by others.

(2) Plowing, soil conditioning, seeding, fertilizing, or harvesting for agricultural activities.

(3) Spraying or dusting of insecticides, herbicides, or fungicides, in areas other than enclosed structures.

(4) Livestock breeding service.

(5) The operation of a commercial business regularly engaged in the construction of roads, bridges, sewer systems, pipelines, airfields, or water, oil, gas, or power production, collection, or distribution systems. Other engineering projects, normally classified as heavy construction activities, will be considered on the merits of the showing made, however, the construction of buildings is not included in this category.

(6) The operation of mines for the recovery of solid fuels, minerals, metal, rock, sand and gravel from the earth or the sea, including the exploration for and development of mining properties.

(7) Maintaining, patrolling or repairing gas or liquid transmission pipelines, tank cars, water or waste disposal wells, industrial storage tanks, or distribution systems of public utilities. Persons establishing eligibility under this subparagraph may use their radio facilities in connection with the containment and cleanup of industrial liquid spillage.

(8) Acidizing, cementing, logging, perforating, or shooting activities, and services of a similar nature incident to the drilling of new oil or gas wells, or the maintenance of production from established wells.

(9) Supplying chemicals, mud, tools, pipe, and other materials or equipment unique to the petroleum and gas production industry, as the primary activity of the applicant if delivery, installation or application of these materials requires the use of specifically fitted conveyances.

(10) The delivery of ice or fuel to the consumer for heating, lighting, refrigeration or power generation purposes,

by means other than pipelines or railroads when such products are not to be resold following their delivery. Persons establishing eligibility under this subparagraph may use their radio facilities in connection with the servicing of the equipment that uses or consumes the products delivered.

(11) The delivery and pouring of ready mixed concrete or hot asphalt mix.

(b) [Reserved]

(c) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Special Industrial Radio Service together with the class of station(s) to which they are normally assigned, and the specific assignment limitations which are explained in paragraph (d) of this section.

SPECIAL INDUSTRIAL RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Kilohertz:		
2,000 to 25,000	Fixed, base or mobile	1
2292	Base or mobile	1, 34
2398	do	1, 34
4637.5	do	1, 34
Megahertz:		
30.58	do	2
30.60	do	2
30.62	do	2
30.64	do	34
31.28	do	34
31.32	do	29, 34
31.36	do	34
31.40	do	29, 34
31.44	do	29, 34
31.48	do	29, 31, 34
31.52	do	29, 31, 34
31.56	do	34
31.60	do	29, 34
31.64	do	29, 31, 34
31.68	do	34
31.72	do	29, 31, 34
31.76	do	29, 31, 34
31.80	do	34
31.84	do	34
31.88	do	34
31.92	do	34
31.96	do	34
33.12	do	3, 34
35.28	Base or mobile	34
35.32	do	34
35.36	do	34
35.40	do	34
35.44	do	34
35.48	do	29, 34
35.52	do	34
35.74	do	2
35.76	do	2
35.78	do	2
35.80	do	2
35.82	do	2
35.84	do	2
35.86	do	2
43.02	do	31, 34
43.04	do	4
43.06	do	34
43.08	do	34
43.10	do	34
43.12	do	34
43.14	do	34
43.18	do	2
43.28	do	31, 34
43.32	do	34
43.36	do	31, 34
43.40	do	31, 34
43.44	do	34
43.48	do	34

SPECIAL INDUSTRIAL RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
43.52	do	31, 34
47.44	do	2
47.48	do	2
47.52	do	2
47.56	do	32
47.60	do	2
47.64	do	2
47.68	do	2
49.52	do	34
49.54	do	5, 34
49.56	do	2
49.58	do	5, 34
72–76	Operational fixed	6
72.44	Mobile	7
72.48	do	7
72.52	do	7
72.56	do	7
72.60	do	7
75.44	do	7
75.48	do	7
75.52	do	7
75.56	do	7
75.60	do	7
150 to 170	Base or mobile	39
151.490	do	2, 8
151.4975	do	2, 8, 35
151.505	do	4
151.5125	do	4, 35
151.520	do	2
151.5275	do	2, 35
151.535	do	2
151.5425	do	2, 35
151.550	do	2
151.5575	do	2, 35
151.565	do	2
151.5725	do	2, 35
151.580	do	2
151.5875	do	2, 35
151.595	do	2
151.6025	do	2, 35
152.465	do	2, 28, 35
152.480	do	2, 9, 35, 40
152.8625	do	10, 34, 38
152.870	do	10, 34
152.8775	do	10, 34, 35
152.885	do	2
152.8925	do	2, 35
152.900	do	2, 10
152.9075	do	2, 10, 35
152.915	do	2
152.9225	do	2, 35
152.930	do	2, 10
152.9375	do	2, 10, 35
152.945	do	2
152.9525	do	2, 35
152.960	do	2, 10
152.9675	do	2, 10, 35
152.975	do	2
152.9825	do	2, 35
152.990	do	2, 10
152.9975	do	2, 10, 35
153.005	do	2
153.0125	do	2, 35
153.020	do	2, 10
153.0275	do	2, 10, 35
153.035	do	2, 11
153.0425	do	2, 11, 35
153.050	do	2, 30, 33
153.0575	do	2, 30, 33, 35
153.125	do	2, 30, 33
153.1325	do	2, 30, 33, 35
153.335	do	2, 30

SPECIAL INDUSTRIAL RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
153.3425	.....do	2, 30, 35
153.350	.....do	2, 30
153.3575	.....do	2, 30, 35
153.365	.....do	2, 30
153.3725	.....do	2, 30, 35
153.380	.....do	2, 30
153.3875	.....do	2, 30, 35
153.395	.....do	2, 30
153.4025	.....do	2, 30, 35
154.45625	Fixed or mobile	12, 13, 15, 25
154.46375	.....do	12, 13, 15, 26, 27
154.47125	.....do	12, 13, 15, 27
154.47875	.....do	12, 13, 15, 25
154.4825	Base or mobile	2, 35
154.490	.....do	2
154.4975	.....do	2, 35
154.505	.....do	2, 35
154.625	.....do	2, 9, 40
154.640	.....do	2, 9, 35
157.725	.....do	2, 28
157.740	.....do	2, 9, 40
158.325	.....do	2, 30, 33
158.3325	.....do	2, 30, 33, 35
158.355	.....do	2, 32
158.3625	.....do	2, 32, 35
158.385	.....do	2
158.3925	.....do	2, 35
158.400	.....do	4
158.4075	.....do	4, 35
158.415	.....do	2, 30, 33
158.4225	.....do	2, 30, 33, 35
158.460	.....do	2, 9, 40
169 to 172	Mobile, operational fixed	14
173.20375	Fixed or mobile	12, 13, 15, 27
173.2100	.....do	12, 15, 16, 27
173.2375	.....do	12, 13, 15, 25
173.2625	.....do	12, 13, 15, 25
173.2875	.....do	12, 13, 15, 25
173.3125	.....do	12, 13, 15, 25
173.3375	.....do	12, 13, 15, 25
173.3625	.....do	12, 13, 15, 25
173.3900	.....do	12, 15, 16, 27
173.39625	.....do	12, 13, 15, 27
216 to 220	Base or mobile	17
220–222	Base and mobile	37
406–413	Operational fixed	14
450 to 470	Fixed, base, or mobile	18, 39
451.7125	Mobile	41
451.725	Base or mobile	2
451.73125	.....do	2, 38
451.73750	.....do	2, 35
451.74375	.....do	2, 38
451.7625	Mobile	41
451.775	Base or mobile	2
451.78125	.....do	2, 38
451.78750	.....do	2, 35
451.79375	.....do	2, 38
451.800	Operational fixed, base or mobile	4, 19
451.80625	.....do	4, 19, 38
451.81250	.....do	4, 19, 35
451.81875	.....do	4, 19, 38
451.825	Base or mobile	2
451.83125	.....do	2, 38
451.83750	.....do	2, 35
451.84375	.....do	2, 38
451.850	.....do	2
451.85625	.....do	2, 38
451.86250	.....do	2, 35
451.86875	.....do	2, 38
451.875	.....do	2
451.88125	.....do	2, 38
451.88750	.....do	2, 35

SPECIAL INDUSTRIAL RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
451.89375	.....do	2, 38
451.900	.....do	2
451.90625	.....do	2, 38
451.91250	.....do	2, 35
451.91875	.....do	2, 38
451.925	.....do	2
451.93125	.....do	2, 38
451.93750	.....do	2, 35
451.94375	.....do	2, 38
451.950	.....do	2
451.95625	.....do	2, 38
451.96250	.....do	2, 35
451.96875	.....do	2, 38
451.975	.....do	2
451.98125	.....do	2, 38
451.98750	.....do	2, 35
451.99375	.....do	2, 38
452.000	.....do	2
452.00625	.....do	2, 38
452.01250	.....do	2, 35
452.01875	.....do	2, 38
452.025	.....do	2
452.03125	.....do	2, 38
452.03750	.....do	2, 35
452.04375	.....do	2, 38
452.0625	Mobile	41
452.075	Base or mobile	2
452.08125	.....do	2, 38
452.08750	.....do	2, 35
452.09375	.....do	2, 38
452.1125	Mobile	41
452.125	Base or mobile	2
452.13125	.....do	2, 38
452.13750	.....do	2, 35
452.14375	.....do	2, 38
452.1625	Mobile	41
452.175	Base or mobile	2
452.18125	.....do	2, 38
452.18750	.....do	2, 35
452.19375	.....do	2, 38
456.7125	Mobile	41
456.725	.....do	2
456.73125	.....do	2, 38
456.73750	.....do	2, 35
456.74375	.....do	2, 38
456.7625	.....do	41
456.775	.....do	2
456.78125	.....do	2, 38
456.78750	.....do	2, 35
456.79375	.....do	2, 38
456.800	Operational fixed, base or mobile	4, 19
456.80625	.....do	4, 19, 38
456.81250	.....do	4, 19, 35
456.81875	.....do	4, 19, 38
456.825	Mobile	2
456.83125	.....do	2, 38
456.83750	.....do	2, 35
456.84375	.....do	2, 38
456.850	.....do	2
456.85625	.....do	2, 38
456.86250	.....do	2, 35
456.86875	.....do	2, 38
456.875	.....do	2
456.88125	.....do	2, 38
456.88750	.....do	2, 35
456.89375	.....do	2, 38
456.900	.....do	2
456.90625	.....do	2, 38
456.91250	.....do	2, 35
456.91875	.....do	2, 38
456.925	.....do	2
456.93125	.....do	2, 38

SPECIAL INDUSTRIAL RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
456.93750	do	2, 35
456.94375	do	2, 38
456.950	do	2
456.95625	do	2, 38
456.96250	do	2, 35
456.96875	do	2, 38
456.975	do	2
456.98125	do	2, 38
456.98750	do	2, 35
456.99375	do	2, 38
457.000	do	2
457.00625	do	2, 38
457.01250	do	2, 35
457.01875	do	2, 38
457.025	do	2
457.03125	do	2, 38
457.03750	do	2, 35
457.04375	do	2, 38
457.0625	do	41
457.075	do	2
457.08125	do	2, 38
457.08750	do	2, 35
457.09375	do	2, 38
457.1125	do	41
457.125	do	2
457.13125	do	2, 38
457.13750	do	2, 35
457.14375	do	2, 38
457.1625	do	41
457.175	do	2
457.18125	do	2, 38
457.18750	do	2, 35
457.19375	do	2, 38
470 to 512	Base or mobile	20
806 to 821	Mobile	21
851 to 866	Base or mobile	21
896 to 901	Mobile	21
928 and above	Operational fixed	22
929–930	Base only	36
935 to 940	Base or mobile	21
1427 to 1435	Operational fixed, base or mobile	17
2450 to 2500	Base or mobile	23
8400 to 8500	do	24
10,550 to 10,680*	do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(d) Explanation of assignment limitations appearing in the fequency table of paragraph (c) of this section:

(1) Only entities engaged in exploration, its support services, and the repair of pipelines are eligible to use this spectrum, and then only in accordance with § 90.266. Except as provided in this part, licensees may not use these frequencies in the place of other operational circuits permitted by the Commission's Rules. The use of these frequencies is not subject to § 90.73(f). Circuits operating on these frequencies may be used only for the following purposes:

(i) Exploratory efforts in mining for solid fuels, minerals, and metals important to the national interest;

(ii) Repair of pipelines used for the transmission of fuel or water; and,

(iii) Services supporting the exploration for energy or mineral resources important to the national interest, without which such exploration cannot be conducted.

(2) This frequency will be assigned only for operation in a permanent area, normally within 120 km (75 mi.) of a specified reference point.

(3) Operation on this frequency is limited to a maximum output of 2 watts; and each station authorized will

be classified and licensed as a mobile station. Any units of such a station, however, may provide the operational functions of a base or fixed station, on a secondary basis to mobile service operations provided that the separation between the control point and the center of the radiating portion of the antenna of any units so used does not exceed 7.6 m (25 ft).

(4) This frequency will be assigned only to stations used in itinerant operations.

(5) This frequency is shared with the Forest Products Radio Service.

(6) The frequencies available in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(7) This frequency is available on a shared basis in the Manufacturers, Forest Products, Special Industrial, Railroad, and Fire Radio Services and interservice coordination is required. All communications must be conducted within the boundaries or confines of a plant, factory, shipyard, mill, mine, farm, ranch, or construction area. All operations on this frequency are subject to the provisions of § 90.257(b).

(8) This frequency is not available to stations in Puerto Rico or the Virgin Islands. Elsewhere, this frequency is shared with the Forestry-Conservation Radio Service and interservice coordination is required.

(9) This frequency is available in this service and in the Forest Products Radio Service on a secondary basis to one-way paging communications authorized in the Business Radio Service.

(10) This frequency is shared with the Film and Video Production Radio Service.

(11) This frequency band is shared with the Petroleum Radio Service.

(12) Operational fixed stations must employ directional antennas having a front-to-back ratio of at least 20 dB. Omnidirectional antennas having unity gain may be employed for stations communicating with at least three receiving locations separated by 160° of azimuth.

(13) For FM transmitters the sum of the highest modulating frequency and the amount of frequency deviation may not exceed 2.8 kHz and the maximum frequency deviation may not exceed 2.5 kHz. For AM transmitters, the highest modulating frequency may not exceed 2.0 kHz. The carrier frequency must be maintained within 0.0005 percent and the authorized bandwidth may not exceed 6 kHz.

(14) Frequencies in this band will be assigned only for transmitting hydrological or meteorological data or for low power wireless microphones in accordance with the provisions of § 90.265.

(15) This frequency band is shared with the Power, Forest Products, Special Industrial, Petroleum, Manufacturers, Business, and the Local Government Radio Services for remote control and telemetry operations.

(16) For FM transmitters the sum of the highest modulation frequency and the amount of frequency deviation may not exceed 1.7 kHz and the maximum deviation may not exceed 1.2 kHz. For AM transmitters the highest modulating frequency may not exceed 1.2 kHz. The carrier frequency must be maintained within 0.0005 percent and the authorized bandwidth may not exceed 3 kHz.

(17) This frequency band is available to stations in the service subject to the provisions of § 90.259.

(18) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(19) Operational fixed assignments on this frequency will only be made to an itinerant fixed control or relay station on a secondary basis to land-mobile stations in this service, provided that the fixed relay or control station is to be associated with base and mobile facilities authorized to use other frequencies available for itinerant operation in this service. All such use of these frequencies for fixed systems is limited to locations 161 or more km. (100 mi). from the center of any urbanized area of 200,000 or more population, except that the distance may be 120 km. (75 mi.) if the output power does not exceed 20 watts. All such fixed systems are limited to a maximum of two frequencies and must employ directional antennas with a front-to-back ratio of at least 15 dB. The centers of

urbanized areas of 200,000 or more population are determined from the appendix, page 226, of the U.S. Commerce publication, ''Air Line Distance Between Cities in the United States.'' Urbanized areas of 200,000 or more population are defined in the U.S. Census of Population, 1960, volume 1, table 23, page 1–50.

(20) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(21) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(22) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(23) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new stations or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered, and their operation is co-primary with the Radiodetermination Satellite Service.

(24) Use of this frequency band is limited to developmental operation and is subject to the provisions of subpart Q.

(25) The maximum effective radiated power (ERP) may not exceed 20 watts for fixed stations and 2 watts for mobile stations. The height of the antenna system may not exceed 15.24 meters (50 feet) above ground. All such operation is on a secondary basis to adjacent channel land mobile operations.

(26) Use of this frequency is limited to stations located at least 120.7 km (75 miles) from the center of any urbanized area of 200, 000 or more population (U.S. Census of Population, 1970). Operation is on a secondary basis to that in the Power Radio Service.

(27) The maximum output power of the transmitter may not exceed 50 watts for fixed stations and 1 watt for mobile stations. A1A, A1D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B, or G2D emission may be authorized.

(28) This frequency is shared with the Taxicab and Forest Products Radio Services. Use of this frequency is limited to stations located at least 80.5 km (50 miles) from the center of any urbanized area of 600,000 or more population (U.S. Census of Population, 1970). All operations on this frequency are limited to a transmitter output power of 75 watts.

(29) This frequency is shared with the Petroleum Radio Service in the States of Texas and Louisiana within 120 km (75 miles) of the Gulf of Mexico and in adjacent offshore waters.

(30) This frequency is shared with other Industrial Radio Services and is available for assignment in the Special Industrial Radio Service only in the States of North Dakota, South Dakota, Iowa, Nebraska, Kansas, and Missouri beyond 80 km (50 miles) from St. Louis and Kansas City; Wyoming and Colorado east of Longitude 106 degrees except within a 80 km (50 mile) radius of Denver; and Minnesota south of Latitude 47 degrees except within a 80 km (50 mile) radius of St. Paul, Minnesota. The maximum transmitter output power may not exceed 110 watts.

(31) This frequency is shared with the Forest Products Radio Service in the States of Washington; Oregon; Idaho; Nevada; Montana west of Longitude 110 degrees; and California north of Latitude 39 degrees.

(32) This frequency is shared with other Industrial Radio Services and is available for assignment in the Special Industrial Radio Service only in the States of North Dakota, South Dakota, Iowa, Nebraska, Kansas, Missouri, Colorado, and Wyoming east of Latitude 106 degrees; and Minnesota south of Latitude 47 degrees. The maximum transmitter output power may not exceed 110 watts.

(33) This frequency is not available for assignment in the Special Industrial Radio Service within 32 km (20 miles) of the cities of Duluth, Minnesota; Des Moines and Davenport, Iowa; Omaha, Nebraska; Colorado Springs, Colorado; and Wichita, Kansas.

(34) This frequency is for general use and may be assigned either for itinerant or permanent use operations.

(35) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(36) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(37) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(38) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(39) Assignment of frequencies in this band are subject to the provisions of § 90.173.

(40) This frequency will be authorized a channel bandwidth of 25 kHz.

(41) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(e) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service: (See also § 90.253)

(1) Frequencies may be substituted for those available below 25 MHz in accordance with the provisions of § 90.263.

(2) [Reserved]

(3) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(4) The following frequencies are available only in Puerto Rico and the Virgin Islands. These ''Base and Mobile'' and ''Mobile only'' frequencies are available on a shared basis in the Forestry-Conservation and Railroad Radio Services respectively. These ''Mobile only'' frequencies may be assigned to a control station associated with a mobile relay system if it is also assigned to the associated mobile station.

Base and mobile	Mobile only
159.240	160.410
159.2475	160.4175
159.255	160.425
159.2625	160.4325
159.270	160.440
159.2775	160.4475
159.285	160.455
159.2925	160.4625
159.300	160.470
159.3075	160.4775
159.315	160.485
159.3225	160.4925
159.330	160.500
159.3375	160.5075
159.345	160.515
159.3525	160.5225
159.360	160.530
159.3675	160.5375
159.375	160.545
159.3825	160.5525
159.390	160.560
159.3975	160.5675
159.405	160.575
159.4125	160.5825
159.420	160.590
159.4275	160.5975
159.435	160.605
159.4425	160.6125

(5) Land mobile service frequencies above 152 MHz which are listed elsewhere in this part as available to the Petroleum, Forest Products, and Manufacturers Radio Services, are also available, with the exception of the frequency 154.57 MHz, for assignment in this service for use in Hawaii, Puerto Rico, and the Virgin Islands, subject to the same limitations as apply in the Petroleum Forest Products, and Manufacturers Radio Services. Operation on such frequencies is secondary to stations operating in the Petroleum, Forest Products, or Manufacturers Radio Services and their use will be terminated if they are needed in the areas concerned in any of those services.

(6) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(f) *Limitation on number of frequencies assignable.* Normally only one frequency, or pair of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection

with operation of mobile repeaters in accordance with § 90.247, notwithstanding this limitation.

(2) Frequencies in the ranges 30.56–30.57 MHz, 35.00–35.01 MHz, 35.99–36.00 MHz and 37.00–37.01 MHz are available for assignment to applicants in this service subject to the provisions of subpart Q notwithstanding this limitation.

(3) Authorization for more than one mobile frequency in the band 72–76 MHz will be issued notwithstanding this limitation.

(4) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(5) This limitation shall not apply to paragraph (d)(1) of this section.

(g) *Limitation on itinerant operation.* Base or mobile stations being utilized in itinerant operation will be authorized only on base or mobile frequencies designated for itinerant operation under § 90.73(d)(4).

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§ 0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 90.73, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 90.75 Business Radio Service.

(a) *Eligibility.* Persons primarily engaged in any of the following activities are eligible to hold authorizations in the Business Radio Service to provide commercial mobile radio service as defined in part 20 of this chapter or to operate stations for transmission of communications necessary to such activities of the licensee:

(1) The operation of a commercial activity.

(2) The operation of educational, philanthropic, or ecclesiastical institutions.

(3) Clergymen activities.

(4) The operation of hospitals, clinics or medical associations.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Business Radio Service together with the class of station(s) to which they are normally assigned, and the specific assignment limitations, which are explained in paragraph (c) of this section.

BUSINESS RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Megahertz:		
27.43	Base or Mobile	1, 2
27.45	.....do	1, 2
27.47	.....do	1, 2
27.49	.....do	1, 3
27.51	Mobile	4
27.53	.....do	4
30.76	Base or Mobile	1, 2
30.80	.....do	1, 2
30.84	Mobile	4, 22
30.88	Base or Mobile	1, 2
30.92	.....do	1, 2
30.96	.....do	1, 2
31.00	.....do	1, 2
31.04	.....do	1, 2
31.16	.....do	1, 2
31.20	.....do	1, 2
31.24	.....do	1, 2
33.14	Mobile	4, 22
33.16	Base or Mobile	1, 2
33.40	Mobile	6, 22
35.02	.....do	4, 5, 22
35.04	Base or Mobile	1, 3
35.06	.....do	1, 2
35.08	.....do	1, 2
35.10	.....do	1, 2
35.12	.....do	1, 2
35.14	.....do	1, 2
35.18	.....do	1, 2

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
35.70	.....do	2
35.72	.....do	2
35.88	.....do	1, 2
35.90	.....do	1, 2
35.92	.....do	1, 2
35.94	.....do	
35.96	.....do	
35.98	.....do	
42.96	.....do	1, 2
42.98	Mobile	4, 22
43.00	Base or Mobile	1, 2
72 to 76	Operational fixed	7
74.61	Mobile	45
74.63	.....do	45
74.65	.....do	45
74.67	.....do	45
74.69	.....do	45
74.71	.....do	45
74.73	.....do	45
74.75	.....do	45
74.77	.....do	45
74.79	.....do	45
75.21	.....do	45
75.23	.....do	45
75.25	.....do	45
75.27	.....do	45
75.29	.....do	45
75.31	.....do	45
75.33	.....do	45
75.35	.....do	45
75.37	.....do	45
75.39	.....do	45
150 to 170	Base or Mobile	48
150.815	Mobile	8
150.830	Base	8, 10, 12, 49
150.845	Base or Mobile	8
150.8525	.....do	8, 24
150.860	.....do	8
150.8675	.....do	8, 24
150.875	.....do	8
150.8825	.....do	8, 24
150.890	.....do	8
150.8975	.....do	8, 24
150.905	.....do	8
150.920	Base	8, 10, 12, 49
150.935	Base or Mobile	8
150.9425	.....do	8, 24
150.950	.....do	8
150.9575	.....do	8, 24
150.965	.....do	8
150.9725	.....do	8, 24
150.995	.....do	8
151.0025	.....do	8, 24
151.010	.....do	8
151.0175	.....do	8, 24
151.025	.....do	8
151.0325	.....do	8, 24
151.040	.....do	8
151.0475	.....do	8, 24
151.055	.....do	8
151.070	Base	8, 10, 12, 49
151.085	Base or Mobile	8
151.0925	.....do	8, 24
151.100	.....do	8
151.1075	.....do	8, 24
151.115	.....do	8
151.1225	.....do	8, 24
151.130	.....do	8
151.1375	.....do	8, 24
151.145	.....do	8
151.1525	.....do	8, 24
151.160	.....do	8

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
151.1675	.....do	8, 24
151.175	.....do	8
151.190	Base	8, 10, 12, 49
151.205	Base or Mobile	8
151.2125	.....do	8, 24
151.220	.....do	8
151.2275	.....do	8, 24
151.235	.....do	8
151.2425	.....do	8, 24
151.250	.....do	8
151.2575	.....do	8, 24
151.265	.....do	8
151.2725	.....do	8, 24
151.280	.....do	8
151.2875	.....do	8, 24
151.295	.....do	8
151.310	Base	8, 10, 12, 49
151.325	Base or Mobile	8
151.3325	.....do	8, 24
151.340	.....do	8
151.3475	.....do	8, 24
151.355	.....do	8
151.3625	.....do	8, 24
151.370	.....do	8
151.3775	.....do	8, 24
151.385	.....do	8
151.3925	.....do	8, 24
151.400	.....do	8
151.4075	.....do	8, 24
151.415	.....do	8
151.4225	.....do	8, 24
151.430	.....do	8
151.4375	.....do	8, 24
151.445	.....do	8
151.4525	.....do	8, 24
151.460	.....do	8
151.4675	.....do	8, 24
151.475	.....do	8
151.4825	.....do	8, 24
151.625	.....do	1, 3
151.640	.....do	1, 2, 46
151.6475	.....do	1, 2, 24
151.655	.....do	1, 2
151.6625	.....do	1, 2, 24
151.670	.....do	1, 2, 24
151.6775	.....do	1, 2, 24
151.685	.....do	1, 2
151.700	.....do	3, 30, 47
151.715	.....do	1, 2
151.7225	.....do	1, 2, 24
151.730	.....do	1, 2, 24
151.7375	.....do	1, 2, 24
151.745	.....do	1, 2
151.760	.....do	3, 30, 47
151.775	.....do	1, 2
151.7825	.....do	1, 2, 24
151.790	.....do	1, 2, 24
151.7975	.....do	1, 2, 24
151.805	.....do	1, 2
151.820	Mobile	13, 22, 47, 51
151.835	Base or Mobile	1, 2
151.8425	.....do	1, 2, 24
151.850	.....do	1, 2, 24
151.8575	.....do	1, 2, 24
151.865	.....do	1, 2
151.880	Mobile	13, 22, 47, 51
151.895	Base or Mobile	1, 2
151.9025	.....do	1, 2, 24
151.910	.....do	1, 2, 24
151.9175	.....do	1, 2, 24
151.925	.....do	
151.940	Mobile	13, 22, 47, 51

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
151.955	Base or Mobile	
151.9625	.....do	1, 2, 24
151.970	.....do	1, 2, 24
151.9775	.....do	1, 2, 24
152.300	.....do	9
152.3075	.....do	9, 24
152.315	.....do	1, 9
152.3225	.....do	1, 9, 24
152.345	.....do	1, 9
152.3525	.....do	1, 9, 24
152.360	.....do	9
152.3675	.....do	9, 24
152.375	.....do	1, 9
152.3825	.....do	1, 9, 24
152.405	.....do	1, 9
152.4125	.....do	1, 9, 24
152.420	.....do	9
152.4275	.....do	9, 24
152.480	Base	10, 11, 12, 49
154.45625	Mobile	18, 19, 36
154.46375	.....do	18, 19, 35, 37
154.47125	.....do	18, 19, 35
154.515	Base or Mobile	1, 2
154.5275	Mobile	3, 30, 47
154.540	Base or Mobile	1, 2
154.5475	.....do	1, 2, 24
154.555	.....do	1, 2, 46
154.570	Mobile	4, 13, 22
154.600	.....do	4, 14, 22
154.610	Base or Mobile	1, 2, 46
154.625	Base	10, 11, 15, 49
154.640	.....do	10, 11, 15, 24
157.560	Base or Mobile	9
157.5675	.....do	9, 24
157.575	Mobile	1, 9
157.5825	.....do	1, 9, 24
157.605	Mobile	1, 9
157.6125	.....do	1, 9, 24
157.620	Base or Mobile	9
157.6275	.....do	9, 24
157.635	Mobile	1, 9
157.6425	.....do	1, 9, 24
157.665	Mobile	1, 9
157.6725	.....do	1, 9, 24
157.680	.....do	9
157.6875	.....do	9, 24
157.740	Base	10, 11, 12, 49
158.460	.....do	10, 11, 12, 15, 49
169 to 172	Mobile, operational fixed	17
173.20375	Mobile	18, 19, 35
173.2100	.....do	18, 20, 35
173.2375	.....do	18, 19, 36
173.2625	.....do	18, 19, 36
173.2875	.....do	18, 19, 36
173.3125	.....do	18, 19, 36
173.3375	.....do	18, 19, 36
173.3625	.....do	18, 19, 36
173.3900	.....do	18, 20, 35
173.39625	.....do	18, 19, 35
216 to 220	Base or Mobile	21
220–222	Base and mobile	44
406 to 413	Operational fixed	17
450 to 470	Base or Mobile	48
457.5125	Mobile	50
457.525	.....do	4, 14, 22, 23
457.53125	.....do	4, 14, 22, 23, 46
457.53750	.....do	4, 14, 22, 23, 24
457.54375	.....do	4, 14, 22, 23, 46
457.550	.....do	4, 14, 22, 23
457.55625	.....do	4, 14, 22, 23, 46
457.56250	.....do	4, 14, 22, 23, 24
457.56875	.....do	4, 14, 22, 23, 46

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
457.575	do	4, 14, 22, 23
457.58125	do	4, 14, 22, 23, 46
457.58750	do	4, 14, 22, 23, 24
457.59375	do	4, 14, 22, 23, 46
457.600	do	4, 14, 22, 23
457.60625	do	4, 14, 22, 23, 46
457.61250	do	4, 14, 22, 23, 24
457.61875	do	4, 14, 22, 23, 46
460.650	Base or Mobile	2, 15, 25, 26
460.65625	do	2, 15, 25, 26, 46
460.66250	do	2, 15, 24, 25, 26
460.66875	do	2, 15, 25, 26, 46
460.675	do	2, 15, 25, 26
460.68125	do	2, 15, 25, 26, 46
460.68750	do	2, 15, 24, 25, 26
460.69375	do	2, 15, 25, 26, 46
460.700	do	2, 15, 25, 26
460.70625	do	2, 15, 25, 26, 46
460.71250	do	2, 15, 24, 25, 26
460.71875	do	2, 15, 25, 26, 46
460.725	do	2, 15, 25, 26
460.73125	do	2, 15, 25, 26, 46
460.73750	do	2, 15, 24, 25, 26
460.74375	do	2, 15, 25, 26, 46
460.750	do	2, 15, 25, 26
460.75625	do	2, 15, 25, 26, 46
460.76250	do	2, 15, 24, 25, 26
460.76875	do	2, 15, 25, 26, 46
460.775	do	2, 15, 25, 26
460.78125	do	2, 15, 25, 26, 46
460.78750	do	2, 15, 24, 25, 26
460.79375	do	2, 15, 25, 26, 46
460.800	do	2, 15, 25, 26
460.80625	do	2, 15, 25, 26, 46
460.81250	do	2, 15, 24, 25, 26
460.81875	do	2, 15, 25, 26, 46
460.825	do	2, 15, 25, 26
460.83125	do	2, 15, 25, 26, 46
460.83750	do	2, 15, 24, 25, 26
460.84375	do	2, 15, 25, 26, 46
460.850	do	2, 15, 25, 26
460.85625	do	2, 15, 25, 26, 46
460.86250	do	2, 15, 24, 25, 26
460.86875	do	2, 15, 25, 26, 46
460.875	do	2, 15, 25, 26
460.88125	do	2, 15, 25, 26, 46
460.88750	do	2, 15, 24, 25, 26
460.89375	do	2, 15, 25, 26, 46
460.900	do	1, 2, 27, 39, 40
460.90625	do	1, 2, 27, 39, 40, 46
460.91250	do	1, 2, 24, 27, 39, 40
460.91875	do	1, 2, 27, 39, 40, 46
460.925	do	1, 2, 27, 39, 40
460.93125	do	1, 2, 27, 39, 40, 46
460.93750	do	1, 2, 24, 27, 39, 40
460.94375	do	1, 2, 27, 39, 40, 46
460.950	do	1, 2, 27, 39, 40
460.95625	do	1, 2, 27, 39, 40, 46
460.96250	do	1, 2, 24, 27, 39, 40
460.96875	do	1, 2, 27, 39, 40, 46
460.975	do	1, 2, 28, 39, 40
460.98125	do	1, 2, 28, 39, 40, 46
460.98750	do	1, 2, 24, 28, 39, 40
460.99375	do	1, 2, 28, 39, 40, 46
461.000	do	1, 2, 28, 39, 40
461.00625	do	1, 2, 28, 39, 40, 46
461.01250	do	1, 2, 24, 28, 39, 40
461.01875	do	1, 2, 28, 39, 40, 46
461.025	do	1, 2, 26
461.03125	do	1, 2, 26, 46
461.03750	do	1, 2, 24, 26
461.04375	do	1, 2, 26, 46

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
461.050	do	1, 2, 26
461.05625	do	1, 2, 26, 46
461.06250	do	1, 2, 24, 26
461.06875	do	1, 2, 26, 46
461.075	do	1, 2, 26
461.08125	do	1, 2, 26, 46
461.08750	do	1, 2, 24, 26
461.09375	do	1, 2, 26, 46
461.100	do	1, 2, 26
461.10625	do	1, 2, 26, 46
461.11250	do	1, 2, 24, 26
461.11875	do	1, 2, 26, 46
461.125	do	1, 2, 26
461.13125	do	1, 2, 26, 46
461.13750	do	1, 2, 24, 26
461.14375	do	1, 2, 26, 46
461.150	do	1, 2, 26
461.15625	do	1, 2, 26, 46
461.16250	do	1, 2, 24, 26
461.16875	do	1, 2, 26, 46
461.175	do	1, 2, 26
461.18125	do	1, 2, 26, 46
461.18750	do	1, 2, 24, 26
461.19375	do	1, 2, 26, 46
461.200	do	1, 2, 26
461.20625	do	1, 2, 26, 46
461.21250	do	1, 2, 24, 26
461.21875	do	1, 2, 26, 46
461.225	do	1, 2, 26
461.23125	do	1, 2, 26, 46
461.23750	do	1, 2, 24, 26
461.24375	do	1, 2, 26, 46
461.250	do	1, 2, 26
461.25625	do	1, 2, 26, 46
461.26250	do	1, 2, 24, 26
461.26875	do	1, 2, 26, 46
461.275	do	1, 2, 26
461.28125	do	1, 2, 26, 46
461.28750	do	1, 2, 24, 26
461.29375	do	1, 2, 26, 46
461.300	do	1, 2, 26
461.30625	do	1, 2, 26, 46
461.31250	do	1, 2, 24, 26
461.31875	do	1, 2, 26, 46
461.325	do	1, 2, 26
461.33125	do	1, 2, 26, 46
461.33750	do	1, 2, 24, 26
461.34375	do	1, 2, 26, 46
461.350	do	1, 2, 26
461.35625	do	1, 2, 26, 46
461.36250	do	1, 2, 24, 26
461.36875	do	1, 2, 26, 46
461.375	do	1, 2, 26
461.38125	do	1, 2, 26, 46
461.38750	do	1, 2, 24, 26
461.39375	do	1, 2, 26, 46
461.400	do	1, 2, 26
461.40625	do	1, 2, 26, 46
461.41250	do	1, 2, 24, 26
461.41875	do	1, 2, 26, 46
461.425	do	1, 2, 26
461.43125	do	1, 2, 26, 46
461.43750	do	1, 2, 24, 26
461.44375	do	1, 2, 26, 46
461.450	do	1, 2, 26
461.45625	do	1, 2, 26, 46
461.46250	do	1, 2, 24, 26
461.46875	do	1, 2, 26, 46
461.475	do	1, 2, 26
461.48125	do	1, 2, 26, 46
461.48750	do	1, 2, 24, 26
461.49375	do	1, 2, 26, 46

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
461.500	do	1, 2, 26
461.50625	do	1, 2, 26, 46
461.51250	do	1, 2, 24, 26
461.51875	do	1, 2, 26, 46
461.525	do	1, 2, 26
461.53125	do	1, 2, 26, 46
461.53750	do	1, 2, 24, 26
461.54375	do	1, 2, 26, 46
461.550	do	1, 2, 26
461.55625	do	1, 2, 26, 46
461.56250	do	1, 2, 24, 26
461.56875	do	1, 2, 26, 46
461.575	do	1, 2, 26
461.58125	do	1, 2, 26, 46
461.58750	do	1, 2, 24, 26
461.59375	do	1, 2, 26, 46
461.600	do	1, 2, 26
461.60625	do	1, 2, 26, 46
461.61250	do	1, 2, 24, 26
461.61875	do	1, 2, 26, 46
461.625	do	1, 2, 26
461.63125	do	1, 2, 26, 46
461.63750	do	1, 2, 24, 26
461.64375	do	1, 2, 26, 46
461.650	do	1, 2, 26
461.65625	do	1, 2, 26, 46
461.66250	do	1, 2, 24, 26
461.66875	do	1, 2, 26, 46
461.675	do	1, 2, 26
461.68125	do	1, 2, 26, 46
461.68750	do	1, 2, 24, 26
461.69375	do	1, 2, 26, 46
461.700	do	1, 2, 26
461.70625	do	1, 2, 26, 46
461.71250	do	1, 2, 24, 26
461.71875	do	1, 2, 26, 46
461.725	do	1, 2, 26
461.73125	do	1, 2, 26, 46
461.73750	do	1, 2, 24, 26
461.74375	do	1, 2, 26, 46
461.750	do	1, 2, 26
461.75625	do	1, 2, 26, 46
461.76250	do	1, 2, 24, 26
461.76875	do	1, 2, 26, 46
461.775	do	1, 2, 26
461.78125	do	1, 2, 26, 46
461.78750	do	1, 2, 24, 26
461.79375	do	1, 2, 26, 46
461.800	do	1, 2, 26
461.80625	do	1, 2, 26, 46
461.81250	do	1, 2, 24, 26
461.81875	do	1, 2, 26, 46
461.825	do	1, 2, 26
461.83125	do	1, 2, 26, 46
461.83750	do	1, 2, 24, 26
461.84375	do	1, 2, 26, 46
461.850	do	1, 2, 26
461.85625	do	1, 2, 26, 46
461.86250	do	1, 2, 24, 26
461.86875	do	1, 2, 26, 46
461.875	do	1, 2, 26
461.88125	do	1, 2, 26, 46
461.88750	do	1, 2, 24, 26
461.89375	do	1, 2, 26, 46
461.900	do	1, 2, 26
461.90625	do	1, 2, 26, 46
461.91250	do	1, 2, 24, 26
461.91875	do	1, 2, 26, 46
461.925	do	1, 2, 26
461.93125	do	1, 2, 26, 46
461.93750	do	1, 2, 24, 26
461.94375	do	1, 2, 26, 46

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
461.950	.....do	1, 2, 26
461.95625	.....do	1, 2, 26, 46
461.96250	.....do	1, 2, 24, 26
461.96875	.....do	1, 2, 26, 46
461.975	.....do	1, 2, 26
461.98125	.....do	1, 2, 26, 46
461.98750	.....do	1, 2, 24, 26
461.99375	.....do	1, 2, 26, 46
462.000	.....do	1, 2, 26
462.00625	.....do	1, 2, 26, 46
462.01250	.....do	1, 2, 24, 26
462.01875	.....do	1, 2, 26, 46
462.025	.....do	1, 2, 26
462.03125	.....do	1, 2, 26, 46
462.03750	.....do	1, 2, 24, 26
462.04375	.....do	1, 2, 26, 46
462.050	.....do	1, 2, 26
462.05625	.....do	1, 2, 26, 46
462.06250	.....do	1, 2, 24, 26
462.06875	.....do	1, 2, 26, 46
462.075	.....do	1, 2, 26
462.08125	.....do	1, 2, 26, 46
462.08750	.....do	1, 2, 24, 26
462.09375	.....do	1, 2, 26, 46
462.100	.....do	1, 2, 26
462.10625	.....do	1, 2, 26, 46
462.11250	.....do	1, 2, 24, 26
462.11875	.....do	1, 2, 26, 46
462.125	.....do	1, 2, 26
462.13125	.....do	1, 2, 26, 46
462.13750	.....do	1, 2, 24, 26
462.14375	.....do	1, 2, 26, 46
462.150	.....do	1, 2, 26
462.15625	.....do	1, 2, 26, 46
462.16250	.....do	1, 2, 24, 26
462.16875	.....do	1, 2, 26, 46
462.175	.....do	1, 2, 26
462.18125	.....do	1, 2, 26, 46
462.18750	.....do	1, 2, 24, 26
462.19375	.....do	1, 2, 26, 46
462.750	Base	10, 49
462.7625	Mobile	52
462.775	Base	10, 49
462.7875	Mobile	52
462.800	Base	10, 49
462.8125	Mobile	52
462.825	Base	10, 49
462.8375	Mobile	52
462.850	Base	10, 49
462.8625	Mobile	52
462.875	Base	10, 49
462.8875	Mobile	52
462.900	Base	10, 49
462.9125	Mobile	52
462.925	Base	10, 49
462.93750	.....do	24, 49
462.94375	.....do	46
463.200	Base or Mobile	1, 2, 26
463.20625	.....do	1, 2, 26, 46
463.21250	.....do	1, 2, 24, 26
463.21875	.....do	1, 2, 26, 46
463.225	.....do	1, 2, 26
463.23125	.....do	1, 2, 26, 46
463.23750	.....do	1, 2, 24, 26
463.24375	.....do	1, 2, 26, 46
463.250	.....do	1, 2, 26
463.25625	.....do	1, 2, 26, 46
463.26250	.....do	1, 2, 24, 26
463.26875	.....do	1, 2, 26, 46
463.275	.....do	1, 2, 26
463.28125	.....do	1, 2, 26, 46
463.28750	.....do	1, 2, 24, 26

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
463.29375	do	1, 2, 26, 46
463.300	do	1, 2, 26
463.30625	do	1, 2, 26, 46
463.31250	do	1, 2, 24, 26
463.31875	do	1, 2, 26, 46
463.325	do	1, 2, 26
463.33125	do	1, 2, 26, 46
463.33750	do	1, 2, 24, 26
463.34375	do	1, 2, 26, 46
463.350	do	1, 2, 26
463.35625	do	1, 2, 26, 46
463.36250	do	1, 2, 24, 26
463.36875	do	1, 2, 26, 46
463.375	do	1, 2, 26
463.38125	do	1, 2, 26, 46
463.38750	do	1, 2, 24, 26
463.39375	do	1, 2, 26, 46
463.400	do	1, 2, 26
463.40625	do	1, 2, 26, 46
463.41250	do	1, 2, 24, 26
463.41875	do	1, 2, 26, 46
463.425	do	1, 2, 26
463.43125	do	1, 2, 26, 46
463.43750	do	1, 2, 24, 26
463.44375	do	1, 2, 26, 46
463.450	do	1, 2, 26
463.45625	do	1, 2, 26, 46
463.46250	do	1, 2, 24, 26
463.46875	do	1, 2, 26, 46
463.475	do	1, 2, 26
463.48125	do	1, 2, 26, 46
463.48750	do	1, 2, 24, 26
463.49375	do	1, 2, 26, 46
463.500	do	1, 2, 26
463.50625	do	1, 2, 26, 46
463.51250	do	1, 2, 24, 26
463.51875	do	1, 2, 26, 46
463.525	do	1, 2, 26
463.53125	do	1, 2, 26, 46
463.53750	do	1, 2, 24, 26
463.54375	do	1, 2, 26, 46
463.550	do	1, 2, 26
463.55625	do	1, 2, 26, 46
463.56250	do	1, 2, 24, 26
463.56875	do	1, 2, 26, 46
463.575	do	1, 2, 26
463.58125	do	1, 2, 26, 46
463.58750	do	1, 2, 24, 26
463.59375	do	1, 2, 26, 46
463.600	do	1, 2, 26
463.60625	do	1, 2, 26, 46
463.61250	do	1, 2, 24, 26
463.61875	do	1, 2, 26, 46
463.625	do	1, 2, 26
463.63125	do	1, 2, 26, 46
463.63750	do	1, 2, 24, 26
463.64375	do	1, 2, 26, 46
463.650	do	1, 2, 26
463.65625	do	1, 2, 26, 46
463.66250	do	1, 2, 24, 26
463.66875	do	1, 2, 26, 46
463.675	do	1, 2, 26
463.68125	do	1, 2, 26, 46
463.68750	do	1, 2, 24, 26
463.69375	do	1, 2, 26, 46
463.700	do	1, 2, 26
463.70625	do	1, 2, 26, 46
463.71250	do	1, 2, 24, 26
463.71875	do	1, 2, 26, 46
463.725	do	1, 2, 26
463.73125	do	1, 2, 26, 46
463.73750	do	1, 2, 24, 26

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
463.74375	do	1, 2, 26, 46
463.750	do	1, 2, 26
463.75625	do	1, 2, 26, 46
463.76250	do	1, 2, 24, 26
463.76875	do	1, 2, 26, 46
463.775	do	1, 2, 26
463.78125	do	1, 2, 26, 46
463.78750	do	1, 2, 24, 26
463.79375	do	1, 2, 26, 46
463.800	do	1, 2, 26
463.80625	do	1, 2, 26, 46
463.81250	do	1, 2, 24, 26
463.81875	do	1, 2, 26, 46
463.825	do	1, 2, 26
463.83125	do	1, 2, 26, 46
463.83750	do	1, 2, 24, 26
463.84375	do	1, 2, 26, 46
463.850	do	1, 2, 26
463.85625	do	1, 2, 26, 46
463.86250	do	1, 2, 24, 26
463.86875	do	1, 2, 26, 46
463.875	do	1, 2, 26
463.88125	do	1, 2, 26, 46
463.88750	do	1, 2, 24, 26
463.89375	do	1, 2, 26, 46
463.900	do	1, 2, 26
463.90625	do	1, 2, 26, 46
463.91250	do	1, 2, 24, 26
463.91875	do	1, 2, 26, 46
463.925	do	1, 2, 26
463.93125	do	1, 2, 26, 46
463.93750	do	1, 2, 24, 26
463.94375	do	1, 2, 26, 46
463.950	do	1, 2, 26
463.95625	do	1, 2, 26, 46
463.96250	do	1, 2, 24, 26
463.96875	do	1, 2, 26, 46
463.975	do	1, 2, 26
463.98125	do	1, 2, 26, 46
463.98750	do	1, 2, 24, 26
463.99375	do	1, 2, 26, 46
464.000	do	1, 2, 26
464.00625	do	1, 2, 26, 46
464.01250	do	1, 2, 24, 26
464.01875	do	1, 2, 26, 46
464.025	do	1, 2, 26
464.03125	do	1, 2, 26, 46
464.03750	do	1, 2, 24, 26
464.04375	do	1, 2, 26, 46
464.050	do	1, 2, 26
464.05625	do	1, 2, 26, 46
464.06250	do	1, 2, 24, 26
464.06875	do	1, 2, 26, 46
464.075	do	1, 2, 26
464.08125	do	1, 2, 26, 46
464.08750	do	1, 2, 24, 26
464.09375	do	1, 2, 26, 46
464.100	do	1, 2, 26
464.10625	do	1, 2, 26, 46
464.11250	do	1, 2, 24, 26
464.11875	do	1, 2, 26, 46
464.125	do	1, 2, 26
464.13125	do	1, 2, 26, 46
464.13750	do	1, 2, 24, 26
464.14375	do	1, 2, 26, 46
464.150	do	1, 2, 26
464.15625	do	1, 2, 26, 46
464.16250	do	1, 2, 24, 26
464.16875	do	1, 2, 26, 46
464.175	do	1, 2, 26
464.18125	do	1, 2, 26, 46
464.18750	do	1, 2, 24, 26

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
464.19375	do	1, 2, 26, 46
464.200	do	1, 2, 26
464.20625	do	1, 2, 26, 46
464.21250	do	1, 2, 24, 26
464.21875	do	1, 2, 26, 46
464.225	do	1, 2, 26
464.23125	do	1, 2, 26, 46
464.23750	do	1, 2, 24, 26
464.24375	do	1, 2, 26, 46
464.250	do	1, 2, 26
464.25625	do	1, 2, 26, 46
464.26250	do	1, 2, 24, 26
464.26875	do	1, 2, 26, 46
464.275	do	1, 2, 26
464.28125	do	1, 2, 26, 46
464.28750	do	1, 2, 24, 26
464.29375	do	1, 2, 26, 46
464.300	do	1, 2, 26
464.30625	do	1, 2, 26, 46
464.31250	do	1, 2, 24, 26
464.31875	do	1, 2, 26, 46
464.325	do	1, 2, 26, 29
464.33125	do	1, 2, 26, 29, 46
464.33750	do	1, 2, 24, 26, 29
464.34375	do	1, 2, 26, 29, 46
464.350	do	1, 2, 26
464.35625	do	1, 2, 26, 46
464.36250	do	1, 2, 24, 26
464.36875	do	1, 2, 26, 46
464.375	do	1, 2, 26, 29
464.38125	do	1, 2, 26, 29, 46
464.38750	do	1, 2, 24, 26, 29
464.39375	do	1, 2, 26, 29, 46
464.400	do	1, 2, 26
464.40625	do	1, 2, 26, 46
464.41250	do	1, 2, 24, 26
464.41875	do	1, 2, 26, 46
464.425	do	1, 2, 26, 29
464.43125	do	1, 2, 26, 29, 46
464.43750	do	1, 2, 24, 26, 29
464.44375	do	1, 2, 26, 29, 46
464.450	do	1, 2, 26
464.45625	do	1, 2, 26, 46
464.46250	do	1, 2, 24, 26
464.46875	do	1, 2, 26, 46
464.475	do	1, 2, 26, 29
464.48125	do	1, 2, 26, 29, 46
464.4875	do	1, 2, 26, 29, 46
464.500	do	3, 30
464.5125	do	1, 2, 26, 29, 46
464.51875	do	1, 2, 26, 29, 46
464.525	do	1, 2, 26, 29
464.53125	do	1, 2, 26, 29, 46
464.5375	do	1, 2, 26, 29, 46
464.550	do	3, 30
464.5625	do	1, 2, 26, 29, 46
464.56875	do	1, 2, 26, 29, 46
464.575	do	1, 2, 26, 29
464.58125	do	1, 2, 26, 29, 46
464.58750	do	1, 2, 24, 26, 29
464.59375	do	1, 2, 26, 29, 46
464.600	do	1, 26
464.60625	do	1, 26, 46
464.61250	do	1, 24, 26
464.61875	do	1, 26, 46
464.625	do	1, 26
464.63125	do	1, 26, 46
464.63750	do	1, 24, 26
464.64375	do	1, 26, 46
464.650	do	1, 26
464.65625	do	1, 26, 46
464.66250	do	1, 24, 26

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
464.66875	do	1, 26, 46
464.675	do	1, 2, 26, 29
464.68125	do	1, 2, 26, 29, 46
464.68750	do	1, 2, 24, 26, 29
464.69375	do	1, 2, 26, 29, 46
464.700	do	1, 26
464.70625	do	1, 26, 46
464.71250	do	1, 24, 26
464.71875	do	1, 26, 46
464.725	do	1, 26
464.73125	do	1, 26, 46
464.73750	do	1, 24, 26
464.74375	do	1, 26, 46
464.750	do	1, 26
464.75625	do	1, 26, 46
464.76250	do	1, 24, 26
464.76875	do	1, 26, 46
464.775	do	1, 2, 26, 29
464.78125	do	1, 2, 26, 29, 46
464.78750	do	1, 2, 24, 26, 29
464.79375	do	1, 2, 26, 29, 46
464.800	do	1, 2, 26
464.80625	do	1, 2, 26, 46
464.81250	do	1, 2, 24, 26
464.81875	do	1, 2, 26, 46
464.825	do	1, 2, 26, 29
464.83125	do	1, 2, 26, 29, 46
464.83750	do	1, 2, 24, 26, 29
464.84375	do	1, 2, 26, 29, 46
464.850	do	1, 2, 26
464.85625	do	1, 2, 26, 46
464.86250	do	1, 2, 24, 26
464.86875	do	1, 2, 26, 46
464.875	do	1, 2, 26, 29
464.88125	do	1, 2, 26, 29, 46
464.88750	do	1, 2, 24, 26, 29
464.89375	do	1, 2, 26, 29, 46
464.900	do	1, 2, 26
464.90625	do	1, 2, 26, 46
464.91250	do	1, 2, 24, 26
464.91875	do	1, 2, 26, 46
464.925	do	1, 2, 26, 29
464.93125	do	1, 2, 26, 29, 46
464.93750	do	1, 2, 24, 26, 29
464.94375	do	1, 2, 26, 29, 46
464.950	do	1, 2, 26
464.95625	do	1, 2, 26, 46
464.96250	do	1, 2, 24, 26
464.96875	do	1, 2, 26, 46
464.975	do	1, 2, 26, 29
464.98125	do	1, 2, 26, 29, 46
464.98750	do	1, 2, 24, 26, 29
465.000	Base	10, 30, 49
465.01250	do	24, 30
465.01875	do	30, 46
465.650	Mobile	2, 4, 25, 26, 31
465.65625	do	2, 4, 25, 26, 31, 46
465.66250	do	2, 4, 24, 25, 26, 31
465.66875	do	2, 4, 25, 26, 31, 46
465.675	do	2, 4, 25, 26, 31
465.68125	do	2, 4, 25, 26, 31, 46
465.68750	do	2, 4, 24, 25, 26, 31
465.69375	do	2, 4, 25, 26, 31, 46
465.700	do	2, 4, 25, 26, 31
465.70625	do	2, 4, 25, 26, 31, 46
465.71250	do	2, 4, 24, 25, 26, 31
465.71875	do	2, 4, 25, 26, 31, 46
465.725	do	2, 4, 25, 26, 31
465.73125	do	2, 4, 25, 26, 31, 46
465.73750	do	2, 4, 24, 25, 26, 31
465.74375	do	2, 4, 25, 26, 31, 46
465.750	do	2, 4, 25, 26, 31

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
465.75625	do	2, 4, 25, 26, 31, 46
465.76250	do	2, 4, 24, 25, 26, 31
465.76875	do	2, 4, 25, 26, 31, 46
465.775	do	2, 4, 25, 26, 31
465.78125	do	2, 4, 25, 26, 31, 46
465.78750	do	2, 4, 24, 25, 26, 31
465.79375	do	2, 4, 25, 26, 31, 46
465.800	do	2, 4, 25, 26, 31
465.80625	do	2, 4, 25, 26, 31, 46
465.81250	do	2, 4, 24, 25, 26, 31
465.81875	do	2, 4, 25, 26, 31, 46
465.825	do	2, 4, 25, 26, 31
465.83125	do	2, 4, 25, 26, 31, 46
465.83750	do	2, 4, 24, 25, 26, 31
465.84375	do	2, 4, 25, 26, 31, 46
465.850	do	2, 4, 25, 26, 31
465.85625	do	2, 4, 25, 26, 31, 46
465.86250	do	2, 4, 24, 25, 26, 31
465.86875	do	2, 4, 25, 26, 31, 46
465.875	do	2, 4, 25, 26, 31
465.88125	do	2, 4, 25, 26, 31, 46
465.88750	do	2, 4, 24, 25, 26, 31
465.89375	do	2, 4, 25, 26, 31, 46
465.900	do	1, 2, 27, 39
465.90625	do	1, 2, 27, 39, 46
465.91250	do	1, 2, 24, 27, 39
465.91875	do	1, 2, 27, 39, 46
465.925	do	1, 2, 27, 39
465.93125	do	1, 2, 27, 39, 46
465.93750	do	1, 2, 24, 27, 39
465.94375	do	1, 2, 27, 39, 46
465.950	do	1, 2, 27, 39
465.95625	do	1, 2, 27, 39, 46
465.96250	do	1, 2, 24, 27, 39
465.96875	do	1, 2, 27, 39, 46
465.975	do	1, 2, 28, 39
465.98125	do	1, 2, 28, 39, 46
465.98750	do	1, 2, 24, 28, 39
465.99375	do	1, 2, 28, 39, 46
466.000	do	1, 2, 28, 39
466.00625	do	1, 2, 28, 39, 46
466.01250	do	1, 2, 24, 28, 39
466.01875	do	1, 2, 28, 39, 46
466.025	do	1, 2, 26
466.03125	do	1, 2, 26, 46
466.03750	do	1, 2, 24, 26
466.04375	do	1, 2, 26, 46
466.050	do	1, 2, 26
466.05625	do	1, 2, 26, 46
466.06250	do	1, 2, 24, 26
466.06875	do	1, 2, 26, 46
466.075	do	1, 2, 26
466.08125	do	1, 2, 26, 46
466.08750	do	1, 2, 24, 26
466.09375	do	1, 2, 26, 46
466.100	do	1, 2, 26
466.10625	do	1, 2, 26, 46
466.11250	do	1, 2, 24, 26
466.11875	do	1, 2, 26, 46
466.125	do	1, 2, 26
466.13125	do	1, 2, 26, 46
466.13750	do	1, 2, 24, 26
466.14375	do	1, 2, 26, 46
466.150	do	1, 2, 26
466.15625	do	1, 2, 26, 46
466.16250	do	1, 2, 24, 26
466.16875	do	1, 2, 26, 46
466.175	do	1, 2, 26
466.18125	do	1, 2, 26, 46
466.18750	do	1, 2, 24, 26
466.19375	do	1, 2, 26, 46
466.200	do	1, 2, 26

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
466.20625	do	1, 2, 26, 46
466.21250	do	1, 2, 24, 26
466.21875	do	1, 2, 26, 46
466.225	do	1, 2, 26
466.23125	do	1, 2, 26, 46
466.23750	do	1, 2, 24, 26
466.24375	do	1, 2, 26, 46
466.250	do	1, 2, 26
466.25625	do	1, 2, 26, 46
466.26250	do	1, 2, 24, 26
466.26875	do	1, 2, 26, 46
466.275	do	1, 2, 26
466.28125	do	1, 2, 26, 46
466.28750	do	1, 2, 24, 26
466.29375	do	1, 2, 26, 46
466.300	do	1, 2, 26
466.30625	do	1, 2, 26, 46
466.31250	do	1, 2, 24, 26
466.31875	do	1, 2, 26, 46
466.325	do	1, 2, 26
466.33125	do	1, 2, 26, 46
466.33750	do	1, 2, 24, 26
466.34375	do	1, 2, 26, 46
466.350	do	1, 2, 26
466.35625	do	1, 2, 26, 46
466.36250	do	1, 2, 24, 26
466.36875	do	1, 2, 26, 46
466.375	do	1, 2, 26
466.38125	do	1, 2, 26, 46
466.38750	do	1, 2, 24, 26
466.39375	do	1, 2, 26, 46
466.400	do	1, 2, 26
466.40625	do	1, 2, 26, 46
466.41250	do	1, 2, 24, 26
466.41875	do	1, 2, 26, 46
466.425	do	1, 2, 26
466.43125	do	1, 2, 26, 46
466.43750	do	1, 2, 24, 26
466.44375	do	1, 2, 26, 46
466.450	do	1, 2, 26
466.45625	do	1, 2, 26, 46
466.46250	do	1, 2, 24, 26
466.46875	do	1, 2, 26, 46
466.475	do	1, 2, 26
466.48125	do	1, 2, 26, 46
466.48750	do	1, 2, 24, 26
466.49375	do	1, 2, 26, 46
466.500	do	1, 2, 26
466.50625	do	1, 2, 26, 46
466.51250	do	1, 2, 24, 26
466.51875	do	1, 2, 26, 46
466.525	do	1, 2, 26
466.53125	do	1, 2, 26, 46
466.53750	do	1, 2, 24, 26
466.54375	do	1, 2, 26, 46
466.550	do	1, 2, 26
466.55625	do	1, 2, 26, 46
466.56250	do	1, 2, 24, 26
466.56875	do	1, 2, 26, 46
466.575	do	1, 2, 26
466.58125	do	1, 2, 26, 46
466.58750	do	1, 2, 24, 26
466.59375	do	1, 2, 26, 46
466.600	do	1, 2, 26
466.60625	do	1, 2, 26, 46
466.61250	do	1, 2, 24, 26
466.61875	do	1, 2, 26, 46
466.625	do	1, 2, 26
466.63125	do	1, 2, 26, 46
466.63750	do	1, 2, 24, 26
466.64375	do	1, 2, 26, 46
466.650	do	1, 2, 26

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
466.65625	do	1, 2, 26, 46
466.66250	do	1, 2, 24, 26
466.66875	do	1, 2, 26, 46
466.675	do	1, 2, 26
466.68125	do	1, 2, 26, 46
466.68750	do	1, 2, 24, 26
466.69375	do	1, 2, 26, 46
466.700	do	1, 2, 26
466.70625	do	1, 2, 26, 46
466.71250	do	1, 2, 24, 26
466.71875	do	1, 2, 26, 46
466.725	do	1, 2, 26
466.73125	do	1, 2, 26, 46
466.73750	do	1, 2, 24, 26
466.74375	do	1, 2, 26, 46
466.750	do	1, 2, 26
466.75625	do	1, 2, 26, 46
466.76250	do	1, 2, 24, 26
466.76875	do	1, 2, 26, 46
466.775	do	1, 2, 26
466.78125	do	1, 2, 26, 46
466.78750	do	1, 2, 24, 26
466.79375	do	1, 2, 26, 46
466.800	do	1, 2, 26
466.80625	do	1, 2, 26, 46
466.81250	do	1, 2, 24, 26
466.81875	do	1, 2, 26, 46
466.825	do	1, 2, 26
466.83125	do	1, 2, 26, 46
466.83750	do	1, 2, 24, 26
466.84375	do	1, 2, 26, 46
466.850	do	1, 2, 26
466.85625	do	1, 2, 26, 46
466.86250	do	1, 2, 24, 26
466.86875	do	1, 2, 26, 46
466.875	do	1, 2, 26
466.88125	do	1, 2, 26, 46
466.88750	do	1, 2, 24, 26
466.89375	do	1, 2, 26, 46
466.900	do	1, 2, 26
466.90625	do	1, 2, 26, 46
466.91250	do	1, 2, 24, 26
466.91875	do	1, 2, 26, 46
466.925	do	1, 2, 26
466.93125	do	1, 2, 26, 46
466.93750	do	1, 2, 24, 26
466.94375	do	1, 2, 26, 46
466.950	do	1, 2, 26
466.95625	do	1, 2, 26, 46
466.96250	do	1, 2, 24, 26
466.96875	do	1, 2, 26, 46
466.975	do	1, 2, 26
466.98125	do	1, 2, 26, 46
466.98750	do	1, 2, 24, 26
466.99375	do	1, 2, 26, 46
467.000	do	1, 2, 26
467.00625	do	1, 2, 26, 46
467.01250	do	1, 2, 24, 26
467.01875	do	1, 2, 26, 46
467.025	do	1, 2, 26
467.03125	do	1, 2, 26, 46
467.03750	do	1, 2, 24, 26
467.04375	do	1, 2, 26, 46
467.050	do	1, 2, 26
467.05625	do	1, 2, 26, 46
467.06250	do	1, 2, 24, 26
467.06875	do	1, 2, 26, 46
467.075	do	1, 2, 26
467.08125	do	1, 2, 26, 46
467.08750	do	1, 2, 24, 26
467.09375	do	1, 2, 26, 46
467.100	do	1, 2, 26

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
467.10625	do	1, 2, 26, 46
467.11250	do	1, 2, 24, 26
467.11875	do	1, 2, 26, 46
467.125	do	1, 2, 26
467.13125	do	1, 2, 26, 46
467.13750	do	1, 2, 24, 26
467.14375	do	1, 2, 26, 46
467.150	do	1, 2, 26
467.15625	do	1, 2, 26, 46
467.16250	do	1, 2, 24, 26
467.16875	do	1, 2, 26, 46
467.175	do	1, 2, 26
467.18125	do	1, 2, 26, 46
467.18750	do	1, 2, 24, 26
467.19375	do	1, 2, 26, 46
467.74375	do	1, 2, 26, 46
467.750	do	4, 13, 22, 23
467.75625	do	4, 13, 22, 23, 46
467.76250	do	4, 13, 22, 23, 24
467.76875	do	4, 13, 22, 23, 46
467.775	do	4, 13, 22, 23
467.78125	do	4, 13, 22, 23, 46
467.78750	do	4, 13, 22, 23, 24
467.79375	do	4, 13, 22, 23, 46
467.800	do	4, 13, 22, 23
467.80625	do	4, 13, 22, 23, 46
467.81250	do	4, 13, 22, 23, 24
467.81875	do	4, 13, 22, 23, 46
467.825	do	4, 13, 22, 23
467.83125	do	4, 13, 22, 23, 46
467.8375	do	4, 13, 22, 23, 46
467.850	do	4, 13, 22
467.8625	do	52
467.875	do	4, 13, 22
467.8875	do	52
467.900	do	4, 13, 22
467.9125	do	52
467.925	do	4, 13, 22
467.93125	do	1, 2, 46
467.94375	do	1, 2, 46
468.200	do	1, 2, 26
468.20625	do	1, 2, 26, 46
468.21250	do	1, 2, 24, 26
468.21875	do	1, 2, 26, 46
468.225	do	1, 2, 26
468.23125	do	1, 2, 26, 46
468.23750	do	1, 2, 24, 26
468.24375	do	1, 2, 26, 46
468.250	do	1, 2, 26
468.25625	do	1, 2, 26, 46
468.26250	do	1, 2, 24, 26
468.26875	do	1, 2, 26, 46
468.275	do	1, 2, 26
468.28125	do	1, 2, 26, 46
468.28750	do	1, 2, 24, 26
468.29375	do	1, 2, 26, 46
468.300	do	1, 2, 26
468.30625	do	1, 2, 26, 46
468.31250	do	1, 2, 24, 26
468.31875	do	1, 2, 26, 46
468.325	do	1, 2, 26
468.33125	do	1, 2, 26, 46
468.33750	do	1, 2, 24, 26
468.34375	do	1, 2, 26, 46
468.350	do	1, 2, 26
468.35625	do	1, 2, 26, 46
468.36250	do	1, 2, 24, 26
468.36875	do	1, 2, 26, 46
468.375	do	1, 2, 26
468.38125	do	1, 2, 26, 46
468.38750	do	1, 2, 24, 26
468.39375	do	1, 2, 26, 46

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
468.400	do	1, 2, 26
468.40625	do	1, 2, 26, 46
468.41250	do	1, 2, 24, 26
468.41875	do	1, 2, 26, 46
468.425	do	1, 2, 26
468.43125	do	1, 2, 26, 46
468.43750	do	1, 2, 24, 26
468.44375	do	1, 2, 26, 46
468.450	do	1, 2, 26
468.45625	do	1, 2, 26, 46
468.46250	do	1, 2, 24, 26
468.46875	do	1, 2, 26, 46
468.475	do	1, 2, 26
468.48125	do	1, 2, 26, 46
468.48750	do	1, 2, 24, 26
468.49375	do	1, 2, 26, 46
468.500	do	1, 2, 26
468.50625	do	1, 2, 26, 46
468.51250	do	1, 2, 24, 26
468.51875	do	1, 2, 26, 46
468.525	do	1, 2, 26
468.53125	do	1, 2, 26, 46
468.53750	do	1, 2, 24, 26
468.54375	do	1, 2, 26, 46
468.550	do	1, 2, 26
468.55625	do	1, 2, 26, 46
468.56250	do	1, 2, 24, 26
468.56875	do	1, 2, 26, 46
468.575	do	1, 2, 26
468.58125	do	1, 2, 26, 46
468.58750	do	1, 2, 24, 26
468.59375	do	1, 2, 26, 46
468.600	do	1, 2, 26
468.60625	do	1, 2, 26, 46
468.61250	do	1, 2, 24, 26
468.61875	do	1, 2, 26, 46
468.625	do	1, 2, 26
468.63125	do	1, 2, 26, 46
468.63750	do	1, 2, 24, 26
468.64375	do	1, 2, 26, 46
468.650	do	1, 2, 26
468.65625	do	1, 2, 26, 46
468.66250	do	1, 2, 24, 26
468.66875	do	1, 2, 26, 46
468.675	do	1, 2, 26
468.68125	do	1, 2, 26, 46
468.68750	do	1, 2, 24, 26
468.69375	do	1, 2, 26, 46
468.700	do	1, 2, 26
468.70625	do	1, 2, 26, 46
468.71250	do	1, 2, 24, 26
468.71875	do	1, 2, 26, 46
468.725	do	1, 2, 26
468.73125	do	1, 2, 26, 46
468.73750	do	1, 2, 24, 26
468.74375	do	1, 2, 26, 46
468.750	do	1, 2, 26
468.75625	do	1, 2, 26, 46
468.76250	do	1, 2, 24, 26
468.76875	do	1, 2, 26, 46
468.775	do	1, 2, 26
468.78125	do	1, 2, 26, 46
468.78750	do	1, 2, 24, 26
468.79375	do	1, 2, 26, 46
468.800	do	1, 2, 26
468.80625	do	1, 2, 26, 46
468.81250	do	1, 2, 24, 26
468.81875	do	1, 2, 26, 46
468.825	do	1, 2, 26
468.83125	do	1, 2, 26, 46
468.83750	do	1, 2, 24, 26
468.84375	do	1, 2, 26, 46

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
468.850	do	1, 2, 26
468.85625	do	1, 2, 26, 46
468.86250	do	1, 2, 24, 26
468.86875	do	1, 2, 26, 46
468.875	do	1, 2, 26
468.88125	do	1, 2, 26, 46
468.88750	do	1, 2, 24, 26
468.89375	do	1, 2, 26, 46
468.900	do	1, 2, 26
468.90625	do	1, 2, 26, 46
468.91250	do	1, 2, 24, 26
468.91875	do	1, 2, 26, 46
468.925	do	1, 2, 26
468.93125	do	1, 2, 26, 46
468.93750	do	1, 2, 24, 26
468.94375	do	1, 2, 26, 46
468.950	do	1, 2, 26
468.95625	do	1, 2, 26, 46
468.96250	do	1, 2, 24, 26
468.96875	do	1, 2, 26, 46
468.975	do	1, 2, 26
468.98125	do	1, 2, 26, 46
468.98750	do	1, 2, 24, 26
468.99375	do	1, 2, 26, 46
469.000	do	1, 2, 26
469.00625	do	1, 2, 26, 46
469.01250	do	1, 2, 24, 26
469.01875	do	1, 2, 26, 46
469.025	do	1, 2, 26
469.03125	do	1, 2, 26, 46
469.03750	do	1, 2, 24, 26
469.04375	do	1, 2, 26, 46
469.050	do	1, 2, 26
469.05625	do	1, 2, 26, 46
469.06250	do	1, 2, 24, 26
469.06875	do	1, 2, 26, 46
469.075	do	1, 2, 26
469.08125	do	1, 2, 26, 46
469.08750	do	1, 2, 24, 26
469.09375	do	1, 2, 26, 46
469.100	do	1, 2, 26
469.10625	do	1, 2, 26, 46
469.11250	do	1, 2, 24, 26
469.11875	do	1, 2, 26, 46
469.125	do	1, 2, 26
469.13125	do	1, 2, 26, 46
469.13750	do	1, 2, 24, 26
469.14375	do	1, 2, 26, 46
469.150	do	1, 2, 26
469.15625	do	1, 2, 26, 46
469.16250	do	1, 2, 24, 26
469.16875	do	1, 2, 26, 46
469.175	do	1, 2, 26
469.18125	do	1, 2, 26, 46
469.18750	do	1, 2, 24, 26
469.19375	do	1, 2, 26, 46
469.200	do	1, 2, 26
469.20625	do	1, 2, 26, 46
469.21250	do	1, 2, 24, 26
469.21875	do	1, 2, 26, 46
469.225	do	1, 2, 26
469.23125	do	1, 2, 26, 46
469.23750	do	1, 2, 24, 26
469.24375	do	1, 2, 26, 46
469.250	do	1, 2, 26
469.25625	do	1, 2, 26, 46
469.26250	do	1, 2, 24, 26
469.26875	do	1, 2, 26, 46
469.275	do	1, 2, 26
469.28125	do	1, 2, 26, 46
469.28750	do	1, 2, 24, 26
469.29375	do	1, 2, 26, 46

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
469.300	do	1, 2, 26
469.30625	do	1, 2, 26, 46
469.31250	do	1, 2, 24, 26
469.31875	do	1, 2, 26, 46
469.325	do	1, 2, 26
469.33125	do	1, 2, 26, 46
469.33750	do	1, 2, 24, 26
469.34375	do	1, 2, 26, 46
469.350	do	1, 2, 26
469.35625	do	1, 2, 26, 46
469.36250	do	1, 2, 24, 26
469.36875	do	1, 2, 26, 46
469.375	do	1, 2, 26
469.38125	do	1, 2, 26, 46
469.38750	do	1, 2, 24, 26
469.39375	do	1, 2, 26, 46
469.400	do	1, 2, 26
469.40625	do	1, 2, 26, 46
469.41250	do	1, 2, 24, 26
469.41875	do	1, 2, 26, 46
469.425	do	1, 2, 26
469.43125	do	1, 2, 26, 46
469.43750	do	1, 2, 24, 26
469.44375	do	1, 2, 26, 46
469.450	do	1, 2, 26
469.45625	do	1, 2, 26, 46
469.46250	do	1, 2, 24, 26
469.46875	do	1, 2, 26, 46
469.475	do	1, 2, 26
469.48125	do	1, 2, 26, 46
469.4875	do	1, 2, 26, 46
469.500	do	3, 30, 47
469.5125	do	1, 2, 26, 46
469.51875	do	1, 2, 26, 46
469.525	do	1, 2, 26
469.53125	do	1, 2, 26, 46
469.5375	do	1, 2, 26, 46
469.550	do	3, 30, 47
469.5625	do	1, 2, 26, 46
469.56875	do	1, 2, 26, 46
469.575	do	1, 2, 26
469.58125	do	1, 2, 26, 46
469.58750	do	1, 2, 24, 26
469.59375	do	1, 2, 26, 46
469.600	do	1, 26
469.60625	do	1, 26, 46
469.61250	do	1, 24, 26
469.61875	do	1, 26, 46
469.625	do	1, 26
469.63125	do	1, 26, 46
469.63750	do	1, 24, 26
469.64375	do	1, 26, 46
469.650	do	1, 26
469.65625	do	1, 26, 46
469.66250	do	1, 24, 26
469.66875	do	1, 26, 46
469.675	do	1, 2, 26
469.68125	do	1, 2, 26, 46
469.68750	do	1, 2, 24, 26
469.69375	do	1, 2, 26, 46
469.700	do	1, 26
469.70625	do	1, 26, 46
469.71250	do	1, 24, 26
469.71875	do	1, 26, 46
469.725	do	1, 26
469.73125	do	1, 26, 46
469.73750	do	1, 24, 26
469.74375	do	1, 26, 46
469.750	do	1, 26
469.75625	do	1, 26, 46
469.76250	do	1, 24, 26
469.76875	do	1, 26, 46

BUSINESS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
469.775	.....do	1, 2, 26
469.78125	.....do	1, 2, 26, 46
469.78750	.....do	1, 2, 24, 26
469.79375	.....do	1, 2, 26, 46
469.800	.....do	1, 2, 26
469.80625	.....do	1, 2, 26, 46
469.81250	.....do	1, 2, 24, 26
469.81875	.....do	1, 2, 26, 46
469.825	.....do	1, 2, 26
469.83125	.....do	1, 2, 26, 46
469.83750	.....do	1, 2, 24, 26
469.84375	.....do	1, 2, 26, 46
469.850	.....do	1, 2, 26
469.85625	.....do	1, 2, 26, 46
469.8625	.....do	1, 2, 24, 26
469.86875	.....do	1, 2, 26, 46
469.875	.....do	1, 2, 26
469.88125	.....do	1, 2, 26, 46
469.88750	.....do	1, 2, 24, 26
469.89375	.....do	1, 2, 26, 46
469.900	.....do	1, 2, 26
469.90625	.....do	1, 2, 26, 46
469.91250	.....do	1, 2, 24, 26
469.91875	.....do	1, 2, 26, 46
469.925	.....do	1, 2, 26
469.93125	.....do	1, 2, 26, 46
469.93750	.....do	1, 2, 24, 26
469.94375	.....do	1, 2, 26, 46
469.950	.....do	1, 2, 26
469.95625	.....do	1, 2, 26, 46
469.96250	.....do	1, 2, 24, 26
469.96875	.....do	1, 2, 26, 46
469.975	.....do	1, 2, 26
469.98125	.....do	1, 2, 26, 46
470 to 512	Base or Mobile	32
806 to 821	Mobile	33
851 to 866	Base or Mobile	33
896 to 901	Mobile	33
928 and above	Operational fixed	34
929–930	Base only	42
935 to 940	Base or Mobile	33
1427 to 1435	Operational fixed, base or mobile	21
2450 to 2500	Base or Mobile	43
10,550 to 10,680*	Base or Mobile	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) Operation on this frequency is limited to a maximum output power of 110 watts.

(2) This frequency will be assigned only for operation in a permanent area, normally within 120 km (75 mi.) of a specified reference point.

(3) This frequency will be assigned only to stations used in itinerant operations, except within 56 km (35 miles) of Detroit, Mich., where it may be assigned for either itinerant or permanent area operations (i.e., general use).

(4) Operation on this frequency is limited to a maximum output power of 2 watts; and each station authorized will be classified and licensed as a mobile station. Any units of such a station, however, may provide the operational functions of a base or fixed station on a secondary basis to mobile service operations, *Provided*, That the separation between the control point and the center of the radiating portion of the antenna of any units so used does not exceed 8 m (25 ft.).

(5) This frequency is also available in the Special Emergency Radio Service for low power paging use on a co–equal basis.

(6) Operation on this frequency is limited to a maximum output power of 1 watt and each station authorized will be classified and licensed as a mobile station. Any units of such a station, however, may provide the operational functions of a base of fixed station on a secondary basis to mobile service operations, *Provided*, That the separation between the control point and the center of the radiating portion of the antenna of any units so used does not exceed 8 m (25 ft.).

(7) The frequencies available in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(8) Use of this frequency in this service in limited to stations located in Puerto Rico and the Virgin Islands.

(9) This frequency is shared with Taxicab Radio Service and is available for assignment in the Business Radio Service only to stations which are used exclusively in areas outside of Standard Metropolitan Statistical Areas of 50,000 or more population (1950 Census). Operations on this frequency are on a secondary basis to operations in the Taxicab Radio Service.

(10) This frequency is assigned only for one-way paging communications to mobile receivers. Only A1D, A2D, A3E, F1D, F2D, F3E, or G3E emissions may be authorized. Licensees may provide one-way paging communications on this frequency to individuals, persons eligible for licensing under subpart B, C, D, or E of this part, to representatives of Federal Government agencies, and foreign governments and their representatives.

(11) This frequency is also available for base or mobile stations in the Special Industrial and Forest Products Radio Services on a secondary basis to paging operations in the Business Radio Service.

(12) This frequency will not be assigned to stations for use at temporary locations.

(13) This frequency may be used for mobile operation for radio remote control and telemetering functions. A1D, A2D, F1D, or F2D emission may be authorized and mobile stations used to control remote objects or devices may be operated on the continuous carrier transmit mode.

(14) This frequency may be used for mobile operation for remote control and telemetering functions. A1D, A2D, F1D, or F2D emission may be authorized. The use of the continuous carrier transmit mode for these purposes is permitted only for stations authorized and continuously licensed since before May 21, 1971.

(15) Except as noted in paragraph (c)(25), operation on this frequency is limited to a maximum output power of 20 watts.

(16) Operation on this frequency is limited to a maximum output power of 75 watts.

(17) Frequencies in this band will be assigned only for transmitting hydrological or meteorological data or for low power wireless microphones in accordance with the provisions of § 90.265.

(18) This frequency is available on a shared basis with other Industrial Radio Services as follows: Power, Forest Products, Special Industrial, Petroleum, Manufacturers, Business, and the Local Government Radio Service and may be used in this service only for the purpose of remote control and telemetering.

(19) For FM transmitters the sum of the highest modulating frequency and the amount of frequency deviation may not exceed 2.8 kHz and the maximum frequency deviation may not exceed 2.5 kHz. For AM transmitters the highest modulating frequency may not exceed 2.0 kHz. The carrier frequency must be maintained within 0.0005 percent and the authorized bandwidth may not exceed 6 kHz.

(20) For FM transmitters the sum of the highest modulating frequency and the amount of frequency deviation may not exceed 1.7 kHz, and the maximum frequency deviation may not exceed 1.2 kHz. For AM transmitters the highest modulating frequency may not exceed 1.5 kHz. The carrier frequency must be maintained within 0.0005 percent and the authorized bandwidth may not exceed 3 kHz.

(21) This frequency band is available to stations in this service subject to the provisions of § 90.259.

(22) This frequency may not be used aboard aircraft in flight.

(23) Frequencies subject to this assignment limitation are herein considered collectively for use for communications concerned with cargo handling from a dock, or a cargo handling facility, to a vessel alongside. Any number of the frequencies may be authorized to one licensee for the purpose. Mobile relay stations may be temporarily installed at or in the vicinity of a dock or cargo handling facility and used when a vessel is alongside the dock or cargo handling facility.

Mobile relay (MHz)	Mobile (MHz)
457.525	467.750
457.53125	467.75625
457.5375	467.7625
457.54375	467.76875
457.550	467.775
457.55625	467.78125
457.5625	467.7875
457.56875	467.79375
457.575	467.800
457.58125	467.80625
457.5875	467.8125
457.59375	467.81875
457.600	467.825
457.60625	467.83125
457.6125	.....
457.61875	.....

For single frequency simplex: Use mobile relay frequencies. The effective radiated power (ERP) on any frequency shall not exceed 2 watts. The center of the radiating system of the on-board repeater antenna shall be located no more than 3 m (10 ft.) above the vessel's highest working deck.

(24) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(25) This frequency is available for assignment as follows:

(i) To persons furnishing commercial air transportation service or, pursuant to § 90.179, to an entity furnishing radio communications service to persons so engaged, for stations located on or near the airports listed in paragraph (c)(25)(iv) of this section. Stations will be authorized on a primary basis and may be used only in connection with the servicing and supplying of aircraft.

(ii) To stations in the Business Radio Service for secondary use at locations 80 km (50 mi) or more from the coordinates of the listed airports at a maximum ERP of 300 watts.

(iii) To stations in the Business Radio Service for secondary use at locations 16 km (10 mi) or more from the coordinates of the listed airports at a maximum transmitter output power of 2 watts. Use of the frequency is restricted to the confines of an industrial complex or manufacturing yard area. Stations licensed prior to April 17, 1986 may continue to operate with facilities authorized as of that date.

(iv) The airports and their respective reference coordinates are:

City and airport	Reference coordinates	
	Latitude	Longitude
Akron, OH:		
Akron-Canton Regional (CAK).	40°55′01″ N	81°26′30″ W
Albany-Troy -Schenectady, NY :		
Albany County (ALB)	42°44′53″ N	73°48′12″ W
Albuquerque,NM:		
Albuquerque International (ABQ).	35°02′30″ N	106°36′23″ W
Allentown-Bethlehem, PA:		
Allentown-Bethlehem-Easton (ABE).	40°39′11″ N	75°26′25″ W
Anchorage, AK:		
Anchorage International (ANC).	61°10′30″ N	149°59′38″ W
Atlanta, GA:		
Atlanta International (ATL).	33°38′25″ N	84°25′37″ W
Dekalb-Peachtree (PDK).	33°52′30″ N	84°18′08″ W
Fulton County (FTY) ..	33°46′45″ N	84°31′17″ W
Baltimore, MD:		
Baltimore-Washington Int'L (BWI).	39°10′30″ N	76°40′10″ W
Birmingham, AL:		
Birmingham Municipal (BHM).	33°33′50″ N	86°45′16″ W
Boston, MA:		
Logan International (BOS).	42°21′51″ N	71°00′21″ W
Bridgeport, CT:		
Sikorsky Memorial (BDR).	41°09′49″ N	73°07′35″ W
Buffalo, NY:		
Greater Buffalo Int'l (BUF).	42°56′26″ N	78°43′57″ W
Canton, OH:		
Akron-Canton Regional (CAK).	40°55′01″ N	81°26′30″ W
Charlotte, NC:		
Charlotte-Douglas Int'l (CLT).	35°12′52″ N	80°56′37″ W
Chattanooga, TN:		
Lovell (CHA)	35°02′07″ N	85°12′15″ W

City and airport	Reference coordinates	
	Latitude	Longitude
Chicago,IL-Northwest, IN:		
Chicago-Wheeling-Palwaukee (PWK).	42°06′48″ N	87°54′03″ W
Meigs (CGX)	41°51′32″ N	87°36′28″ W
Michiana Regional (SBN).	41°42′18″ N	86°18′59″ W
Midway (MDW)	41°47′10″ N	87°45′08″ W
O'Hare International (ORD).	41°58′48″ N	87°54′16″ W
West Chicago-Dupage (DPE).	41°54′52″ N	88°14′47″ W
Cincinnati, OH:		
Greater Cincinnati Int'l (CVG).	39°14′59″ N	84°23′14″ W
Lunken (LUK)	39°06′12″ N	84°25′08″ W
Cleveland, OH:		
Burke Lakefront (BKL)	41°31′03″ N	81°41′01″ W
Cuyahoga County (CGF).	41°33′54″ N	81°29′11″ W
Hopkins International (CLE).	41°24′38″ N	81°50′58″ W
Columbus, OH:		
Port Columbus Int'l (CMH).	39°59′42″ N	82°53′11″ W
Dallas, TX:		
Addison (ADS)	32°58′06″ N	96°50′10″ W
Dallas-Ft. Worth Regional (DFW).	32°53′45″ N	97°02′10″ W
Dallas-Love Field (DAL).	32°50′49″ N	96°51′05″ W
Red Bird (RBD)	32°40′49″ N	96°52′02″ W
Davenport, IA (Rock Island, Moline, IL):		
Davenport Municipal (DVN).	41°36′42″ N	90°35′21″ W
Quad City (MLI)	41°26′56″ N	90°30′35″ W
Dayton, OH:		
Dayton International (DAY).	39°54′04″ N	84°13′12″ W
Denver, CO:		
Centennial (APA)	39°34′19″ N	104°50′54″ W
Colorado Springs Municipal (COS).	38°48′31″ N	104°42′35″ W
Denver-Jeffco (BJC)	39°54′28″ N	105°26′53″ W
Stapleton International (DEN).	39°46′22″ N	104°52′38″ W
Des Moines, IA:		
Des Moines Municipal (DSM).	41°32′06″ N	93°39′38″ W
Detroit, MI:		
Detroit City (DET)	42°24′33″ N	83°00′36″ W
Detroit Metro-Wayne County (DTW).	42°12′55″ N	83°20′55″ W
Oakland-Pontiac (PTK).	42°39′54″ N	83°25′05″ W
Willow Run (YIP)	42°14′16″ N	83°31′50″ W
El Paso, TX:		
El Paso International (ELP).	31°48′24″ N	106°22′38″ W
Flint, MI:		
Bishop (FNT)	42°57′56″ N	83°44′37″ W
Ft. Lauderdale-Hollywood, FL:		
Ft. Lauderdale Executive (FXE).	26°11′49″ N	80°10′15″ W
Ft. Lauderdale-Hollywd Int'l (FLL).	26°04′19″ N	80°09′13″ W
Ft. Worth,TX:		
Meacham (FTW)	32°49′09″ N	97°21′41″ W
Fresno, CA:		
Chandler Downtown (FCH).	36°43′56″ N	119°49′08″ W
Fresno Air Terminal (FAT).	36°46′36″ N	119°43′02″ W
Grand Rapids, MI:		
Kent County Int'l (GRR).	42°52′57″ N	85°31′26″ W
Hana, HI:		
Hana (HNN)	20°47′56″ N	156°01′02″ W
Harrisburg, PA:		
Capital City (CXY)	40°13′01″ N	76°51′06″ W
Harrisburg Int'l (MDT)	40°11′36″ N	76°45′49″ W
Hartford, CT (Windsor Locks):		
Bradley Int'l (BDL)	41°56′20″ N	72°41′01″ W
Hartford-Brainard (HFD).	41°44′10″ N	72°39′02″ W
Hilo, HI:		
General Lyman Field (ITO).	19°43′24″ N	155°03′05″ W
Honolulu, HI:		
Honolulu International (HNL).	21°19′20″ N	157°55′27″ W
Houston, TX:		
W.P. Hobby (HOU)	29°38′43″ N	95°16′43″ W
D.W. Hooks Memorial (DWH).	30°03′50″ N	95°33′11″ W
Houston Intercontinental (IAH).	29°58′55″ N	95°20′45″ W
Indianapolis, IN:		
Indianapolis Int'l (IND)	39°43′32″ N	86°17′02″ W
Jacksonville, FL:		
Craig Municipal (CRG)	30°20′10″ N	81°30′53″ W
Jacksonville Int'l (JAX)	30°29′33″ N	81°41′24″ W
Kahului, HI:		
Kahului (OGG)	20°54′07″ N	156°25′59″ W
Kailula-Kona, HI:		
Ke-Ahole (KOA)	19°44′08″ N	156°25′06″ W
Kameula, HI:		
Waimea-Kohala (MUE).	20°00′16″ N	155°40′15″ W
Kansas City, MO–KS:		
Fairfax Municipal (KCK).	39°08′50″ N	94°56′14″ W
Kansas City Int'l (MCI)	39°17′57″ N	94°43′04″ W
Kansas City Municipal Dntn (MKC).	39°07′24″ N	94°35′33″ W
Richard-Gebaur (GBW).	38°50′37″ N	94°33′37″ W
Kauna Kakai, HI:		
Molokai (MKK)	21°09′22″ N	157°55′07″ W
Las Vegas, NV:		
McCarran INt'l (LAS)	36°04′58″ N	115°09′13″ W
Lihue, HI:		
Lihue (LIH)	21°58′42″ N	159°20′40″ W
Los Angeles,CA:		
Burbank-Glendale-Pasadena (BUR).	34°21′02″ N	118°21′27″ W
Catalina (AVX)	33°24′20″ N	118°24′50″ W
Long Beach-Daugherty Field (LGB).	33°49′03″ N	118°09′03″ W
Los Angeles Int'l (LAX).	33°56′33″ N	118°24′26″ W
Ontario Int'l (ONT)	34°03′22″ N	117°36′11″ W
Santa Ana-John Wayne-Orange City (SNA).	33°40′32″ N	117°52′02″ W
Louisville, KY:		
Standiford Field (SDF)	38°10′40″ N	85°44′11″ W
Memphis, TN:		
Memphis Int'l (MEM)	35°02′59″ N	89°58′43″ W
Miami, FLA:		
Miami Int'l (MIA)	25°47′34″ N	80°17′26″ W

City and airport	Reference coordinates	
	Latitude	Longitude
Opa Locka (OPF)	25°54′25″ N	80°16′50″ W
Tamiami (TMB)	25°38′51″ N	80°25′59″ W
Milwaukee, WI:		
General Mitchell (MKE).	42°56′49″ N	87°53′49″ W
Minneapolis-St. Paul, MN:		
Minneapolis-St. Paul (MSP).	44°53′03″ N	93°12′54″ W
Mobile, AL:		
Bates Field (MOB)	30°41′23″ N	88°14′31″ W
Nashville, TN:		
Nashville Metropolitan (BNA).	36°07′37″ N	86°40′53″ W
New Haven, CT:		
Tweed-New Haven Municipal (HVN).	41°15′50″ N	72°53′15″ W
New Orleans, LA:		
Lakefornt (NEW)	30°02′33″ N	90°01′41″ W
New Orleans Int'l (MSY).	29°59′34″ N	90°15′23″ W
Newport News-Hampton,VA:		
Patrick Henry Int'l (PHF).	37°07′54″ N	76°29′36″ W
New York-Northeast, NJ:		
Farmingdale Republic (FRG).	40°43′43″ N	73°24′50″ W
JFK International (JFK).	40°38′25″ N	73°46′42″ W
LaGuardia (LGA)	40°46′38″ N	73°52′27″ W
Long Island-McArthur (ISP).	40°47′44″ N	73°06′00″ W
Morristown Municipal (NJ) (MMU).	40°47′57″ N	74°24′55″ W
Newark Int'l (FWR)	40°41′35″ N	74°10′07″ W
Teterboro (NJ) (TEB)	40°51′00″ N	74°03′41″ W
Norfolk-Portsmouth, VA:		
Norfolk Int'l (ORF)	36°53′40″ N	76°12′06″ W
Oklahoma City, OK:		
Wiley Post (DWA)	35°32′03″ N	97°38′48″ W
Will Rogers World (OKC).	35°23′35″ N	97°36′02″ W
Omaha, NE:		
Eppley Airfield (OMA)	41°18′04″ N	95°53′36″ W
Orlando, FL:		
Orlando Executive (ORL).	28°32′43″ N	81°19′59″ W
Orlando Int'l (MCO) ...	28°25′54″ N	81°19′29″ W
Philadelphia, PA–NJ:		
Northeast Philadelphia (PNE).	40°04′55″ N	75°00′40″ W
Philadelphia Int'l (PHC).	39°52′13″ N	75°14′43″ W
Phoenix, AZ:		
Phoenix-Sky Habor Int'l (PHX).	33°26′10″ N	112°00′32″ W
Scottsdale Municipal (SDC).	33°37′22″ N	111°54′35″ W
Pittsburgh, PA:		
Allegheny County (AGC).	40°21′16″ N	79°55′49″ W
Greater Pittsburgh Int'l (PIT).	40°29′30″ N	80°13′55″ W
Portland, OR:		
Portland-Hillsboro (HIO).	45°32′26″ N	122°56′55″ W
Portland International (PDX).	45°35′20″ N	122°35′47″ W
Portland-Troutdale (TTD).	45°32′58″ N	122°24′00″ W
Providence-Pawtucket, RI—MA:		
North Central State (SFZ).	41°55′15″ N	71°29′30″ W
T.F. Green State (PVD).	41°43′31″ N	71°25′41″ W
Reno, NV:		
Reno International (RNO).	39°29′52″ N	119°46′04″ W
Richmond, VA:		
Byrd International (RIC).	37°30′18″ N	77°19′12″ W
Rochester, NY:		
Rochester-Monroe County (ROC).	43°07′08″ N	77°40′22″ W
Sacramento, CA:		
Sacramento Executive (SAC).	38°30′45″ N	121°29′33″ W
Sacramento Metropolitan (SMF).	38°41′44″ N	121°36′01″ W
St. Louis, MO—IL:		
Spirit of St. Louis (SUS).	38°39′36″ N	90°38′43″ W
St. Louis-Lambert Int'l (STC).	38°44′51″ N	90°21′39″ W
St. Petersburg, FL:		
Albert Whitted Municipal (SPG).	27°45′53″ N	82°37′39″ W
Clearwater Int'l (PIE)	27°54′38″ N	82°41′16″ W
Salt Lake City, UT:		
Salt Lake City Int'l (SLC).	40°47′13″ N	111°58′05″ W
San Antonio, TX:		
San Antonio Int'l (SAT).	29°32′00″ N	98°28′10″ W
San Bernardino, CA:		
Ontario Int'l (ONT)	34°03′22″ N	117°36′11″ W
San Diego, CA:		
Lindbergh Int'l (SAN)	32°44′01″ N	117°11′12″ W
San Francisco-Oakland, CA:		
Metropolitan Oakland Int'l (OAK).	37°43′17″ N	122°13′11″ W
San Francisco Int'l (SFO).	37°37′08″ N	122°22′26″ W
San Jose, CA:		
San Jose Int'l (SJC) ...	37°21′41″ N	121°55′38″ W
Scranton, PA:		
Wilkes-Barre Scranton Int'l (AVP).	41°20′20″ N	75°43′27″ W
Seattle, WA:		
King County Int'l (BFI)	47°31′49″ N	122°18′03″ W
Seattle-Tacoma Int'l (SEA).	47°26′57″ N	122°18′29″ W
Shreveport, LA:		
Shreveport Downtown (DTN).	32°32′23″ N	93°44′40″ W
Shreveport Regional (SHV).	32°26′48″ N	93°49′30″ W
South Bend, IN:		
Michiana Regional (SBW).	41°42′18″ N	86°18′59″ W
Spokane, WA:		
Grant County (MWH)	47°12′28″ N	119°19′08″ W
Spokane Int'l (GEG) ..	47°37′12″ N	117°31′58″ W
Springfield, MA:		
Barnes Municipal (BAF).	42°09′28″ N	72°42′58″ W
Westover Field (CEF)	42°11′52″ N	72°31′50″ W
Syracuse, NY:		
Syracuse-Hancock Int'l (SYR).	43°06′44″ N	76°06′32″ W

City and airport	Reference coordinates	
	Latitude	Longitude
Tacoma, WA:		
Tacoma Narrows (TIW).	47°16′05″ N	122°34′37″ W
Tampa, FL:		
Tampa Int'l (TPA)	27°58′31″ N	82°32′00″ W
Toledo, OH:		
Toledo Express (TOL)	41°35′15″ N	83°48′19″ W
Trenton, NJ–PA:		
Mercer County (TTN)	40°16′38″ N	74°48′50″ W
Tucson, AZ:		
Tucson Int'l (TUS)	32°07′06″ N	110°56′35″ W
Tulsa, OK:		
R.L. Jones, Jr. (RVS)	36°02′18″ N	95°59′05″ W
Tulsa Int'l (TUL)	36°11′54″ N	95°53′16″ W
Washington, DC:		
Dulles International (IAD).	38°56′39″ N	77°27′26″ W
National (DCA)	38°51′07″ N	77°02′17″ W
Wichita, KS:		
Mid-Continent (ICT) ...	37°39′00″ N	97°25′58″ W
Wilkes-Barre, PA:		
Wilkes-Barre-Scranton (AVP).	41°20′20″ N	75°43′27″ W
Wilmington, DE:		
Gr. Wilm.-New Castle City (ILG).	39°40′42″ N	75°36′25″ W
Worcester, MA:		
Worcester Municipal (ORH).	42°16′02″ N	71°52′34″ W
Youngstown-Warren, OH–PA:		
Youngstown Municipal (YNG).	41°15′32″ N	80°40′34″ W

(26) This frequency may be assigned to fixed stations in the Business Radio Service in accordance with the provisions of § 90.261.

(27) Within the boundaries of urbanized areas of 200,000 or more population, defined in the United States Census of Population, 1960, vol. 1, table 23, page 1–50, this frequency may be used only by persons rendering a central station commercial protection service within the service area of the radio station utilizing the frequency and may be used only for communications pertaining to safety of life and property, and for maintenance or testing of the protection facilities. Central Station commercial protection service is defined as an electrical protection and supervisory service rendered to the public from and by a central station accepted and certified by one or more of the recognized rating agencies, or the Underwriters Laboratories' (UL), or Factory Mutual System. Other stations in the Business Radio Service may be licensed on this frequency only when all base, mobile relay and control stations are located at least 120 km (75 miles) from the city center or centers of the specified urbanized areas of 200,000 or more population. With respect to combination urbanized areas containing more than one city, 120 km (75 mile) separation shall be maintained from each city center which is included in the urbanized area. The locations of centers of cities are determined from appendix, page 226, of the U.S. Commerce publication ''Air Line Distance Between Cities in the United States.''

(28) This frequency may be assigned only to persons rendering a central station commercial protection service, which is defined at § 90.75(c)(27), within the service area of the radio station utilizing the frequency.

(29) This frequency will be assigned only to stations whose control point location is within 805 m (½ mi. direct) of the transmitter location. Maximum power output may not exceed 110 watts, and the overall height of the antenna above ground may not exceed 30 m (100 ft.).

(30) Operation on this frequency is limited to a maximum output power of 35 watts.

(31) Maximum permissible power output for stations on airports is 3 watts. Each station authorized on this frequency will be classified and licensed as a mobile station. Any units of such a station, however, may provide the functions of a base station on a secondary basis to mobile service operations provided that the vertical separation between the control point or ground level and the center of the radiating portion of the antenna of any units so used shall not exceed 8 m (25 ft.).

(32) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(33) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(34) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(35) The maximum output power of the transmitter may not exceed 1 watt. A1D, A2D, F1D, or F2D emission may be authorized.

(36) The maximum effective radiated power (ERP) may not exceed 2 watts. All operation is on a secondary basis to

adjacent channel land mobile operations. All stations will be licensed as a mobile, however, such stations may be used to provide the operational functions of a base or fixed station. When performing such functions, the height of the antenna system may not exceed 15.24 m (50 feet) above ground.

(37) Use of this frequency is limited to stations located at least 120.7 km (75 miles) from the center of any urbanized area of 200,000 or more population (U.S. Census or Population 1970). Operation is on a secondary basis to that in the Power radio Service.

(38) [Reserved]

(39) Persons who render a central station commercial protection service are authorized to operate fixed stations on this frequency for the transmission of tone or impulse signals on a secondary, noninterference base-to-base/mobile operations subject to the following conditions and limitations.

(i) Secondary fixed operations may be used only for the following purposes.

(A) Indication of equipment malfunction.

(B) Actuation of a device to indicate the presence of an intruder, fire, or other hazardous condition on the property under the protection of the licensee.

(C) Indication of an abnormal condition in facilities under the protection of the licensee that, if not promptly reported, would result in danger to human life.

(D) Transmission, as may be necessary, to verify status of equipment; adjust operating conditions; or correct any abnormal condition.

(E) Confirmation of status, or that an operation or correction has been accomplished.

(ii) The maximum duration of any one nonvoice signal may not exceed 2 seconds and shall not be transmitted more than three times.

(iii) Systems employing automatic interrogation shall be limited to nonvoice techniques and shall not be activated for this purpose more than 10 seconds out of any 60-second period. This 10-second frame includes both transmit and response times.

(iv) The bandwidth shall not exceed that authorized to the licensee for the primary operation on the frequency concerned.

(v) Frequency loading resulting from the use of secondary signaling will not be considered in whole or in part as a justification for authorizing additional frequencies in the licensee's mobile system.

(vi) A mobile service frequency may not be used exclusively for secondary signaling.

(vii) The output power shall not exceed 30 watts (at the remote site).

(viii) A1D, A2D, F1D, or F2D emission may be authorized.

(ix) The transmitter shall be designed to deactivate automatically after 3 minutes of continuous carrier radiation.

(x) Operational fixed stations authorized under this paragraph are exempt from the requirements of §§90.137(b), 90.429(d), 90.425 and 90.433.

(xi) On these frequencies, base, mobile relay or mobile stations may transmit secondary tone or impulse signals to receivers, as provided in this section.

(40) Licensees providing a central station commercial protection service may communicate with police or fire stations, or vehicles, on this frequency, and may install licensed transmitting units which operate on this frequency at police or fire stations, or in police or fire vehicles, if the frequency's primary use is in a base/mobile system for a central station commercial protection service.

(41) Stations authorized on this frequency prior to September 26, 1984 will continue to be authorized as licensed on their existing authorization.

(42) Frequencies in this band are available only for one-way paging operations in accordance with §90.494.

(43) Frequencies in this band are available on a shared basis with stations in other services, and subject to no protection from interference caused by the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications will be accepted for new stations. Stations in the 2483.5–2500 MHz band that were licensed as a result of applications filed on or before July 25, 1985, are grandfathered, and their operation

is co-primary with the Radiodetermination Satellite Service.

(44) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(45) This frequency is available on a shared basis with the Power, Petroleum, Manufacuturers, and Railroad Radio Services and interservice coordination is required. All communications on this frequency must be conducted within the boundaries or confines of the licensee's business premises. Operations on this frequency are subject to the provisions of §90.257(b). Pulsed modulations will not be authorized.

(46) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(47) This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz.

(48) Assignment of frequencies in this band are subject to the provisions of §90.173.

(49) This frequency will be authorized a channel bandwidth of 25 kHz.

(50) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(51) Operation on this frequency is limited to a maximum output power of 1 watt; and each station authorized will be classified and licensed as a mobile station. Any units of such a station, however, may provide the operational functions of a base or fixed station on a secondary basis to mobile service operations, Provided, That the separation between the control point and the center of the radiating portion of the antenna of any units so used does not exceed 8 m (25 ft).

(52) Use of this frequency is on a secondary basis and subject to the provisions of §90.267(a)(3), (a)(4), (a)(5), and (a)(7).

(d) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service. (See also §90.253.)

(1) [Reserved]

(2) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new station will be authorized in this band, nor will expansion of existing systems be permitted. (See also §90.257.)

(3) Licensees holding a valid authorization on January 1, 1973, to operate on the frequencies 406.025, 406.075 MHz may continue to be authorized for such operations until the expiration of their present license on a secondary basis to stations operating in accordance with the table in §2.106 of this chapter.

(4) Low power mobile stations of 100 mw or less output power used for one-way, non-voice medical telemetry operations in hospitals or in medical convalescent centers are subject to the provisions of §90.238.

(5) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§90.273 through 90.281.

(e) *Limitation on number of frequencies assignable.* Normally only one frequency, or pair of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with operation of mobile repeaters in accordance with §90.247, notwithstanding this limitation.

(2) Frequencies in the ranges 30.56–30.57 MHz, 35.00–35.01 MHz, 35.99–36.00 MHz and 37.00–37.01 MHz are available for assignment to applicants in this service subject to the provisions of subpart Q.

(3) Frequencies in the 457 and 467 MHz bands may be assigned collectively as provided by paragraph (c)(23) of this section notwithstanding this limitation.

(4) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(f) *Limitation on itinerant operation.* Base or mobile stations being utilized in itinerant operation will be authorized only on base or mobile frequencies designated for itinerant operation under §90.75(c)(3), or on other frequencies not designated for permanent use.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.75, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§90.79 Manufacturers Radio Service.

(a) *Eligibility.* Persons primarily engaged in any of the following manufacturing activities are eligible to hold authorizations in the Manufacturers Radio Service to operate radio stations for transmission of communications essential to such activities of the licensee:

(1) The mechanical or chemical transformation of substances into new products within such establishments as plants, factories, shipyards, or mills which employ, in that process, powerdriven machines and materials-handling equipment.

(2) The assembly of components of manufactured products within such establishments as plants, factories, shipyards, or mills where the new product is neither a new structure nor other fixed improvement. Establishments primarily engaged in the wholesale or retail trade, or in service activities, even though they fabricate or assemble any or all the products or commodities handled, are not eligible in this service.

(3) The providing of supporting services or materials by a corporation to its parent corporation, to another subsidiary of its parent or to its own subsidiary, where such supporting services or materials are directly related to those regular activities of such parent or subsidiary which constitute the basis for eligibility in this service.

(b) *Special limitations on use.* The following limitations are applicable to the use of stations in this service:

(1) Authorized stations may be used only for the transmission of communications related to the operation of the plant, such as for security, production control or materials-handling. Communications related to the retail distribution of the licensees products are not permitted.

(2) Base station will only be authorized in this service for operation at specified and permanent locations.

(c) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Manufacturers Radio Service, together with the class of stations(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (d) of this section:

MANUFACTURERS RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Megahertz:		
72–76	Operational fixed	25
72.02	Mobile	1, 2
72.04	do	1, 2
72.06	do	1, 2
72.08	do	1, 2, 3
72.10	do	1, 2
72.12	do	1, 2
72.14	do	1, 2
72.16	do	1, 2, 3
72.18	do	1, 2
72.20	do	1, 2
72.22	do	1, 2
72.24	do	1, 2, 3
72.26	do	1, 2
72.28	do	1, 2
72.30	do	1, 2
72.32	do	1, 2, 3
72.34	do	1, 2
72.36	do	1, 2
72.38	do	1, 2

MANUFACTURERS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
72.40	do	1, 2, 3
72.44	do	2, 4
72.48	do	2, 4
72.52	do	2, 4
72.56	do	2, 4
72.60	do	2, 4
74.61	do	28
74.63	do	28
74.65	do	28
74.67	do	28
74.69	do	28
74.71	do	28
74.73	do	28
74.75	do	28
74.77	do	28
74.79	do	28
75.21	do	28
75.23	do	28
75.25	do	28
75.27	do	28
75.29	do	28
75.31	do	28
75.33	do	28
75.35	do	28
75.37	do	28
75.39	do	28
75.44	do	2, 4
75.48	do	2, 4
75.52	do	2, 4
75.56	do	2, 4
75.60	do	2, 4
150 to 170	Base or mobile	30
153.050	do	5, 21, 22
153.0575	do	5, 21, 22, 23
153.065	do	5
153.0725	do	5, 23
153.080	do	5
153.0875	do	5, 23
153.095	do	5
153.1025	do	5, 23
153.110	do	5
153.1175	do	5, 23
153.125	do	5, 21, 22
153.1325	do	5, 21, 22, 23
153.140	do	5
153.1475	do	5, 23
153.155	do	5
153.1625	do	5, 23
153.170	do	5
153.1775	do	5, 23
153.185	do	5
153.1925	do	5, 23
153.200	do	5
153.2075	do	5, 23
153.215	do	5
153.2225	do	5, 23
153.230	do	5
153.2375	do	5, 23
153.245	do	5
153.2525	do	5, 23
153.260	do	5
153.2675	do	5, 23
153.275	do	5
153.2825	do	5, 23
153.290	do	5
153.2975	do	5, 23
153.305	do	5
153.3125	do	5, 23
153.320	do	5
153.3275	do	5, 23
153.335	do	5, 21
153.3425	do	5, 21, 23

MANUFACTURERS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
153.350	.....do	5, 21
153.3575	.....do	5, 21, 23
153.365	.....do	5, 21
153.3725	.....do	5, 21, 23
153.380	.....do	5, 21
153.3875	.....do	5, 21, 23
153.395	.....do	5, 21
153.4025	.....do	5, 21, 23
154.45625	Fixed or mobile	6, 9, 10, 19
154.46375	.....do	6, 7, 9, 10, 20
154.47125	.....do	6, 7, 9, 10
154.47875	.....do	6, 9, 10, 19
158.280	Base or mobile	5
158.2875	.....do	5, 23
158.295	.....do	5
158.3025	.....do	5, 23
158.310	.....do	5
158.3175	.....do	5, 23
158.325	.....do	5, 21, 22
158.3325	.....do	5, 21, 22, 23
158.415	.....do	5, 21, 22
158.4225	.....do	5, 21, 22, 23
158.430	.....do	5
158.4375	.....do	5, 23
169–172	Mobile	26
173.20375	Fixed or mobile	6, 7, 9, 10
173.2100	.....do	7, 8, 9, 10
173.2375	.....do	6, 9, 10, 19
173.2625	.....do	6, 9, 10, 19
173.2875	.....do	6, 9, 10, 19
173.3125	.....do	6, 9, 10, 19
173.3375	.....do	6, 9, 10, 19
173.3625	.....do	6, 9, 10, 19
173.3900	.....do	7, 8, 9, 10
173.39625	.....do	6, 7, 9, 10
216–220	Base or mobile	11
220–222	Base and mobile	27
450–470	Fixed, base, or mobile	12, 30
451.1625	Mobile	31
451.175	Base or mobile	13
451.18125	.....do	13, 29
451.18750	.....do	13, 23
451.19375	.....do	13, 29
451.2125	Mobile	31
451.225	Base or mobile	13
451.23125	.....do	13, 29
451.23750	.....do	13, 23
451.24375	.....do	13, 29
451.2625	Mobile	31
451.275	Base or mobile	13
451.28125	.....do	13, 29
451.28750	.....do	13, 23
451.29375	.....do	13, 29
451.3625	Mobile	31
451.375	Base or mobile	13
451.38125	.....do	13, 29
451.38750	.....do	13, 23
451.39375	.....do	13, 29
451.4125	Mobile	31
451.425	Base or mobile	13
451.43125	.....do	13, 29
451.43750	.....do	13, 23
451.44375	.....do	13, 29
451.4625	Mobile	31
451.475	Base or mobile	13
451.48125	.....do	13, 29
451.48750	.....do	13, 23
451.49375	.....do	13, 29
451.5125	Mobile	31
451.525	Base or mobile	13
451.53125	.....do	13, 29
451.53750	.....do	13, 23

MANUFACTURERS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
451.54375	do	13, 29
451.5625	Mobile	31
451.575	Base or mobile	13
451.58125	do	13, 29
451.58750	do	13, 23
451.59375	do	13, 29
451.6125	Mobile	31
451.625	Base or mobile	13
451.63125	do	13, 29
451.63750	do	13, 23
451.64375	do	13, 29
451.6625	Mobile	31
451.675	Base or mobile	13
451.68125	do	13, 29
451.68750	do	13, 23
451.69375	do	13, 29
456.1625	Mobile	31
456.175	do	13
456.18125	do	13, 29
456.18750	do	13, 23
456.19375	do	13, 29
456.2125	do	31
456.225	do	13
456.23125	do	13, 29
456.23750	do	13, 23
456.24375	do	13, 29
456.2625	do	31
456.275	do	13
456.28125	do	13, 29
456.28750	do	13, 23
456.29375	do	13, 29
456.3625	do	31
456.375	do	13
456.38125	do	13, 29
456.38750	do	13, 23
456.39375	do	13, 29
456.4125	do	31
456.425	do	13
456.43125	do	13, 29
456.43750	do	13, 23
456.44375	do	13, 29
456.4625	do	31
456.475	do	13
456.48125	do	13, 29
456.48750	do	13, 23
456.49375	do	13, 29
456.5125	do	31
456.525	do	13
456.53125	do	13, 29
456.53750	do	13, 23
456.54375	do	13, 29
456.5625	do	31
456.575	do	13
456.58125	do	13, 29
456.58750	do	13, 23
456.59375	do	13, 29
456.6125	do	31
456.625	do	13
456.63125	do	13, 29
456.63750	do	13, 23
456.64375	do	13, 29
456.6625	do	31
456.675	do	13
456.68125	do	13, 29
456.68750	do	13, 23
456.69375	do	13, 29
462.1875	do	31
462.200	Base or mobile	
462.20625	do	29
462.21250	do	23
462.21875	do	29
462.225	do	

MANUFACTURERS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
462.23125	do	29
462.23750	do	23
462.24375	do	29
462.250	do	
462.25625	do	29
462.26250	do	23
462.26875	do	29
462.275	do	
462.28125	do	29
462.28750	do	23
462.29375	do	29
462.300	do	
462.30625	do	29
462.31250	do	23
462.31875	do	29
462.325	do	
462.33125	do	29
462.33750	do	23
462.34375	do	29
462.350	do	
462.35625	do	29
462.36250	do	23
462.36875	do	29
462.375	do	
462.38125	do	29
462.38750	do	23
462.39375	do	29
462.400	do	
462.40625	do	29
462.41250	do	23
462.41875	do	29
462.425	do	
462.43125	do	29
462.43750	do	23
462.44375	do	29
462.450	do	
462.45625	do	29
462.46250	do	23
462.46875	do	29
462.475	do	13
462.48125	do	13, 29
462.48750	do	13, 23
462.49375	do	13, 29
462.500	do	
462.50625	do	29
462.51250	do	23
462.51875	do	29
462.525	do	13
462.53125	do	13, 29, 29
467.1875	Mobile	31
467.200	do	
467.20625	do	29
467.21250	do	23
467.21875	do	29
467.225	do	
467.23125	do	29
467.23750	do	23
467.24375	do	29
467.250	do	
467.25625	do	29
467.26250	do	23
467.26875	do	29
467.275	do	
467.28125	do	29
467.28750	do	23
467.29375	do	29
467.300	do	
467.30625	do	29
467.31250	do	23
467.31875	do	29
467.325	do	
467.33125	do	29

MANUFACTURERS RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
467.33750	.....do	23
467.34375	.....do	29
467.350	.....do	
467.35625	.....do	29
467.36250	.....do	23
467.36875	.....do	29
467.375	.....do	
467.38125	.....do	29
467.38750	.....do	23
467.39375	.....do	29
467.400	.....do	
467.40625	.....do	29
467.41250	.....do	23
467.41875	.....do	29
467.425	.....do	
467.43125	.....do	29
467.43750	.....do	23
467.44375	.....do	29
467.450	.....do	
467.45625	.....do	29
467.46250	.....do	23
467.46875	.....do	29
467.475	.....do	13
467.48125	.....do	13, 29
467.48750	.....do	13, 23
467.49375	.....do	13, 29
467.500	.....do	
467.50625	.....do	29
467.51250	.....do	23
467.51875	.....do	29
467.525	.....do	13
467.53125	.....do	13, 29
470 to 512	Base or mobile	14
806 to 821	Mobile	15
851 to 866	Base or mobile	15
896 to 901	Mobile	15
928 and above	Operational fixed	16
929 to 930	Base only	24
935 to 940	Base or mobile	15
1427 to 1435	Operational fixed, base or mobile	1
2450 to 2500	Base or mobile	17
8400 to 8500	.....do	18
10,550 to 10,680*	.....do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(d) Explanation of assignment limitations appearing in the frequency tabulation of paragraph (c) of this section:

(1) This frequency is shared with fixed stations in other services and is subject to no protection from interference.

(2) All communications on this frequency must be conducted within the boundaries or confines of plant, factory, shipyards, mill, or other manufacturing area. All operations on this frequency are subject to the provisions of § 90.257(b).

(3) This frequency is shared with the Radio Control (R/C) Service, part of the Personal Radio Services, where it is used solely for the radio control of models.

(4) This frequency is available on a shared basis in the Manufacturers, Forest Products, Special Industrial, Railroad, and Fire Radio Services and interservice coordination is required. All communications must be within the boundaries or confines of plants, mills, yards, or other manufacturing areas. All operations on this frequency are subject to the provisions of § 90.257(b).

(5) This frequency is shared with the Forest Products and Petroleum Radio Services. The output power of transmitters operating on this frequency shall not exceed 110 watts.

(6) For FM transmitters the sum of the highest modulating frequency in hertz and the amount of frequency deviation or swing in hertz may not exceed 2800 Hz and the maximum frequency deviation may not exceed 2.5 kHz. For AM transmitters the highest modulating frequency may not exceed 2000 Hz. The carrier frequency must be maintained within 0.0005 percent of the center of the frequency band, and the authorized bandwidth may not exceed 6 kHz.

(7) On this frequency band the maximum power output of the transmitter may not exceed 50 watts for fixed stations and 1 watt for mobile stations. A1B, A2D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B or G2D emission may be authorized, and mobile stations used to control remote objects and devices may be operated in the continuous transmit mode.

(8) For FM transmitters the sum of the highest modulating frequency in hertz and the amount of frequency deviation or swing in hertz may not exceed 1700 Hz and the maximum deviation may not exceed 1.2 kHz. For AM transmitters the highest modulating frequency may not exceed 1200 Hz. The carrier frequency must be maintained within 0.0005 percent of the center of the freqency band, and the authorized bandwidth may not exceed 3 kHz.

(9) This frequency is available on a shared basis with other Industrial Radio Services as follows: Power, Forest Products, Special Industrial, Petroleum, Business, and the Local Government Radio Service and may be used in this service only for the purpose of remote control and telemetering.

(10) Operational fixed stations must employ directional antennas having a front-to-back ratio of at least 20 db. Omnidirectional antennas having unity gains may be employed for stations communicating with at least three receiving locations separated by 160° of azimuth.

(11) This frequency band is available to stations in this service subject to the provisions of § 90.259.

(12) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(13) This frequency is available on a shared basis in the Power, Petroleum, Forest Products, Manufacturers, and Telephone Maintenance Radio Services. It may be assigned only when all of the frequencies in the 450–470 MHz band allocated to the service in which the applicant is primarily eligible are assigned within 56 km. (35 mi) of the proposed base station.

(14) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(15) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(16) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(17) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(18) Use of this frequency band is limited to developmental operation and is subject to the provisions of subpart Q.

(19) The maximum effective rediated power (ERP) may not exceed 20 watts for fixed stations and 2 watts for mobile stations and the height of the antenna system may not exceed 15.24 meters (50 feet) above ground. All such operation is on a secondary basis to adjacent channel land mobile operations.

(20) Use of this frequency is limited to stations located at least 120.7 km (75 miles) from the center of any urbanized area of 200,000 or more population (U.S Census of Population, 1970). Operation is on a second any basis to that in the Power Radio Service.

(21) This frequency is shared with the Special Industrial Radio Service in the States of North Dakota; South Dakota; Iowa; Nebraska; Kansas and Missouri beyond 80 km (50 miles) from St. Louis and Kansas City; Colorado and Wyoming east of Longitude 106 degrees; and

Minnesota south of Latitude 47 degrees.

(22) This frequency may not be shared in the Special Industrial Radio Service within 32 km (20 miles) of the cities of Duluth, Minnesota; Des Moines and Davenport, Iowa; Omaha, Nebraska; Colorado Springs, Colorado; and Wichita, Kansas.

(23) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(24) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(25) The frequencies available for use at operational-fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(26) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of § 90.265.

(27) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(28) This frequency is available on a shared basis in the Power, Petroleum, Business, and Railroad Radio Services and interservice coordination is required. All communications on this frequency must be conducted within the boundaries or confines of a plant, factory, shipyard, mill, or other manufacturing area. All operations on this frequency are subject to the provisions of § 90.257(b). Pulsed modulations will not be authorized.

(29) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(30) Assignment of frequencies in this band are subject to the provisions of § 90.173.

(31) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(e) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service: (See also § 90.253.)

(1) Frequencies may be substituted for those available below 25 MHz in accordance with the provisions of § 90.263.

(2) [Reserved]

(3) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(4) Frequencies in the 421–430, MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(f) *Limitation on number of frequencies assignable.* Normally only one frequency or pair of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with operation of mobile repeaters in accordance with § 90.247 notwithstanding this limitation.

(2) Frequencies in the ranges 30.56–30.57 MHz, 35.00–35.01 MHz, 35.99–36.00 MHz, and 37.00–37.01 MHz are available for assignment to applicants in this service subject to the provisions of subpart Q notwithstanding this limitation.

(3) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§ 0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 90.79, see the List of CFR

Sections Affected in the Finding Aids section of this volume.

§90.81 Telephone Maintenance Radio Service.

(a) *Eligibility*. Communications common carriers engaged in the provision of landline local exchange telephone service, or interexchange communications service, or who provide wire-telegraph service, and radio communications common carriers authorized in the Point-to-Point Microwave Radio Service under part 21 of this chapter are eligible to hold authorizations in the Telephone Maintenance Radio Service. Resellers that do not own or control transmission facilities are not eligible in this service.

(b) *Special limitations on use.* The facilities authorized in this service shall only be used for transmission of communications directly related to the construction, repair, maintenance or operation of communications common carrier facilities. The facilities authorized in this service shall not be used for the transmission of any common carrier or public correspondence communication.

(c) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Telephone Maintenance Radio Service, together with the class of station(s) to which they are normally assigned and the specific assignment limitations which are explained in paragraph (d) of this section:

TELEPHONE MAINTENANCE RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Kilohertz:		
2,000 to 25,000	Fixed, base or mobile	14
Megahertz:		
35.16	Base or mobile	
43.16	Mobile	
72–76	Operational fixed	13
150 to 170	Base or mobile	17
151.985	Base or mobile	
152.9925	.....do	16
158.34	Mobile	
158.3475	.....do	11
169–172	.....do	15
216 to 220	Base or mobile	2
220–222	Base and mobile	1
450 to 470	Fixed, base, or mobile	3, 17
451.1625	Mobile	18
451.175	Base or mobile	4
451.18125	.....do	4, 16
451.18750	.....do	4, 11
451.19375	.....do	4, 16
451.2125	Mobile	18
451.225	Base or mobile	4
451.23125	.....do	4, 16
451.23750	.....do	4, 11
451.24375	.....do	4, 16
451.2625	Mobile	18
451.275	Base or mobile	4
451.28125	.....do	4, 16
451.28750	.....do	4, 11
451.29375	.....do	4, 16
451.300	.....do.	
451.30625	.....do	16
451.31250	.....do	11
451.31875	.....do	16
451.325	.....do.	
451.33125	.....do	16
451.33750	.....do	11
451.34375	.....do	16
451.350	.....do.	
451.35625	.....do	16
451.36250	.....do	11
451.36875	.....do	16
451.375	.....do	4
451.38125	.....do	4, 16
451.38750	.....do	4, 11
451.39375	.....do	4, 16

TELEPHONE MAINTENANCE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
451.400	do.	
451.40625	do	16
451.41250	do	11
451.41875	do	16
451.425	do	4
451.43125	do	4, 16
451.43750	do	4, 11
451.44375	do	4, 16
451.450	do.	
451.45625	do	16
451.46250	do	11
451.46875	do	16
451.475	do	4
451.48125	do	4, 16
451.48750	do	4, 11
451.49375	do	4, 16
451.500	do.	
451.50625	do	16
451.51250	do	11
451.51875	do	16
451.525	do	4
451.53125	do	4, 16
451.53750	do	4, 11
451.54375	do	4, 16
451.5625	Mobile	18
451.575	Base or mobile	4
451.58125	do	4, 16
451.58750	do	4, 11
451.59375	do	4, 16
451.6125	Mobile	18
451.625	Base or mobile	4
451.63125	do	4, 16
451.63750	do	4, 11
451.64375	do	4, 16
451.6625	Mobile	18
451.675	Base or mobile	4
451.68125	do	4, 16
451.68750	do	4, 11
451.69375	do	4, 16
456.1625	Mobile	18
456.175	do	4
456.18125	do	4, 16
456.18750	do	4, 11
456.19375	do	4, 16
456.2125	do	18
456.225	do	4
456.23125	do	4, 16
456.23750	do	4, 11
456.24375	do	4, 16
456.2625	do	18
456.275	do	4
456.28125	do	4, 16
456.28750	do	4, 11
456.29375	do	4, 16
456.300	do	5
456.30625	do	5, 16
456.31250	do	5, 11
456.31875	do	5, 16
456.325	do	5
456.33125	do	5, 16
456.33750	do	5, 11
456.34375	do	5, 16
456.350	do	5
456.35625	do	5, 16
456.36250	do	5, 11
456.36875	do	5, 16
456.375	do	4
456.38125	do	4, 16
456.38750	do	4, 11
456.39375	do	4, 16
456.400	do	5
456.40625	do	5, 16

TELEPHONE MAINTENANCE RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
456.41250	do	5, 11
456.41875	do	5, 16
456.425	do	4
456.43125	do	4, 16
456.43750	do	4, 11
456.44375	do	4, 16
456.450	do	5
456.45625	do	5, 16
456.46250	do	5, 11
456.46875	do	5, 16
456.475	do	4
456.48125	do	4, 16
456.48750	do	4, 11
456.49375	do	4, 16
456.500	do	5
456.50625	do	5, 16
456.51250	do	5, 11
456.51875	do	5, 16
456.525	do	4
456.53125	do	4, 16
456.53750	do	4, 11
456.54375	do	4, 16
456.5625	do	18
456.575	do	4
456.58125	do	4, 16
456.58750	do	4, 11
456.59375	do	4, 16
456.6125	do	18
456.625	do	4
456.63125	do	4, 16
456.63750	do	4, 11
456.64375	do	4, 16
456.6625	do	18
456.675	do	4
456.68125	do	4, 16
456.68750	do	4, 11
456.69375	do	4, 16
462.4625	do	18
462.475	Base or mobile	4
462.48125	do	4, 16
462.48750	do	4, 11
462.49375	do	4, 16
462.5125	Mobile	18
462.525	Base or mobile	4
462.53125	do	4, 16
467.4625	Mobile	18
467.475	do	4
467.48125	do	4, 16
467.48750	do	4, 11
467.49375	do	4, 16
467.5125	do	18
467.525	do	4
467.53125	do	4, 16
470 to 512	Base or mobile	6
806 to 821	Mobile	7
851 to 866	Base or mobile	7
896 to 901	Mobile	7
928 and above	Operational fixed	8
929–930	Base only	12
935 to 940	Base or mobile	7
1427 to 1435	Operational fixed, base or mobile	2
2450 to 2500	Base or mobile	9
8400 to 8500	do	10
10,550 to 10,680*	do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(d) Explanation of assignment limitations appearing in the frequency table of paragraph (c) of this section:

(1) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(2) This frequency band is available to stations in this service subject to the provisions of § 90.259.

(3) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(4) This frequency is available on a shared basis in the Power, Petroleum, Forest Products, Manufacturers, and Telephone Maintenance Radio Services. It may be assigned only when all of the base and mobile frequencies in the 450–470 MHz band for which the applicant is primarily eligible are assigned within 56 km (35 miles) of the proposed base station. Applications for this frequency must be coordinated with all five services. Telephone Maintenance Radio Service licensees on this frequency authorized prior to September 26, 1986, including their successors or assignees in business, will be permitted to renew their authorizations indefinitely, increase the number of transmitters operated, and expand the geographic coverage area of their systems, without a showing that all of the base and mobile Telephone Maintenance Radio Service frequencies in this band are assigned within 56 km (35 miles) of the existing base station.

(5) This frequency may be assigned to auxiliary test stations.

(6) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(7) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(8) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(9) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(10) Use of this frequency band is limited to developmental operation and is subject to the provisions of subpart Q.

(11) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(12) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(13) The frequencies available for use at operational-fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(14) Only entities engaged in the repair of telecommunications circuits are eligible to use this spectrum, and then only in accordance with § 90.266. Except as provided in this part, licensees may not use these frequencies in the place of other operational circuits permitted by the Commission's Rules. Circuits operating on these frequencies may be used only for coordinating the repair of wireline or point-to-point microwave circuits.

(15) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of § 90.265.

(16) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(17) Assignment of frequencies in this band are subject to the provisions of § 90.173.

(18) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(e) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the

following frequencies are available in this service: (See also §90.253.)

(1) [Reserved]

(2) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also §90.257.)

(3) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§90.273 through 90.281.

(f) *Limitation on number of frequencies assignable.* Normally only one frequency, or pair of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with operation of mobile repeaters in accordance with §90.247 notwithstanding this limitation;

(2) Frequencies in ranges 30.56–30.57 MHz, 35.00–35.01 MHz, 35.99–36.00 MHz, and 37.00–37.01 MHz are available for assignment of applicants in this service subject to the provisions of subpart Q notwithstanding this limitation.

(3) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.81, see the List of CFR Sections Affected in the Finding Aids section of this volume.

Subpart E—Land Transportation Radio Services

§90.85 Scope.

The Land Transportation Radio Services include the Motor Carrier, Railroad, Taxicab and Automobile Emergency Radio Services. Rules as to eligibility for licensing, permissible communications, assignable frequencies, and any special requirements as to each of these radio services are set forth in the following sections.

[43 FR 54791, Nov. 22, 1978, as amended at 54 FR 39739, Sept. 28, 1989]

§90.87 General eligibility.

(a) In addition to the eligibility shown in each Land Transportation Radio Service, eligibility is also provided for any corporation proposing to furnish non-profit radiocommunication service to its parent corporation, to another subsidiary of the same parent, or to its own subsidiary provided the party served is regularly engaged in any of the eligibility activities set forth in the particular service involved. This corporate eligibility is not subject to the cooperative use provisions of §90.179.

(b) Eligibility is also provided for a non-profit corporation or association that is organized for the purpose of furnishing a radiocommunication service to persons actually engaged in any of the eligibility activities set forth in the particular service involved. Such use is subject to the cooperative use provisions of §90.179.

[47 FR 19538, May 6, 1982]

§90.89 Motor Carrier Radio Service.

(a) *Eligibility.* Persons primarily engaged in providing a common or contract motor carrier transportation service in any of the following activities are eligible to hold authorizations in the Motor Carrier Radio Service to operate radio stations for transmission of communications essential to such activities of the licensee: Provided, however, That motor vehicles used as taxicabs, livery vehicles, or school

buses, and motor vehicles used for sightseeing or special charter purposes, shall not be included within the meaning of this term as used in the Motor Carrier Radio Service. For purposes of this rule, an urban area is defined as being one or more contiguous, incorporated or unincorporated cities, boroughs, towns, or villages, have aggregate population of 2,500 or more persons.

(1) The transportation of passengers between urban areas.

(2) The transportation of property between urban areas.

(3) The transportation of passengers within a single urban area.

(4) The transportation, local distribution or collection of property within a single urban area.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Motor Carrier Radio Service, together with the class of station(s) to which they are normally assigned; and the specific assignment limitations, which are explained in paragraph (c) of this section:

MOTOR CARRIER RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Megahertz:		
30.66	Base or mobile	1, 2
30.74	do	1, 2
30.82	do	1, 2
30.86	do	1, 3
30.90	do	1, 3
30.94	do	1, 3
30.98	do	1, 3
31.02	do	1, 3
31.06	do	1, 3
31.08	do	1
31.10	do	1, 3
31.12	do	1
31.14	do	1, 3
43.70	do	4
43.72	do	4, 23
43.74	do	4, 23
43.76	do	4
43.78	do	4
43.80	do	4
43.82	do	4, 23
43.84	do	4, 23
43.86	do	5, 6
43.88	do	5, 6
43.90	do	5, 6
43.92	do	5, 6, 23
43.94	do	5, 6
43.96	do	5, 23
43.98	do	5
44.00	do	5
44.02	do	5
44.04	do	5
44.06	do	5
44.08	do	5
44.10	do	5, 19
44.12	do	5, 23
44.14	do	5
44.16	do	5, 23
44.18	do	5, 23
44.20	do	5, 20, 23
44.22	do	5
44.24	do	5
44.26	do	5
44.28	do	5
44.30	do	5
44.32	do	5, 23
44.34	do	5
44.36	do	5, 6, 23
44.38	do	5, 6
44.40	do	5, 6, 23
44.42	do	5, 6
44.44	do	5, 6

MOTOR CARRIER RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
44.46	do	1, 23
44.48	do	1, 23
44.50	do	1
44.52	do	1
44.54	do	1
44.56	do	1
44.58	do	1
44.60	do	1
72.0–76.0	Operational fixed	7
150 to 170	Base or mobile	24
159.495	do	8
159.5025	do	8, 21
159.510	do	8
159.5175	do	8, 21
159.525	do	8
159.5325	do	8, 21
159.540	do	8
159.5475	do	8, 21
159.555	do	8
159.5625	do	8, 21
159.570	do	8
159.5775	do	8, 21
159.585	do	8
159.5925	do	8, 21
159.600	do	8
159.6075	do	8, 21
159.615	do	8
159.6225	do	8, 21
159.630	do	8
159.6375	do	8, 21
159.645	do	8
159.6525	do	8, 21
159.660	do	8
159.6675	do	8, 21
159.675	do	8
159.6825	do	8, 21
159.690	do	8
159.6975	do	8, 21
159.705	do	8
159.7125	do	8, 21
159.720	do	8
159.7275	do	8, 21
159.735	do	8
159.7425	do	8, 21
159.750	do	8
159.7575	do	8, 21
159.765	do	8
159.7725	do	8, 21
159.780	do	8
159.7875	do	8, 21
159.795	do	8
159.8025	do	8, 21
159.810	do	8
159.8175	do	8, 21
159.825	do	8
159.8325	do	8, 21
159.840	do	8
159.8475	do	8, 21
159.855	do	8
159.8625	do	8, 21
159.870	do	8
159.8775	do	8, 21
159.885	do	8
159.8925	do	8, 21
159.900	do	8
159.9075	do	8, 21
159.915	do	8
159.9225	do	8, 21
159.930	do	8
159.9375	do	8, 21
159.945	do	8
159.9525	do	8, 21

MOTOR CARRIER RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
159.960	.....do	8
159.9675	.....do	8, 21
159.975	.....do	8
159.9825	.....do	8, 21
159.990	.....do	8
159.9975	.....do	8, 21
160.005	.....do	8
160.0125	.....do	8, 21
160.020	.....do	8
160.0275	.....do	8, 21
160.035	.....do	8
160.0425	.....do	8, 21
160.050	.....do	8
160.0575	.....do	8, 21
160.065	.....do	8
160.0725	.....do	8, 21
160.080	.....do	8
160.0875	.....do	8, 21
160.095	.....do	8
160.1025	.....do	8, 21
160.110	.....do	8
160.1175	.....do	8, 21
160.125	.....do	8
160.1325	.....do	8, 21
160.140	.....do	8
160.1475	.....do	8, 21
160.155	.....do	8
160.1625	.....do	8, 21
160.170	.....do	8
160.1775	.....do	8, 21
160.185	.....do	8
160.1925	.....do	8, 21
160.200	.....do	8
160.2075	.....do	8, 21
169–172	Mobile	17
220–222	Base and mobile	22
450–470	Fixed, base, or mobile	9, 24
452.3125	Mobile	25
452.325	Base or mobile	10
452.33125	.....do	10, 26
452.33750	.....do	10, 21
452.34375	.....do	10, 26
452.3625	Mobile	25
452.375	Base or mobile	10
452.38125	.....do	10, 26
452.38750	.....do	10, 21
452.39375	.....do	10, 26
452.4125	Mobile	25
452.425	Base or mobile	10
452.43125	.....do	10, 26
452.43750	.....do	10, 21
452.44375	.....do	10, 26
452.4625	Mobile	25
452.475	Base or mobile	10
452.48125	.....do	10, 26
452.48750	.....do	10, 21
452.49375	.....do	10, 26
452.6125	Mobile	25
452.625	Base or mobile	
452.63125	.....do	26
452.63750	.....do	21
452.64375	.....do	26
452.650	.....do	
452.65625	.....do	26
452.66250	.....do	21
452.66875	.....do	26
452.675	.....do	
452.68125	.....do	26
452.68750	.....do	21
452.69375	.....do	26
452.700	.....do	
452.70625	.....do	26

MOTOR CARRIER RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
452.71250	do	21
452.71875	do	26
452.725	do	
452.73125	do	26
452.73750	do	21
452.74375	do	26
452.750	do	
452.75625	do	26
452.76250	do	21
452.76875	do	26
452.775	do	10
452.78125	do	10, 26
452.78750	do	10, 21
452.79375	do	10, 26
452.800	do	
452.80625	do	26
452.81250	do	21
452.81875	do	26
452.825	do	10
452.83125	do	10, 26
452.83750	do	10, 21
452.84375	do	10, 26
452.850	do	
452.85625	do	26
452.86250	do	21
452.86875	do	26
452.875	do	10
452.88125	do	10, 26
452.88750	do	10, 21
452.89375	do	10, 26
457.3125	Mobile	25
457.325	do	10
457.33125	do	10, 26
457.33750	do	10, 21
457.34375	do	10, 26
457.3625	do	25
457.375	do	10
457.38125	do	10, 26
457.38750	do	10, 21
457.39375	do	10, 26
457.4125	do	25
457.425	do	10
457.43125	do	10, 26
457.43750	do	10, 21
457.44375	do	10, 26
457.4625	do	25
457.475	do	10
457.48125	do	10, 26
457.48750	do	10, 21
457.49375	do	10, 26
457.6125	do	25
457.625	do	
457.63125	do	26
457.63750	do	21
457.64375	do	26
457.650	do	
457.65625	do	26
457.66250	do	21
457.66875	do	26
457.675	do	
457.68125	do	26
457.68750	do	21
457.69375	do	26
457.700	do	
457.70625	do	26
457.71250	do	21
457.71875	do	26
457.725	do	
457.73125	do	26
457.73750	do	21
457.74375	do	26
457.750	do	

MOTOR CARRIER RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
457.75625	.....do	26
457.76250	.....do	21
457.76875	.....do	26
457.775	.....do	10
457.78125	.....do	10, 26
457.78750	.....do	10, 21
457.79375	.....do	10, 26
457.800	.....do	
457.80625	.....do	26
457.81250	.....do	21
457.81875	.....do	26
457.825	.....do	10
457.83125	.....do	10, 26
457.83750	.....do	10, 21
457.84375	.....do	10, 26
457.850	.....do	
457.85625	.....do	26
457.86250	.....do	21
457.86875	.....do	26
457.875	.....do	10
457.88125	.....do	10, 26
457.88750	.....do	10, 21
457.89375	.....do	10, 26
470 to 512	Base or mobile	11
806 to 821	Mobile	12
851 to 866	Base or mobile	12
896 to 901	Mobile	12
928 and above	Operational fixed	13
929–930	Base only	18
935 to 940	Base or mobile	12
1427 to 1435	Operational fixed, base or mobile	14
2450 to 2500	Base or mobile	15
8400 to 8500	.....do	16
10,550 to 10,680*	.....do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) This frequency is available for assignment in this service only to common and contract motor carriers of passengers within a single urban area.

(2) This frequency is available on a shared basis with the Petroleum Radio Service.

(3) This frequency is available on a shared basis with stations in the Forestry-Conservation Radio Service.

(4) This frequency is available for assignment in this service only to common and contract motor carriers of passengers between urban areas.

(5) This frequency is available for assignment in this service only to common and contract motor carriers of property between urban areas.

(6) In addition to single frequency operation, this frequency is available to base and mobile stations for the paired frequency mode of operation. For two frequency systems, the separation between base and mobile transmit frequencies is 500 kHz with the base stations transmitting on the higher of the two frequencies.

(7) The frequencies available for use at operational fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(8) This frequency is available for assignment in this service only to common and contract motor carriers of property.

(9) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(10) This frequency is shared in the Motor Carrier and Railroad Radio Services. It may be assigned only when all of the frequencies in the 450–470 MHz band allocated to the service in

which the applicant is primarily eligible are assigned within 56 km. (35 mi.) of the proposed base station.

(11) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(12) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(13) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(14) This frequency is available to stations in this service subject to the provisions of § 90.259.

(15) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(16) Use of this frequency band is limited to developmental operation and is subject to the provisions of subpart Q.

(17) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of § 90.265.

(18) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(19) In the State of Alaska only, the frequency 44.10 MHz is available for assignment on a primary basis to stations in the Common Carrier Rural Radio Service utilizing meteor burst communications. The frequency may be used by private radio stations for meteor burst communications on a secondary, noninterference basis. Usage shall be in accordance with parts 22 and 90 of this chapter. Stations utilizing meteor burst communications shall not cause harmful interference to stations of other radio services operating in accordance with the allocation table.

(20) In the State of Alaska only, the frequency 44.20 MHz is available for assignment on a primary basis to private land mobile radio stations utilizing meteor burst communications. The frequency may be used by common carrier stations for meteor burst communications on a secondary, noninterference basis. Usage shall be in accordance with parts 22 and 90 of this chapter. Stations utilizing meteor burst communications shall not cause harmful interference to stations of other radio services operating in accordance with the allocation table.

(21) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(22) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(23) This frequency is also used on a secondary basis for cordless telephones under part 15 of this chapter.

(24) Licensing for frequencies in this band are subject to the provisions of § 90.173.

(25) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(26) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(d) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service: (See also § 90.253.)

(1) [Reserved]

(2) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(3) The frequency band 33.00–33.01 MHz may be used for developmental operations subject to the provisions of subpart Q. Any type of emission other than pulsed emission may be used if

the bandwidth occupied by the emission is contained within the assigned frequency band.

(4) Frequencies in the 421–430, MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(e) *Limitation on number of frequencies assignable.* Normally only one frequency, or pair of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with operation of mobile repeaters in accordance with § 90.247, notwithstanding this limitation.

(2) Frequencies in the 25–50, 150–170, 450–512, and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§ 0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 90.89, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 90.91 Railroad Radio Service.

(a) *Eligibility.* Railroad common carriers which are regularly engaged in the transportation of passengers or property when such passengers or property are transported over all or part of their route by railroad are eligible to hold authorizations in the Railroad Radio Service to operate radio stations for transmission of communications and to assure safety of operations essential to such activities of the licensee.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Railroad Radio Service, together with the class of station(s) to which they are normally assigned; and the specific assignment limitations, which are explained in paragraph (d) of this section:

RAILROAD RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Megahertz:		
72.0 to 76.0	Operational fixed	1
72.44	Mobile	2
72.48	do	2
72.52	do	2
72.56	do	2
72.60	do	2
74.61	do	21
74.63	do	21
74.65	do	21
74.67	do	21
74.69	do	21
74.71	do	21
74.73	do	21
74.75	do	21
74.77	do	21
74.79	do	21
75.21	do	21
75.23	do	21
75.25	do	21
75.27	do	21
75.29	do	21
75.31	do	21
75.33	do	21
75.35	do	21
75.37	do	21
75.39	do	21
75.44	do	2

RAILROAD RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
75.48	.....do	2
75.52	.....do	2
75.56	.....do	2
75.60	.....do	2
150 to 170	Base or mobile	23
160.215	.....do	3, 4
160.2225	.....do	3, 4, 18
160.230	.....do	3, 4
160.2375	.....do	3, 4, 18
160.245	.....do	3, 4
160.2525	.....do	3, 4, 18
160.260	.....do	3, 4
160.2675	.....do	3, 4, 18
160.275	.....do	3, 4
160.2825	.....do	3, 4, 18
160.290	.....do	3, 4
160.2975	.....do	3, 4, 18
160.305	.....do	3, 4
160.3125	.....do	3, 4, 18
160.320	.....do	3, 4
160.3275	.....do	3, 4, 18
160.335	.....do	3, 4
160.3425	.....do	3, 4, 18
160.350	.....do	3, 4
160.3575	.....do	3, 4, 18
160.365	.....do	3, 4
160.3725	.....do	3, 4, 18
160.380	.....do	3, 4
160.3875	.....do	3, 4, 18
160.395	.....do	3, 4
160.4025	.....do	3, 4, 18
160.410	.....do	3, 4, 5
160.4175	.....do	3, 4, 5, 18
160.425	.....do	3, 4, 5
160.4325	.....do	3, 4, 5, 18
160.440	.....do	3, 4, 5
160.4475	.....do	3, 4, 5, 18
160.455	.....do	3, 4, 5
160.4625	.....do	3, 4, 5, 18
160.470	.....do	3, 4, 5
160.4775	.....do	3, 4, 5, 18
160.485	.....do	3, 4, 5
160.4925	.....do	3, 4, 5, 18
160.500	.....do	3, 4, 5
160.5075	.....do	3, 4, 5, 18
160.515	.....do	3, 4, 5
160.5225	.....do	3, 4, 5, 18
160.530	.....do	3, 4, 5
160.5375	.....do	3, 4, 5, 18
160.545	.....do	3, 4, 5
160.5525	.....do	3, 4, 5, 18
160.560	.....do	3, 4, 5
160.5675	.....do	3, 4, 5, 18
160.575	.....do	3, 4, 5
160.5825	.....do	3, 4, 5, 18
160.590	.....do	3, 4, 5
160.5975	.....do	3, 4, 5, 18
160.605	.....do	3, 4, 5
160.6125	.....do	3, 4, 5, 18
160.620	.....do	3, 4
160.6275	.....do	3, 4, 18
160.635	.....do	3, 4
160.6425	.....do	3, 4, 18
160.650	.....do	3, 4
160.6575	.....do	3, 4, 18
160.665	.....do	3, 4
160.6725	.....do	3, 4, 18
160.680	.....do	3, 4
160.6875	.....do	3, 4, 18
160.695	.....do	3, 4
160.7025	.....do	3, 4, 18
160.710	.....do	3, 4

RAILROAD RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
160.7175	do	3, 4, 18
160.725	do	3, 4
160.7325	do	3, 4, 18
160.740	do	3, 4
160.7475	do	3, 4, 18
160.755	do	3, 4
160.7625	do	3, 4, 18
160.770	do	3, 4
160.7775	do	3, 4, 18
160.785	do	3, 4
160.7925	do	3, 4, 18
160.800	do	3, 4
160.8075	do	3, 4, 18
160.815	do	3, 4
160.8225	do	3, 4, 18
160.830	do	3, 4
160.8375	do	3, 4, 18
160.845	do	3, 4
160.8525	do	3, 4, 18
160.860	do	3, 4, 6
160.8675	do	3, 4, 6, 18
160.875	do	3, 4, 6
160.8825	do	3, 4, 6, 18
160.890	do	3, 4, 6
160.8975	do	3, 4, 6, 18
160.905	do	3, 4, 6
160.9125	do	3, 4, 6, 18
160.920	do	3, 4, 6
160.9275	do	3, 4, 6, 18
160.935	do	3, 4, 6
160.9425	do	3, 4, 6, 18
160.950	do	3, 4, 6
160.9575	do	3, 4, 6, 18
160.965	do	3, 4, 6
160.9725	do	3, 4, 6, 18
160.980	do	3, 4, 6
160.9875	do	3, 4, 6, 18
160.995	do	3, 4, 6
161.0025	do	3, 4, 6, 18
161.010	do	3, 4, 6
161.0175	do	3, 4, 6, 18
161.025	do	3, 4, 6
161.0325	do	3, 4, 6, 18
161.040	do	3, 4, 6
161.0475	do	3, 4, 6, 18
161.055	do	3, 4, 6
161.0625	do	3, 4, 6, 18
161.070	do	3, 4, 6
161.0775	do	3, 4, 6, 18
161.085	do	3, 4, 6
161.0925	do	3, 4, 6, 18
161.100	do	3, 4, 6
161.1075	do	3, 4, 6, 18
161.115	do	3, 4, 6
161.1225	do	3, 4, 6, 18
161.130	do	3, 4, 6
161.1375	do	3, 4, 6, 18
161.145	do	3, 4, 6
161.1525	do	3, 4, 6, 18
161.160	do	3, 4, 6
161.1675	do	3, 4, 6, 18
161.175	do	3, 4, 6
161.1825	do	3, 4, 6, 18
161.190	do	3, 4, 6
161.1975	do	3, 4, 6, 18
161.205	do	3, 4, 6
161.2125	do	3, 4, 6, 18
161.220	do	3, 4, 6
161.2275	do	3, 4, 6, 18
161.235	do	3, 4, 6
161.2425	do	3, 4, 6, 18
161.250	do	3, 4, 6

RAILROAD RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
161.2575	.....do	3, 4, 6, 18
161.265	.....do	3, 4, 6
161.2725	.....do	3, 4, 6, 18
161.280	.....do	3, 4, 6
161.2875	.....do	3, 4, 6, 18
161.295	.....do	3, 4, 6
161.3025	.....do	3, 4, 6, 18
161.310	.....do	3, 4, 6
161.3175	.....do	3, 4, 6, 18
161.325	.....do	3, 4, 6
161.3325	.....do	3, 4, 6, 18
161.340	.....do	3, 4, 6
161.3475	.....do	3, 4, 6, 18
161.355	.....do	3, 4, 6
161.3625	.....do	3, 4, 6, 18
161.370	.....do	3, 4, 6
161.3775	.....do	3, 4, 6, 18
161.385	.....do	3, 4, 7
161.3925	.....do	3, 4, 7, 18
161.400	.....do	3, 4, 7
161.4075	.....do	3, 4, 7, 18
161.415	.....do	3, 4, 7
161.4225	.....do	3, 4, 7, 18
161.430	.....do	3, 4, 7
161.4375	.....do	3, 4, 7, 18
161.445	.....do	3, 4, 7
161.4525	.....do	3, 4, 7, 18
161.460	.....do	3, 4, 7
161.4675	.....do	3, 4, 7, 18
161.475	.....do	3, 4, 7
161.4825	.....do	3, 4, 7, 18
161.490	.....do	3, 4, 7
161.4975	.....do	3, 4, 7, 18
161.505	.....do	3, 4, 7
161.5125	.....do	3, 4, 7, 18
161.520	.....do	3, 4, 7
161.5275	.....do	3, 4, 7, 18
161.535	.....do	3, 4, 7
161.5425	.....do	3, 4, 7, 18
161.550	.....do	3, 4, 7
161.5575	.....do	3, 4, 7, 18
161.565	.....do	3, 4, 7
169 to 172	Mobile, operational fixed	8
220–222	Base and mobile	20
406 to 413	Operational fixed	8
450 to 470	Fixed, base, or mobile	9, 23
452.3125	Mobile	24
452.325	Base or mobile	10
452.33125	.....do	10, 22
452.33750	.....do	10, 18
452.34375	.....do	10, 22
452.3625	Mobile	24
452.375	Base or mobile	10
452.38125	.....do	10, 22
452.38750	.....do	10, 18
452.39375	.....do	10, 22
452.4125	Mobile	24
452.425	Base or mobile	10
452.43125	.....do	10, 22
452.43750	.....do	10, 18
452.44375	.....do	10, 22
452.4625	Mobile	24
452.475	Base or mobile	10
452.48125	.....do	10, 22
452.48750	.....do	10, 18
452.49375	.....do	10, 22
452.7625	Mobile	24
452.775	Base or mobile	10
452.78125	.....do	10, 22
452.78750	.....do	10, 18
452.79375	.....do	10, 22
452.8125	Mobile	24

RAILROAD RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
452.825	Base or mobile	10
452.83125	do	10, 22
452.83750	do	10, 18
452.84375	do	10, 22
452.8625	Mobile	24
452.875	Base or mobile	10
452.88125	do	10, 22
452.88750	do	10, 18
452.89375	do	10, 22
452.900	do	
452.90625	do	22
452.91250	do	18
452.91875	do	22
452.925	do	11
452.93125	do	11, 22
452.93750	do	11, 18
452.94375	do	11, 22
452.950	do	11
452.95625	do	11, 22
452.96250	do	11, 18
452.96875	do	11, 22
457.3125	Mobile	24
457.325	do	10
457.33125	do	10, 22
457.33750	do	10, 18
457.34375	do	10, 22
457.3625	do	24
457.375	do	10
457.38125	do	10, 22
457.38750	do	10, 18
457.39375	do	10, 22
457.4125	do	24
457.425	do	10
457.43125	do	10, 22
457.43750	do	10, 18
457.44375	do	10, 22
457.4625	do	24
457.475	do	10
457.48125	do	10, 22
457.48750	do	10, 18
457.49375	do	10, 22
457.7625	do	24
457.775	do	10
457.78125	do	10, 22
457.78750	do	10, 18
457.79375	do	10, 22
457.8125	do	24
457.825	do	10
457.83125	do	10, 22
457.83750	do	10, 18
457.84375	do	10, 22
457.8625	do	24
457.875	do	10
457.88125	do	10, 22
457.88750	do	10, 18
457.89375	do	10, 22
457.900	do	
457.90625	do	22
457.91250	do	18
457.91875	do	22
457.925	do	11
457.93125	do	11, 22
457.93750	do	11, 18
457.94375	do	11, 22
457.950	do	11
457.95625	do	11, 22
457.96250	do	11, 18
457.96875	do	11, 22
470 to 512	Base or mobile	12
806 to 821	Mobile	13
851 to 866	Base or mobile	13
896 to 901	Mobile	13

RAILROAD RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
928 and above	Operational fixed	14
929–930	Base only	19
935 to 940	Base or mobile	13
1427 to 1435	Operational fixed, base or mobile	15
2450 to 2500	Base or mobile	16
8400 to 8500	.....do	17
10,550 to 10,680*	.....do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (c) of this section:

(1) The frequencies available for assignment to operational fixed stations in the band 72.0 to 76.0 MHz are listed in §90.257(a)(1). These frequencies which are shared with other services, are available only in accordance with the provisions of §90.257.

(2) This frequency is available on a shared basis in the Manufacturers, Forest Products, Special Industrial, Railroad, and Fire Radio Services and interservice coordination is required. All communications must be within the boundaries or confines of railroad terminals or yards. All operations on this frequency are subject to the provisions of §90.257(b).

(3) This frequency may be used for the following:

(i) End-to-end, fixed point-to-train, or train-to-train communications in connection with the operation or railroad trains over a track, in yards, or tracks extending through yards and between stations upon which trains are operated by timetable, train order, or both, or the use of which is governed by block signals.

(ii) Intercommunication between adjacent base stations, provided interference is not caused to communications involving radio stations aboard railroad rolling stock.

(iii) Transmission of tone signals for signaling purposes or for remote control of locomotives, including slave locomotives placed within a train to assist the lead locomotive by providing, among other functions auxiliary starting, pulling, and braking actions; and radio controlled cab indicator devices that are placed within a locomotive to give visual signals to the operator of the locomotive.

(4) This frequency may also be used for the transmission of tone or voice communications, including such communications when prerecorded, for purposes of automatically indicating abnormal conditions of trackage and railroad rolling stock when in motion, on a secondary basis to other stations on this frequency. All such operations shall be subject to the following:

(i) The output power shall not exceed 30 watts.

(ii) The bandwidth used shall not exceed that authorized to the licensee for voice transmissions on the frequency concerned.

(iii) The station shall be so designed and installed that it can normally be activated only by its associated automatic control equipment and, in addition, it shall be equipped with a time delay or clock device which will deactivate the station within three (3) minutes following activation by the last car in the train.

(iv) Stations authorized pursuant to the provisions of this subparagraph are exempt from the station identification requirements of §90.425.

(5) This frequency is shared with and must be coordinated with the Special Industrial Radio Service in Puerto Rico and the Virgin Islands.

(6) In Puerto Rico and the Virgin Islands only, this frequency is available on a shared basis with remote pickup broadcast stations.

(7) In Puerto Rico and the Virgin Islands only, this frequency is not available to stations operating in the Railroad Radio Service.

(8) Frequencies in this band will be assigned only for transmitting hydrological or meteorological data or

for low power wireless microphones in accordance with the provisions of § 90.265.

(9) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(10) This frequency is shared in the Motor Carrier and Railroad Radio Services. It may be assigned only when all of the frequencies in the 450–470 MHz band allocated to the service in which the applicant is primarily eligible are assigned within 56 km. (35 mi.) of the proposed base station.

(11) This frequency may be assigned primarily for stations used for the purpose of controlling slave locomotives that are placed within a train to assist the lead locomotive by providing, among other functions, auxiliary starting, pulling, and braking actions. Additionally, on a secondary basis this frequency may be assigned for remote control of all types of locomotives and, within a railroad yard or terminal area, for remote control of cab indicator devices placed with a locomotive to give visual signals to the operator of the locomotive. (A1, A2, F1 or F2 emissions may be authorized.)

(12) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(13) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(14) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(15) This frequency band is available to stations in this services subject to the provisions of § 90.259.

(16) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(17) Use of this frequency band is limited to developmental operation and is subject to the provisions of subpart Q.

(18) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(19) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.i

(20) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(21) This frequency is available on a shared basis in the Power, Petroleum, Business, and Manufacturers Radio Services and interservice coordination is required. All communications must be within the boundaries or confines of railroad terminals or yards. All operations on this frequency are subject to the provisions of § 90.257(b). Pulsed modulations will not be authorized.

(22) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(23) Assignment of frequencies in this band are subject to the provisions of § 90.173

(24) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(d) *Additional frequencies available.* In addition to the frequencies shown in the frequency table of this section, the following frequencies are available in this service: (See also § 90.253).

(1) [Reserved]

(2) Frequencies in the band 73.0–74.6 MHz may be assigned to stations authorized their use on or before December 1, 1961, but no new stations will be authorized in this band, nor will expansion of existing systems be permitted. (See also § 90.257.)

(3) Base and mobile stations authorized as of April 1, 1968, to operate on frequency 161.61 MHz may continue to be authorized for such operation on a

secondary basis to the Maritime Mobile Service. The licensees of such stations may renew, modify, reinstate, or assign their licenses in those cases where such assignment accompanies a change of ownership of the licensee's business to the assignee, and may expand existing systems when using that frequency; however, they will not be authorized to establish any new systems on the frequency.

(4) Stations authorized for operation on or before June 11, 1962, on the frequencies 169.575, 170.375, 171.175, 171.975, or 406.050 MHz may continue to be authorized for such operation on a secondary basis to Government stations.

(5) The frequency band 33.00–33.01 MHz may be used for developmental operation subject to the provisions of subpart Q. Any type of emission other than pulsed emission may be used if the bandwidth occupied by the emission is contained within the assigned frequency band.

(6) Frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(e) *Limitation on number of frequencies assignable.* Normally only one frequency, or pair of frequencies in the paired frequency mode of operation, will be assigned from mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that:

(1) Additional frequencies above 25 MHz may be assigned in connection with operation of mobile repeaters in accordance with § 90.247 notwithstanding this limitation.

(2) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§ 0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 90.91, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 90.93 Taxicab Radio Service.

(a) *Eligibility.* Persons regularly engaged in furnishing to the public for hire a nonscheduled passenger land transportation service (which may also include the occasional transport of small items of property) not operated over a regular route or between established terminals are eligible to hold authorizations in the Taxicab Radio Service to operate radio stations for the transmission of communications essential to such activities of the licensee.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Taxicab Radio Service, together with the class of station(s) to which they are normally assigned; and the specific assignment limitations, which are explained in paragraph (c) of this section:

TAXICAB RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Megahertz:		
72–76	Operational fixed	14
150 to 170	Base or mobile	18
152.2625	Base or mobile	17
152.270	do	
152.2775	do	15
152.285	do	
152.2925	do	15
152.300	do	1, 2
152.3075	do	1, 2, 15
152.315	do	1, 2
152.3225	do	1, 2, 15
152.330	do	
152.3375	do	15
152.345	do	1, 2
152.3525	do	1, 2, 15
152.360	do	1, 2

TAXICAB RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
152.3675	.....do	1, 2, 15
152.375	.....do	1, 2
152.3825	.....do	1, 2, 15
152.390	.....do	
152.3975	.....do	15
152.405	.....do	1, 2
152.4125	.....do	1, 2, 15
152.420	.....do	1, 2
152.4275	.....do	1, 2, 15
152.435	.....do	
152.4425	.....do	15
152.450	.....do	
152.4575	.....do	15
152.465	.....do	11
157.530	Mobile	
157.5375	.....do	15
157.545	.....do	
157.5525	.....do	15
157.560	.....do	1, 2
157.5675	.....do	1, 2, 15
157.575	.....do	1, 2
157.5825	.....do	1, 2, 15
157.590	.....do	
157.5975	.....do	15
157.605	.....do	1, 2
157.6125	.....do	1, 2, 15
157.620	.....do	1, 2
157.6275	.....do	1, 2, 15
157.635	.....do	1, 2
157.6425	.....do	1, 2, 15
157.650	.....do	
157.6575	.....do	15
157.665	.....do	1, 2
157.6725	.....do	1, 2, 15
157.680	.....do	1, 2
157.6875	.....do	1, 2, 15
157.695	.....do	
157.7025	.....do	15
157.710	.....do	
157.7175	.....do	15
157.725	.....do	11
169–172	.....do	12
220–222	Base and mobile	16
450 to 470	Fixed, base, or mobile	3, 18
452.0375	Mobile	19
452.050	Base or mobile	
452.05625	.....do	17
452.06250	.....do	15
452.06875	.....do	17
452.0875	Mobile	19
452.100	Base or mobile	10
452.10625	.....do	10, 17
452.11250	.....do	10, 15
452.11875	.....do	10, 17
452.1375	Mobile	19
452.150	Base or mobile	
452.15625	.....do	17
452.16250	.....do	15
452.16875	.....do	17
452.1875	Mobile	19
452.200	Base or mobile	10
452.20625	.....do	10, 17
452.21250	.....do	10, 15
452.21875	.....do	10, 17
452.225	.....do	10
452.23125	.....do	10, 17
452.23750	.....do	10, 15
452.24375	.....do	10, 17
452.250	.....do	10
452.25625	.....do	10, 17
452.26250	.....do	10, 15
452.26875	.....do	10, 17

TAXICAB RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
452.275	.....do	10
452.28125	.....do	10, 17
452.28750	.....do	10, 15
452.29375	.....do	10, 17
452.300	.....do	
452.30625	.....do	17
452.31250	.....do	15
452.31875	.....do	17
452.3375	Mobile	19
452.350	Base or mobile	10
452.35625	.....do	10, 17
452.36250	.....do	10, 15
452.36875	.....do	10, 17
452.3875	Mobile	19
452.400	Base or mobile	10
452.40625	.....do	10, 17
452.41250	.....do	10, 15
452.41875	.....do	10, 17
452.4375	Mobile	19
452.450	Base or mobile	10
452.45625	.....do	10, 17
452.46250	.....do	10, 15
452.46875	.....do	10, 17
452.4875	Mobile	19
452.500	Base or mobile	
452.50625	.....do	17
452.51250	.....do	15
452.51875	.....do	17
457.0375	Mobile	19
457.050	.....do	
457.05625	.....do	17
457.06250	.....do	15
457.06875	.....do	17
457.0875	.....do	19
457.100	.....do	10
457.10625	.....do	10, 17
457.11250	.....do	10, 15
457.11875	.....do	10, 17
457.1375	.....do	19
457.150	.....do	
457.15625	.....do	17
457.16250	.....do	15
457.16875	.....do	17
457.1875	.....do	19
457.200	.....do	10
457.20625	.....do	10, 17
457.21250	.....do	10, 15
457.21875	.....do	10, 17
457.225	.....do	10
457.23125	.....do	10, 17
457.23750	.....do	10, 15
457.24375	.....do	10, 17
457.250	.....do	10
457.25625	.....do	10, 17
457.26250	.....do	10, 15
457.26875	.....do	10, 17
457.275	.....do	10
457.28125	.....do	10, 17
457.28750	.....do	10, 15
457.29375	.....do	10, 17
457.300	.....do	
457.30625	.....do	17
457.31250	.....do	15
457.31875	.....do	17
457.3375	.....do	19
457.350	.....do	10
457.35625	.....do	10, 17
457.36250	.....do	10, 15
457.36875	.....do	10, 17
457.3875	.....do	19
457.400	.....do	10
457.40625	.....do	10, 17

TAXICAB RADIO SERVICE FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
457.41250	.....do	10, 15
457.41875	.....do	10, 17
457.4375	.....do	19
457.450	.....do	10
457.45625	.....do	10, 17
457.46250	.....do	10, 15
457.46875	.....do	10, 17
457.4875	.....do	19
457.500	.....do	
457.50625	.....do	17
457.51250	.....do	15
457.51875	.....do	17
470–512	Base or mobile	4
806 to 821	Mobile	5
851 to 866	Base or mobile	5
896 to 901	Mobile	5
928 and above	Operational fixed	6
929–930	Base only	13
935 to 940	Base or mobile	5
1427 to 1435	Base, mobile, or operational fixed	7
2450 to 2500	Base or mobile	8
8400 to 8500	.....do	9
10,550 to 10,680*	.....do	

*The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) This frequency is available for assignment only to base or mobile stations operating wholly within Standard Metropolitan Areas having 50,000 or more population (1950 Census).

(2) This frequency is also available to Business Radio Service licensees for use at stations outside Standard Metropolitan Areas having 50,000 or more population (1950 Census).

(3) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(4) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(5) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(6) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(7) This frequency band is available to stations in this service subject to the provisions of § 90.259.

(8) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(9) Use of this frequency band is limited to developmental operation and is subject to the provisions of subpart Q.

(10) This frequency is shared by stations in the Forest Products Radio Service in the States of Washington, Oregon, Idaho, and Montana in areas at least 64 km (40 miles) removed from the center of urbanized areas of 200,000 or more population, 1970 Decennial Census. (Provided that, taxicab operations within the specified urbanized areas will not be authorized on frequencies shared with the Forest Products Radio Service until the unshared frequencies are fully utilized.) For two-frequency systems, separation between base and mobile transmit frequencies is 5 MHz; however, a mobile station may be assigned the frequency of an associated base station. (Such operation

may, however, subject the single-frequency system to interference that would not occur to a two-frequency system.)

(11) This frequency is shared with the Forest Products and Special Industrial Radio Services. Use of this frequency is limited to stations located at least 80.5 km. (50 miles) from the center of any urbanized area of 600,000 or more population (U.S. Census of Population, 1970).

(12) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of §90.265.

(13) Frequencies in this band are available only for one-way paging operations in accordance with §90.494.

(14) The frequencies available for use at operational-fixed stations in the band 72–76 are listed in §90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of §90.257.

(15) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to §90.238(e) will be authorized on this frequency.

(16) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(17) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(18) Assignment of frequencies in this band are subject to the provisions of §90.173

(19) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(d) *Limitation on number of frequencies assignable.* Normally only one frequency, or pair of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that: (See also §90.253).

(1) [Reserved]

(2) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(3) The frequency band 33.00–33.01 MHz may be used for developmental operation subject to the provisions of subpart Q. Any type of emission other than pulsed emission may be used if the bandwidth occupied by the emission is contained within the assigned frequency band.

(e) In addition to the frequencies shown in the frequency table of this section, frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§90.273 through 90.281.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.93, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§90.95 Automobile Emergency Radio Service.

(a) *Eligibility.* Persons regularly engaged in any of the following activities are eligible to hold authorizations in the Automobile Emergency Radio Service to operate radio stations for transmission of communications required for dispatching repair trucks, tow trucks, or other road service vehicles to disabled vehicles.

(1) The operation of a private emergency road service for disabled vehicles by associations of owners of private automobiles.

(2) The business of providing to the general public an emergency road service for disabled vehicles.

(b) *Special permissible communications.* On a secondary basis, the transmission of communications by associations of owners of private automobiles which provide emergency road service for the

purpose of reporting traffic conditions is authorized.

(c) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Automobile Emergency Radio Service, together with the class of station(s) to which they are normally assigned; and the specific assignment limitations which are explained in paragraph (d) of this section:

AUTOMOBILE EMERGENCY RADIO SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations
Megahertz:		
72–76	Operational fixed	16
150 to 170	Base or mobile	21
150.815	do	1, 2, 3
150.830	do	1, 2, 3, 22
150.845	do	1, 2, 3
150.8525	do	1, 2, 3, 18
150.860	do	1, 2, 3
150.8675	do	1, 2, 3, 18
150.875	do	1, 2, 3
150.8825	do	1, 2, 3, 18
150.890	do	1, 2, 3
150.8975	do	1, 2, 3, 18
150.905	do	3, 4
150.920	do	3, 4, 22
150.935	do	3, 4
150.9425	do	3, 4, 18
150.950	do	3, 4
150.9575	do	3, 4, 18
150.965	do	3, 4
150.9725	do	3, 4, 18
157.470	do	5, 6
157.4775	do	5, 6, 18
157.485	do	5, 6
157.4925	do	5, 6, 18
157.500	do	5, 6
157.5075	do	5, 6, 18
157.515	do	5, 6
157.5225	do	5, 6, 18
169–172	Mobile	17
220–222	Base and mobile	19
450 to 470	Fixed, base, or mobile	7, 21
452.5125	Mobile	23
452.525	Base or mobile	8
452.53125	do	8, 20
452.53750	do	8, 18
452.54375	do	8, 20
452.550	do	8
452.55625	do	8, 20
452.56250	do	8, 18
452.56875	do	8, 20
452.575	do	8
452.58125	do	8, 20
452.58750	do	8, 18
452.59375	do	8, 20
452.600	do	8
452.60625	do	8, 20
452.61250	do	8, 18
452.61875	do	8, 20
470 to 512	do	9
806 to 821	Mobile	10
851 to 866	Base or mobile	10
896 to 901	Mobile	10
928 and above	Operational fixed	11
929–930	Base only	15
935 to 940	Base or mobile	10
1427 to 1435	Operational fixed, base, or mobile	12
2450 to 2500	Base or mobile	13
8400 to 8500	do	14
10,550 to 10,680*	do	

* The frequencies in the band 10.55–10.68 GHz are available for Digital Termination Systems and for associated internodal links in the Point-to-Point Microwave Radio Service. No new licenses will be issued under this subpart but current licenses will be renewed.

(d) Explanation of assignment limitations appearing in the frequency table of paragraph (c) of this section:

(1) This frequency is available only for stations (other than those aboard aircraft) which are operated by or on behalf of persons who provide to the general public an emergency road service for disabled vehicles.

(2) Only one of the frequencies 150.815, 150.8225, 150.830, 150.8375, 150.845, 150.8525, 150.860, 150.8675, 150.875, 150.8825, 150.890, or 150.8975 MHz may be assigned to the same licensee in a given area.

(3) This frequency is not available to stations in this service in Puerto Rico or the Virgin Islands.

(4) This frequency is available for assignment to base stations and to mobile stations (other than those aboard aircraft) which are operated by or on behalf of associations of owners of private automobiles.

(5) This frequency is available for assignment to stations, other than those aboard aircraft, which are operated by or on behalf of persons who provide to the general public an emergency road service for disabled vehicles: Except that; at the discretion of the Commission this frequency may also be operated by or on behalf of associations of owners of private automobiles upon a showing that all other frequencies available for assignment to such stations are currently assigned to other stations for use in the area concerned and that the use of the requested frequency, in each case, will be less likely to result in mutual harmful interference that would the use of a frequency otherwise available to the station.

(6) Only one of the frequencies 157.470, 157.4775, 157.485, 157.4925, 157.500, 157.5075, 157.515, or 157.5225 MHz may be assigned to the same licensee in a given area.

(7) The requirements for secondary fixed use of frequencies in this band are set forth in § 90.261.

(8) This frequency is available for assignment to stations which are operated by or on behalf of associations of owners of private automobiles for single-frequency operation.

(9) Subpart L contains rules for assignment of frequencies in the 470–512 MHz band.

(10) Subpart S contains rules for assignment of frequencies in the 806–821/851–866 and 896–901/935–940 MHz bands.

(11) Assignment of frequencies above 928 MHz for operational-fixed stations is governed by part 94 of this chapter.

(12) This frequency band is available to stations in this service subject to the provisions of § 90.259.

(13) Available only on a shared basis with stations in other services, and subject to no protection from interference due to the operation of industrial, scientific, or medical (ISM) devices. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(14) Use of this frequency band is limited to developmental operation and is subject to the provisions of subpart Q.

(15) Frequencies in this band are available only for one-way paging operations in accordance with § 90.494.

(16) The frequencies available for use at operational-fixed stations in the band 72–76 MHz are listed in § 90.257(a)(1). These frequencies are shared with other services and are available only in accordance with the provisions of § 90.257.

(17) Frequencies in this band will be assigned for low power wireless microphones in accordance with the provisions of § 90.265.

(18) This frequency is not available in the 150–170 MHz band until August 18, 1996. This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450–470 MHz band, secondary telemetry operations pursuant to § 90.238(e) will be authorized on this frequency.

(19) Subpart T contains rules for assignment of frequencies in the 220–222 MHz band.

(20) This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned

with an authorized bandwidth not to exceed 6 kHz.

(21) Assignment of frequencies in this band are subject to the provisions of § 90.173

(22) This frequency will be authorized a channel bandwidth of 25 kHz.

(23) This frequency is available for systems first licensed prior to August 18, 1995. No new systems will be authorized after August 18, 1995, but prior authorized systems may be modified, expanded, and renewed.

(e) *Limitation on number of frequencies assignable.* Normally only one frequency, or pair of frequencies in the paired frequency mode of operation, will be assigned for mobile service operations by a single applicant in a given area. The assignment of an additional frequency or pair of frequencies will be made only upon a satisfactory showing of need, except that: (See also § 90.253.)

(1) [Reserved]

(2) Frequencies in the 25–50 MHz, 150–170 MHz, 450–512 MHz and 902–928 MHz bands may be assigned for the operation of Location and Monitoring Service (LMS) systems in accordance with the provisions of subpart M of this part, notwithstanding this limitation.

(3) The frequency band 33.00–33.01 MHz may be used for developmental operation subject to the provisions of subpart Q. Any type of emission other than pulsed emission may be used if the bandwidth occupied by the emission is contained within the assigned frequency band.

(f) In addition to the frequencies shown in the frequency table of this section, frequencies in the 421–430 MHz band are available in the Detroit, Cleveland, and Buffalo areas in accordance with the rules in §§ 90.273 through 90.281.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§ 0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3); 47 U.S.C. 154(i) and 303)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 90.95, see the List of CFR Sections Affected in the Finding Aids section of this volume.

Subpart F—Radiolocation Service

§ 90.101 Scope.

The Radiolocation Service accommodates the use of radio methods for determination of direction, distance, speed, or position for purposes other than navigation. Rules as to eligibility for licensing, permissible communications, frequency available, and any special requirements are set forth in § 90.103. Provisions for the Location and Monitoring Service (LMS) are contained in subpart M of this part.

[60 FR 15252, Mar. 23, 1995]

§ 90.103 Radiolocation Service.

(a) *Eligibility.* The following persons are eligible for authorizations in the Radiolocation Service to operate stations to determine distance, direction, speed, or position by means of radiolocation devices, for purposes other than navigation:

(1) Any person engaged in a commercial, industrial, scientific, educational, or local government activity

(2) A corporation or association that will furnish radiolocation service to other persons.

(3) A corporation that will furnish a nonprofit radio communication service to its parent corporation, to another subsidiary of the same parent, or to its own subsidiary where the party to be served is regularly engaged in any of the eligibility activities set forth in this paragraph.

(b) *Frequencies available.* The following table indicates frequencies available for assignment to stations in the Radiolocation Service, together with the class of station(s) to which they are normally assigned, and the specific assignment limitations, which are explained in paragraph (c) of this section:

Radiolocation Service Frequency Table

Frequency or band	Class of station(s)	Limitation
Kilohertz:		
70 to 90	Radiolocation land or mobile.	1
90 to 110	Radiolocation land	2
110 to 130	Radiolocation land or mobile.	1
1605 to 1715	do	4, 5, 6, 28, and 29.
1715 to 1750	do	5, 6
1750 to 1800	do	5, 6, 7

Radiolocation Service Frequency Table—Continued

Frequency or band	Class of station(s)	Limitation
1900 to 1950	.....do	6, 25, 26, 27, and 30.
1950 to 2000	.....do	6, 25, 27, and 30.
3230 to 3400	.....do	6, 8
Megahertz:		
420 to 450	.....do	21
2450 to 2500	.....do	9, 22, 23
2900 to 3100	.....do	10, 11
3100 to 3300	.....do	12
3300 to 3500	.....do	12, 13
3500 to 3700	.....do	12
5250 to 5350	.....do	12
5350 to 5460	.....do	10, 14
5460 to 5470	.....do	10, 15
5470 to 5600	.....do	10, 11
5600 to 5650	.....do	10, 16
8500 to 9000	.....do	12, 17
9000 to 9200	.....do	10, 14
9200 to 9300	.....do	12
9300 to 9500	.....do	10, 15, 18
9500 to 10,000	.....do	12
10,000 to 10,500	.....do	12, 13, 19
10,500 to 10,550	.....do	20, 22, 24
13,400 to 14,000	.....do	12
15,700 to 17,700	.....do	12
24,050 to 24,250	.....do	12, 22, 24
33,400 to 36,000	.....do	12

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) This frequency band is shared with and stations operating in this frequency band in this service are on a secondary basis to stations licensed in the International Fixed Service and the Maritime Mobile Service.

(2) This frequency band is shared with and stations operating in this frequency band in this service are on a secondary basis to the LORAN Navigation System; all operations are limited to radiolocation lands stations in accordance with footnote US104, § 2.106 of this chapter.

(3) [Reserved]

(4) Non-Government radiolocation service in this band is on a secondary basis to stations in the Aeronautical Radionavigation Service operating on 1638 or 1708 kHz.

(5) Station assignments on frequencies in this band will be made subject to the conditions that the maximum output power shall not exceed 375 watts and the maximum authorized bandwidth shall not exceed 2 kHz.

(6) Because of the operation of stations having priority on the same or adjacent frequencies in this or in other countries, frequency assignments in this band may either be unavailable of may be subject to certain technical of operational limitations. Therefore, applications for frequency assignments in this band shall include information concerning the transmitter output power; the type and directional characteristics of the antenna and the minimum hours of operation (GMT).

(7) This band is shared with the Disaster Communications Service (part 99) and operations are on a secondary basis to that service between local sunset and local sunrise, or at any time during an actual or imminent disaster. Local sunrise and sunset times shall be derived from the 1946 American Nautical Almanac. Each frequency assignment in this band is on an exclusive basis within the daytime primary service area to which assigned. The daytime primary service area is the area where the signal intensities are adequate for radiolocation purposes during the hours from sunrise to sunset from all stations in the radiolocation system of which the station in question is a part; that is, the primary service area of the station coincides with the primary service area of the system. The normal minimum geographical separation between stations of different licensees shall be at least 580 km. (360 mi.) when the stations are operated on the same frequency or on different frequencies separated by less than 3 kHz. Where geographical separation of less than 580 km. (360 mi.) is desired under these circumstances it must be shown that the desired separation will result in protection ratio of at least 20 decibels throughout the daytime primary service area of other stations. Applications in this band are placed on public notice in accordance with § 1.962 of this chapter. Where the number of applicants requesting authority to serve an area exceeds the number of frequencies available for assignment; or where it appears that fewer applicants or licensees than the number before it should be given authority to serve a particular area; or where it appears that an applicant, either directly or indirectly, seeks to use more than 25 kHz of the available spectrum space in this band, the applications may be designated for hearing.

(8) Frequencies in this band may only be assigned to radiolocation stations which are also assigned frequencies in the 1605–1800 kHz band, provided the use of frequencies in this band is necessary for the proper functioning of the particular radiolocation system. Operations in this band are on a secondary basis to stations operating in accordance with the Commission's table of frequency allocations contained in § 2.106 of this chapter.

(9) This band is allocated to the Radiolocation Service on a secondary basis to other fixed or mobile services and must accept any harmful interference that may be experienced from such services or from the industrial, scientific, and medical (ISM) equipment operating in accordance with part 18 of this chapter. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(10) Speed measuring devices will not be authorized in this band.

(11) This frequency band is shared with and is on a secondary basis to the Maritime Radionavigation Stations (part 80) and to the Government Radiolocation Service.

(12) This frequency band is shared with and is on a secondary basis to the Government Radiolocation Service.

(13) Operations in this band are limited to survey operations using transmitters with a peak power not to exceed 5 watts into the antenna.

(14) This frequency band is shared with and is on a secondary basis to the Aeronautical Radionavigation Service (part 87) and to the Government Radiolocation Service.

(15) The non-Government Radiolocation Service in this band is secondary to the Maritime Radionavigation Stations (part 80), the Aeronautical Radionavigation Service (part 87) and the Government Radiolocation Service.

(16) This frequency band is shared with and is on a secondary basis to the Maritime Radionavigation Stations (part 80) and the Government Meteorological Aids Service.

(17) Operation in this frequency band is on a secondary basis to airborne Doppler radars at 8800 MHz.

(18) Radiolocation installations will be coordinated with the Government Meteorological Aids Service, and insofar as practicable, will be adjusted to meet the needs of that service.

(19) Operations in this band are on a secondary basis to the Amateur Radio Service (part 97). Pulsed emissions are prohibited.

(20) This band is restricted to radiolocation systems using type N0N emission with a power not to exceed 40 watts into the antenna.

(21) Non-Government radiolocation stations in the band are secondary to the Government Radiolocation Service, the Amateur Radio Service and the Amateur-Satellite Service. Pulse-ranging radiolocation stations in this band may be authorized along the shorelines of Alaska and the contiguous 48 states. Radiolocation stations using spread spectrum techniques may be authorized in the band 420–435 MHz for operation within the contiguous 48 states and Alaska. Also, stations using spread spectrum techniques shall be limited to a maximum output power of 50 watts, shall be subject to the applicable technical standards in § 90.209 until such time as more definitive standards are adopted by the Commission and shall identify in accordance with § 90.425(c)(3). Authorizations will be granted on a case-by-case basis; however, operations proposed to be located within the zones set forth in § 90.177(e) should not expect to be accommodated.

(22) For frequencies 2455, 10,525, and 24,125 MHz unmodulated continuous wave (NON) emission only shall be employed and a frequency stability of at least 0.2 percent shall be maintained. Such stations shall be exempt from the requirements of §§ 90.403(c) and (f) and 90.429.

(23) Devices designed to operate as field disturbance sensors on frequencies between 2450 and 2500 MHz with a field strength equal to or less than 50,000 microvolts per meter at 30 meters, on a fundamental frequency, will not be licensed or type accepted

for use under this part. Such equipment must comply with the requirements for field disturbance sensors as set forth in part 15 of this chapter.

(24) Devices designed to operate as field disturbance sensors on frequencies between 10,500 and 10,550 MHz and between 24,050 and 24,250 MHz, with field strength equal to or less than 250,000 microvolts per meter at 30 meters, on the fundamental frequency, will not be licensed or type accepted for use under this part. Such equipment must comply with the requirements for field disturbance sensors as set forth in part 15 of this chapter.

(25) Station assignments on frequencies in this band will be made subject to the conditions that the maximum output power shall not exceed 375 watts and the maximum authorized bandwidth shall not exceed 1.0 kHz.

(26) Each frequency assignment in this band is on an exclusive basis within the primary service area to which assigned. The primary service area is the area where the signal intensities are adequate for radiolocation purposes from all stations in the radiolocation system of which the station in question is a part; that is, the primary service area of the station coincides with the primary service area of the system. The normal minimum geographical separation between stations of different licensees shall be at least 1931 km (1200 miles) when the stations are operated on the same frequency or on different frequencies separated by less than 1.0 kHz. Where geographical separation of less than 1931 km (1200 miles) is requested under these circumstances, it must be shown that the desired separation will result in a protection ratio of at least 20 decibels throughout the primary service area of other stations.

(27) Notwithstanding the bandwidth limitations otherwise set forth in this section of the rules, wideband systems desiring to operate in this band may use such bandwidth as is necessary for proper operation of the system provided that the field strength does not exceed 120 microvolts per meter per square root Hertz (120 uv/m/Hz½) at 1.6 km (1 mile). Such wideband operations shall be authorized on a secondary basis to stations operating within otherwise applicable technical standards. Applications for wideband systems in this band will be accepted beginning December 15, 1985.

(28) Since the 1605–1705 kHz band has been reallocated for AM broadcasting, no new assignments in the 1605–1705 kHz portion of this band shall be made after September 30, 1985.

(29) Beginning July 1, 1987, licensees of existing systems authorized frequencies in the 1605–1705 kHz portion of this band may request modification of their authorizations to change frequencies to the 1900–2000 kHz band.

(30) Until July 1, 1988, this band will be available only for licensees of existing systems operating in the 1605–1705 kHz portion of the 1605–1715 kHz band requesting modification of their authorizations to change frequencies to this band and for licensees of wideband systems. On July 1, 1988, requests for new station authorizations in this band will be accepted and, if necessary, will be subject to the random selection procedures outlined in §1.972 of the Commission's Rules.

(d) *Other additional frequencies available.* Radiolocation stations in this service may be authorized, on request, to use frequencies allocated exclusively to Federal Government stations, in those instances where the Commission finds, after consultation with the appropriate Government agency or agencies, that such assignment is necessary or required for coordination with Government activities.

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.103, see the List of CFR Sections Affected in the Finding Aids section of this volume.

Subpart G—Applications and Authorizations

§90.111 Scope.

This subpart contains the procedures and requirements for the submission or filing of applications for authority to operate radio facilities under this part. The procedures described as those utilized by the Commission after receiving filed applications.

[51 FR 14996, Apr. 22, 1986]

§ 90.113 Station authorization required.

No radio transmitter shall be operated in the services governed by this part except under and in accordance with a proper authorization granted by the Commission.

§ 90.115 Foreign government and alien eligibility.

(a) No station authorization in the radio services governed by this part shall be granted to or held by a foreign government or its representative.

(b) No station authorization in the radio services governed by this part shall be granted to or held by an entity providing or seeking to provide commercial mobile radio services (except such entities meeting the requirements of § 20.9(c) of this chapter) if such entity is:

(1) An alien or the representative of any alien;

(2) A corporation organized under the laws of any foreign government;

(3) A corporation of which any officer or director is an alien or of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country;

(4) A corporation directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens, or of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

[59 FR 59957, Nov. 21, 1994]

§ 90.117 Applications for radio station or radio system authorizations.

Persons desiring a radio station or radio system authorization must first submit the appropriate application(s). Prescribed application forms are listed in § 90.119. The Forms may be obtained from the Washington, DC office of the Commission, its Gettysburg, PA office, or from any of its engineering field offices. (See § 90.145 for information regarding special temporary authorizations.) Applicants for new stations comprising a land mobile radio system as defined in § 90.7 of this part, or applicants modifying or renewing a station that is a part of a system, may file an application for a system authorization.

[47 FR 57051, Dec. 22, 1982]

§ 90.119 Application forms.

The following application forms shall be used—

(a) Form 600 shall be used to apply:

(1) For new base, fixed, or mobile station authorizations governed by this part.

(2) For system authorizations, where the system meets the requirements of § 90.117.

(i) Application for a radio system may be submitted on a single Form 600.

(ii) If the control station(s) will operate on the same frequency as the mobile station, and if the height of the control station(s) antenna(s) will not exceed 6.1 meters (20 feet) above ground or an existing man-made structure (other than an antenna structure), there is no limit on the number of such stations which may be authorized. Appropriate items on Form 600 shall be completed showing the frequency, the station class, the total number of control stations, the emission, and the output power of the highest powered control station. Applicants for all control stations in the 470–512 MHz band must furnish the information requested in the relevant items in Form 600.

(3) For modification or for modification and renewal of an existing authorization. See § 90.135.

(4) For the Commission's consent to the assignment of an authorization to another person or entity, except for authorization to provide commercial mobile radio service. In addition, the application shall be accompanied by a letter from the assignor setting forth his or her desire to assign all right, title, and interest in and to such authorization, stating the call sign and location of the station, and stating that the assignor will submit his or her

current station authorization for cancellation upon completion of the assignment. Form 1046 may be used in lieu of this letter.

(5) For reinstatement of an expired license. See also paragraphs (b)(1) and (e) of this section.

(b) Form 405–A shall be used to:

(1) Apply for license reinstatement or renewal if the reinstatement or renewal does not involve the modification of the station or system license.

(2) Notify the Commission of a change in the licensee's name or mailing address that occurs during the license term. See §90.135(b).

(3) Notify the Commission that the licensee has discontinued station operation and wishes to cancel the license. See §90.157.

(c) Form 490 shall be used whenever it is proposed that a licensee for a commercial mobile radio service in this part change, as by transfer of stock ownership, the control of a corporate licensee or for the Commission's consent to an assignment of an authorization to another person or entity.

(d) Form 572, Temporary Permit to Operate a Part 90 Radio Station, should be properly executed if the applicant is eligible and desires to operate his or her station pending the processing of his or her formal application. See also §§90.159, and 90.657.

(e) Form 574–R shall be used to apply for renewal of an existing authorization and may be used to apply for reinstatement of an expired license, if the renewal or reinstatement does not involve the modification of the station or system license. (Form 574–R is generated by the Commission and mailed to the licensee prior to the expiration of the license term.)

[59 FR 59957, Nov. 21, 1994]

§90.121 Canadian registration.

Form 410 shall be filed by Canadian licensees desiring to operate in the United States under the terms of Article 2 and 3 of the Convention between the United States and Canada concerning operation of Certain Radio Equipment or Stations (which entered into force May 15, 1952). This form may be obtained from the Department of Communications, Ottawa, Canada. That department should also be consulted by U.S. licensees desiring to operate in Canada.

§90.123 Full disclosures.

(a) Each application shall contain full and complete disclosures with regard to the real party or parties in interest and as to all matters required to be disclosed by the application forms.

(b) Each application shall be clear and complete in itself without cross reference to information previously filed. An application for modification of an existing station must show in precise detail all particulars of the desired operation, including those not affected by the modification.

(c) Each application for digital voice emission shall only be made with the understanding that the applicant is responsible to disclose current encoding information to an FCC official at any time after station authorization. Disclosure shall be only upon request of the FCC official, and only for enforcement purposes. All authorizations for digital voice systems are issued subject to this requirement.

[43 FR 54791, Nov. 22, 1978, as amended at 47 FR 15340, Apr. 9, 1982]

§90.125 Who may sign applications.

See part 1 of this chapter, §1.913, for practices and procedures governing signatures on license applications.

[58 FR 21407, Apr. 21, 1993]

§90.127 Submission and filing of applications.

(a) All applications for private land mobile licenses that require both frequency coordination and fees as set forth at part 1, subppart G of this chapter shall first be sent to the certified coordinator for the radio service or frequency group concerned. After the appropriate coordination and attachment of the statutory fee, such applications shall be forwarded to the appropriate address in accordance with §0.401(b) of the rules. A list of the certified frequency coordinators may be obtained from the Federal Communications Commission, Gettysburg, PA 17326.

(1) All applications for private land mobile licenses that require frequency coordination but not a fee shall be sent to the certified coordinator for the

radio service or frequency group concerned. After the appropriate coordination, such applications shall be forwarded to the Federal Communications Commission, Gettysburg, PA 17326.

(2) All applications for private land mobile licenses that require a fee but not frequency coordination shall be sent to the appropriate address in accordance with § 0.401(b) of the rules.

(3) All applications for private land mobile licenses that do not require either frequency coordination or a fee shall be sent to the Federal Communications Commission, Gettysburg, PA 17326.

(b) Unless otherwise specified, an application should be filed at least 60 days prior to the desired date of Commission action. Applications for renewal should be filed no more than 90 days nor less than 30 days prior to the end of the license term. When timely and sufficient application for renewal of the license has been made, the license shall not expire until Commission action on the application has been completed. Application for license reinstatement must be filed no later than thirty (30) days after the expiration date of the license. See § 1.4 of this chapter.

(c) Each application shall limit its request for authorized mobile transmitters and paging receivers to:

(1) Mobile transmitters and paging receivers that will be installed and operated immediately after authorization issuance.

(2) Mobile transmitters and paging receivers for which purchase orders have already been signed and which will be in use within eight months of the authorization date.

(d) Failure on the part of the applicant to provide all information required by the application form or to supply the necessary exhibits or supplementary statements may constitute a defect in the application.

(e) All applications for modification of license and renewal of license must include the number of mobile transmitters and paging receivers in use on the licensed facilities.

[43 FR 54791, Nov. 22, 1978, as amended at 43 FR 59071, Dec. 19, 1978; 44 FR 27995, May 14, 1979; 47 FR 41044, Sept. 16, 1982; 51 FR 14996, Apr. 22, 1986; 52 FR 10231, Mar. 31, 1987; 54 FR 39739, Sept. 28, 1989; 56 FR 65858, Dec. 19, 1991; 57 FR 48739, Oct. 28, 1992]

§ 90.129 Supplemental information to be routinely submitted with applications.

Each application received by the Commission must be accompanied by the applicable information listed below:

(a) Evidence of frequency coordination as required by § 90.175.

(b) Description of any equipment proposed to be used if it does not appear on the Commission's current Radio Equipment List, Equipment Acceptable for Licensing, and designated for use under this part.

(c) A functional system diagram and a detailed description of the manner in which the interrelated stations will operate, if the station is part of a system involving two or more stations at different fixed locations.

(d) Applicants proposing to share their authorized transmitters pursuant to § 90.179 shall so indicate in their application.

(e) Applicants proposing to construct a radio station in the vicinity of radio astronomy observatories in West Virginia or in the vicinity of a radio receiving zone in Colorado must submit the statements prescribed by § 90.177.

(f) Statements required in connection with developmental operation, as specified in § 90.505.

(g) The environmental assessment required by §§ 1.1307 and 1.1311 of the rules, if applicable.

(h) Requests for authorization to communicate with foreign stations in accordance with § 90.19(c) or § 90.417;

(i) Showings required in connection with the use of frequencies as specified in subppart S.

(j) Any other statements or other data specifically required under special circumstances which are set forth in the applicable subpart of this part, by

the particular form on which the application is filed or upon request by the Commission.

(k) If the applicant proposes to use a multiple-licensed transmitter, he must provide the name of the owner and the names and call signs of any other licensees of that transmitter.

(l) Applicants for new land stations to be interconnected with the public switched telephone network must indicate on their applications that their stations will be interconnected.

(m) Applicants requesting licenses to operate on frequencies pursuant to §90.17(c)(25) must submit disaster communications plans containing the following information:

(1) A system network/system use diagram including a showing of emergency power and methods of deployment to all parts of the State or insular area;

(2) A designation of the responsible governmental authority within the State or insular area who will be the controlling agency for the licensee;

(3) A schedule of proposed drills and/or exercises by the participants;

(4) The number of frequencies in each band, and the type of emission required by the applicant;

(5) The distances expected to be covered within that State or insular area;

(6) The adjacent states and insular areas expected to be communicated with during a regional disaster or emergency;

(7) The point of contact for emergencies involving more than one State or insular area;

(8) The common frequency band(s) and number of frequencies in each band required for interstate communication, and the point(s) of contact for these adjacent States or insular areas;

(9) The format and emission parameters of radio teletype transmissions to be used for interstate communications.

(n) All applications for renewal of base/mobile station licenses by licensees who also operate wildlife tracking telemetry transmitters, as described in §90.25(f), must include a statement detailing the number of units in service, by frequency, on Forestry-Conservation Radio Service frequencies at the time the renewal application is filed.

(o) Applicants requesting licenses to operate on frequencies pursuant to §§90.63(d)(1), 90.65(c)(1), 90.73(d)(1) and 90.81(d)(14) must submit communications plans containing the following information:

(1) A description of the communication requirement sufficient to demonstrate that no alternative to the link is appropriate and that there is no reasonable way to abbreviate the link;

(2) The frequency bands and the number of frequencies necessary for the link(s);

(3) The name and phone number of the person(s) responsible for ceasing operations of the licensee's stations in the event of interference; and,

(4) Where the link(s) provides a standby backup circuit for another communications circuit, a brief description of the supported circuit and its vulnerability to disruption.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307)

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.129, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§90.131 Amendment or dismissal of applications.

This rule governs all applications relating to radio services in this part, including applications filed by entities meeting the requirements of §20.9(c) of this chapter, except applications concerning facilities used to provide commercial mobile radio services, which are governed by §90.161.

(a) Any application, except for mutually exclusive applications or those against which a petition to deny has been filed, may be amended as a matter of right at any time prior to the time the application is granted or designated for hearing. Each amendment to an application shall be signed and submitted in the same manner as required for the original application. The procedures for amending applications mutually exclusive under this part, applications against which a petition to deny has been filed, and applications designated for hearing are set forth in §1.918.

(b) Any application may, upon written request signed by the applicant or his attorney, be dismissed without prejudice as a matter of right prior to

the time the application is granted or designated for hearing.

[43 FR 54791, Nov. 22, 1978, as amended at 59 FR 59958, Nov. 21, 1994]

§ 90.135 Modification of license.

(a) The following changes in authorized stations require an application for modification of license:

(1) Change in frequency.

(2) Change in the type of emission.

(3) Change in power from that authorized.

(4) Change in antenna height from that authorized.

(5) Change in the authorized location or number of base stations, fixed, control or, for systems operating on non-exclusive assignments in the 470–512 MHz, 800 MHz or 900 MHz bands, a change in the number of mobile transmitters, or a change in the area of mobile operations from that authorized.

(6) Change in the class of a land station, including changing from multiple licensed to cooperative use, and from shared to unshared use.

(7) Any change in ownership, control, or corporate structure.

(b) The following changes in authorized stations do not require an application for modification of license.

(1) Change in mailing address of licensee.

(2) Change of name only of licensee, without changes in ownership, control, or corporate structure.

(3) Change in the number and location of station control points or of control stations operating below 470 or above 800 MHz meeting the requirements of § 90.119(a)(2)(ii).

(4) Change in the number of mobile units operated by Radiolocation Service licensees.

(5) Any other changes not listed in paragraph (a) of this section.

(c) Unless specifically exempted in § 90.175, requests for modifications listed in paragraph (a) of this section must be submitted on Form 600 to the applicable frequency coordinator.

(d) In case of a change listed in paragraph (b)(1) or (2) of this section, the licensee must notify the Commission immediately. Notification may be by Form 405–A or by letter. The letter must contain the name and address of the licensee as they appear in the Commission's records, the new name or address, the call signs and classes of all radio stations authorized to the licensee under this part and the radio service in which each station is authorized. The completed and signed Form 405–A or the letter must be sent to: Federal Communication Commission, Gettysburg, PA 17326. Licensees whose licenses are due for renewal and who have received the renewal Form 574–R in the mail from the Commission must use the appropriate boxes on that form to notify the Commission of a change listed in paragraph (b)(1) or (2) of this section.

(e) In the case of a change listed in paragraphs (b)(3), (4), and (5) of this section, the licensee must notify the Commission within 30 days of the change. The notice may be filed on FCC Form 574 or may be contained in a letter specifying the nature of the change, the name and address of the licensee as appearing on Commission records, and the call sign, class, and radio service of the station. The notice must be sent to: Federal Communications Commission, Gettysburg, PA 17326.

(f) Any change that requires a fee as set forth at part 1, subppart G of this chapter must be filed in accordance with § 1.912 (b) or § 1.912 (b)(2) of the rules.

[51 FR 14997, Apr. 22, 1986, as amended at 51 FR 36014, Oct. 8, 1986; 52 FR 10232, Mar. 31, 1987; 54 FR 38680, Sept. 20, 1989; 57 FR 48739, Oct. 28, 1992; 59 FR 59958, Nov. 21, 1994]

§ 90.137 Applications for operation at temporary locations.

(a) An application for authority to operate a base or a fixed transmitter at temporary locations shall be filed in accordance with the following:

(1) When one or more individual transmitters are to be operated by a licensee as a base station or as a fixed station at unspecified or temporary locations for indeterminate periods, such transmitters may be considered to comprise a single station intended to be operated at temporary locations.

(2) The application must specify the general geographic area within which the operation will be confined. The area may be specified as a city, a county or counties, a state or states or other definable geographic area such as

a specified radius around a particular city or known geographic site.

(3) Applications for operation at temporary locations exceeding 180 days must be accompanied by evidence of frequency coordination.

(b) When any unit or units of a base station or fixed station which are authorized for operation at temporary locations actually remain or are intended to remain at the same location for more than 1 year, an application for a separate authorization specifying the fixed location shall be made as soon as possible, but not later than 30 days after the expiration of the 1-year period.

[43 FR 54791, Nov. 22, 1978, as amended at 45 FR 63862, Sept. 26, 1980; 51 FR 14997, Apr. 22, 1986; 58 FR 44956, Aug. 25, 1993]

§90.138 Applications for itinerant frequencies.

An application for authority to conduct an itinerant operation in the Business or Special Industrial Radio Services must be restricted to use of itinerant frequencies or other frequencies not designated for permanent use and need not be accompanied by evidence of frequency coordination. Users should be aware, however, that no protection is provided from interference from other itinerant operations.

[44 FR 32218, June 5, 1979]

§90.139 Commission processing of applications.

(a) Applications received for filing are given a file number. The assignment of a file number to an application is for administrative convenience and does not indicate the acceptance of the application for filing and processing.

(b) Applications which are incomplete with respect to answers, supplementary statements, execution, or other matters of a formal character shall be deemed defective and may be dismissed. In addition, if an applicant is requested to file any additional documents or information not included in the prescribed application form, failure to comply with such request will render the application defective and it may be dismissed. Applications will also be deemed to be defective and be dismissed in the following cases:

(1) Statutory disqualification of applicant;

(2) Proposed use or purpose of station would be unlawful;

(3) Requested frequency is not allocated for assignment for the service proposed.

(c) Applications which are not in accordance with the provisions of this chapter, or other requirements of the Commission, will be considered defective and may be dismissed unless accompanied by a request in accordance with §90.151 of this part.

[43 FR 54791, Nov. 22, 1978, as amended at 51 FR 14997, Apr. 22, 1986]

§90.141 Resubmitted applications.

Any application received by the Commission for frequencies below 470 MHz which has been returned by the Commission to the applicant for correction will be processed in its original position in the processing line if it is resubmitted and received by the Commission within 60 days from the date on which it was returned to the applicant. Otherwise it will be treated as a new application for the purpose of processing considerations. An application received by the Commission for frequencies above 470 MHz which has been returned by the Commission to the applicant will be processed in its original position in the processing line if it is resubmitted and received by the Commission within 30 days (45 days outside the continental United States) from the date on which it was returned to the applicant. Otherwise it will be treated as a new application for the purpose of processing considerations.

[51 FR 14997, Apr. 22, 1986]

§90.143 Grants of applications.

(a) The Commission will grant an application for a station authorization without a hearing if it is in proper form, and conforms with all rule requirements, and would serve the public interest, convenience or necessity.

(b) All applications in pending status will be processed in the order in which the application acceptable for filing was received by the Commission; provided, however, that if there are more applications than can be accommodated on available frequencies, the

Commission may grant the applications pursuant to the system of random selection prescribed in § 1.972 of this chapter.

(c) The Commission may grant any application in part, or add privileges, terms or conditions not requested. When such action is taken without a hearing, the applicant may accept the authorization as granted, or may return it to the Commission along with a written request for a hearing. Any such request for hearing must be made within 30 days from the date of the grant, or from its effective date, if a later date is specified. Upon receipt of a request for hearing, the Commission will vacate the grant and designate the application for hearing in the usual manner.

[43 FR 54791, Nov. 22, 1978, as amended at 48 FR 27207, June 13, 1983]

§ 90.145 Special temporary authority.

(a) In circumstances requiring the temporary use of radio facilities, the Commission may issue special temporary authority for new or modified operations. A request for special temporary authority may be made in letter form signed in accordance with § 90.125 of this part. It should be submitted, in duplicate, at least 10 days prior to the date of the proposed operation. However, in cases of emergency involving danger to life or property, or due to damage to equipment, the request may be made by telephone, telegraph or facsimile transmission under the condition that a letter request is submitted within the following 10 days. All requests for special temporary authority shall be clear and complete within themselves and shall not rely on any pending application.

(b) Every request for special temporary authority should contain the following information:

(1) Name and address of the applicant;

(2) Need for special action, including a description of any emergency or damage of equipment;

(3) Type of operation to be conducted (such as field test, dispatching etc.);

(4) Purpose of operation;

(5) Times and dates of operation;

(6) Class of station and name of radio service;

(7) Location, including geographical coordinates if known, of transmitter and/or mobile area of operations;

(8) Number of fixed transmitters and number of mobile units;

(9) Operating frequency;

(10) Output power of the transmitter;

(11) Type of emission;

(12) Description of antenna, including height above ground and power gain;

(13) Statement of eligibility for a radio service under this part.

(c) Requests for special temporary authority to operate as a private mobile radio service provider for periods exceeding 180 days require evidence of frequency coordination. Requests for shorter periods do not require coordination and, if granted will be authorized on a secondary, non-interference basis.

(d) A request for special temporary authority to operate a commercial mobile radio facility under this part may be granted without being listed in a Public Notice, or prior to thirty (30) days after such listing, if:

(1) The STA is to be valid for thirty (30) days or less and the applicant does not plan to file an application for regular authorization of the subject operation;

(2) The STA is to be valid for sixty (60) days or less, pending the filing of an application for regular authorization of the subject operation;

(3) The STA is to allow interim operation to facilitate completion of authorized construction or to provide substantially the same service as previously authorized; or

(4) The STA is made upon a finding that there are extraordinary circumstances requiring operation in the public interest and that delay in the institution of such service would seriously prejudice the public interest.

(e) The Commission may grant STAs to operate a commercial mobile radio facility for a period not to exceed one hundred eighty (180) days under the provisions of Section 309(f) of the Communications Act of 1934, as amended, 47 U.S.C. 309(f), if extraordinary circumstances so require, and pending the filing of an application for regular operation. The Commission may grant extensions for an additional period of up to one hundred eighty (180) days,

but the applicant must show that extraordinary circumstances warrant such an extension.

[43 FR 54791, Nov. 22, 1978, as amended at 48 FR 11717, Mar. 21, 1983; 51 FR 14997, Apr. 22, 1986; 59 FR 59958, Nov. 21, 1994]

§90.147 Mailing address furnished by licensee.

Each application shall set forth and each licensee shall furnish the Commission with an address in the United States to be used by the Commission in serving documents or directing correspondence to that licensee. Unless any licensee advises the Commission to the contrary, the address contained in the licensee's most recent application will be used by the Commission for this purpose.

§90.149 License term.

(a) Licenses for stations authorized under this part will be issued for a term not to exceed five (5) years from the date of the original issuance, modification, or renewal, except that the license term for stations licensed as commercial mobile radio service on 220–222 MHz, 929–930 MHz paging, Business Radio, and SMR frequencies shall be ten (10) years. Licensees shall have an additional thirty (30) days after the expiration of the license term to apply for reinstatement of expired licenses.

(b) If no application for reinstatement has been filed as specified in this part, the authorization shall be deemed to have been automatically cancelled on the date specified on the authorization.

(c) Authorizations for stations engaged in developmental operation under subppart Q of this part will be issued upon a temporary basis for a specific period of time, but in no event to extend beyond 1 year from date of original issuance, modification or renewal.

(d) Nationwide authorizations under subpart T of this part will be issued for a term not to exceed ten years from the date of the original issuance, modification or renewal.

[43 FR 54791, Nov. 22, 1978, as amended at 49 FR 36376, Sept. 17, 1984; 56 FR 19602, Apr. 29, 1991; 56 FR 65858, Dec. 19, 1991; 59 FR 59958, Nov. 21, 1994]

§90.151 Requests for waiver.

(a) Requests for waiver of the rules in this part shall state the nature of the waiver or exception desired, and set forth reasons in support thereof including a showing that unique circumstances are involved and that there is no reasonable alternative solution within existing rules. When related to a specific application the submission and filing procedures of §90.127 also apply.

(b) Applications may be dismissed if the accompanying petition for waiver of the rules does not set forth reasons which, sufficient if true, would justify a waiver or exception.

(c) Applicants requiring expeditious processing of their request for waiver, shall, pursuant to §1.931 of this chapter, clearly caption both their request for waiver and the envelope containing it with the words ''WAIVER—TIMELY ACTION REQUESTED.''

(d) Requests for waiver of the rules not related to a specific application shall be submitted to the Federal Communications Commission, Gettysburg, PA 17326. (Waiver requests associated with and attached to specific applications that require a fee as set forth at part 1, subppart G of this chapter must be filed in accordance with §0.401(b) of the rules. See also §0.482 of the rules.)

(Sec. 4(i), Communications Act of 1934, as amended, 47 U.S.C. 154(i), and the authority delegated to the Managing Director by §0.231 of the Commission's Rules, 47 CFR 0.231)

[49 FR 20292, May 14, 1984, as amended at 51 FR 14997, Apr. 22, 1986; 52 FR 10232, Mar. 11, 1987]

§90.153 Transfer or assignment of station authorization.

A station authorization and the rights it grants shall not be transferred, assigned, or in any manner disposed of to any person, unless the Commission shall, after obtaining full information, decide that the transfer, assignment, or disposal is in the public interest, convenience or neccessity and give its consent in writing. An applicant for voluntary transfer of control or assignment under this section where the subject license was acquired by the transferor or assignor through a system of random selection shall, together

with its application for transfer of control or assignment, file with the Commission the associated contracts for sale, option agreements, management agreements, or other documents disclosing the total consideration that the applicant would receive in return for the transfer or assignment of its license. This information should include not only a monetary purchase price, but also any future, contingent, in-kind, or other consideration (e.g., management or consulting contracts either with or without an option to purchase; below-market financing). The assignee is responsible for ascertaining that the station facilities are and will remain in compliance with the terms and conditions of the authorization to be assigned.

(a) *Application required.* The assignor or transferor of a commercial mobile radio license under this part must file an application for approval of assignment or transfer of control (Commission Form 490). In the case of involuntary assignment, such application must be filed no later than thirty (30) days after the event causing the assignment. The assignee or transferee must file a report qualifying it as a commercial mobile radio provider (Commission Form 430) unless a current report is already on file with the Commission.

(b) *Notification of completion.* Assignments and transfers of control of commercial mobile radio licenses must be completed within sixty (60) days of Commission approval. The assignee or transferee must notify the Commission by letter of the date of completion of the assignment or transfer of control. If an assignment or transfer of control is not completed within this time, the assignor or transferor must so notify the Commission by letter, and the assignee or transferee must submit the authorization(s) to the Commission for cancellation or request an extension of time to complete the assignment or transfer of control. If the assignment or transfer of control is not completed, the authorization(s) remain with the assignor or transferor.

(c) *Partial assignment of authorization.* If the authorization for some, but not all, of the facilities of a commercial mobile radio station is assigned to another party, voluntarily or involuntarily, such action is a partial assignment of authorization.

(1) To request Commission approval of a partial assignment of authorization, the following must be filed in addition to the forms required by paragraph (a) of this section:

(i) The assignor must notify the Commission (Commission Form 600) of the facilities to be deleted from its authorization upon completion of the assignment.

(ii) The assignee must apply for authority (Commission Form 600) to operate a new station including the facilities for which authorization is assigned, or to modify the assignee's existing station to include the facilities for which authorization was assigned.

(2) Partial assignments must be completed within sixty (60) days of Commission approval. If an approved partial assignment is not completed within this time, the assignor must notify the Commission (Commission Form 600), and the assignee must submit the authorization(s) to the Commission for cancellation or request an extension of time to complete the assignment. If the assignment is not completed, the authorization(s) remain with the assignor.

(d) *Limitations.* The Commission may deny applications for assignment of authorization or consent to transfer of control of a commercial mobile radio license if:

(1) The Commission is unable to make the public interest determinations required under the Communications Act with respect to both parties to the assignment or transfer; or

(2) The authorization was obtained for the principal purpose of speculation or profitable resale, rather than provision of commercial mobile radio services to the public.

[43 FR 54791, Nov. 22, 1978, as amended at 59 FR 9101, Feb. 25, 1994; 59 FR 59958, Nov. 21, 1994]

§ 90.155 Time in which station must be placed in operation.

(a) All stations authorized under this part, except as provided in paragraphs (b) and (d) of this section and in §§ 90.629, 90.631(f), 90.665, and 90.685, must be placed in operation within

eight (8) months from the date of grant or the authorization cancels automatically and must be returned to the Commission.

(b) For local government entities only, a period longer than eight months for placing a station in operation may be authorized by the Commission on a case-by-case basis, where the applicant submits a specific schedule for the completion of each portion of the entire system, along with a showing that the system has been approved and funded for implementation in accordance with that schedule. See also §§90.631 and 90.633.

(c) For purposes of this section, a base station is not considered to be placed in operation unless at least one associated mobile station is also placed in operation. See also §§90.633(d) and 90.631(f).

(d) Multilateration LMS systems authorized in accordance with §90.353 must be constructed and placed in operation within twelve (12) months from the date of grant or the authorization cancels automatically and must be returned to the Commission. MTA-licensed multilateration LMS systems will be considered constructed and placed in operation if such systems construct a sufficient number of base stations that utilize multilateration technology (*see* paragraph (e) of this section) to provide multilateration location service to a substantial portion of at least one BTA in the MTA.

(e) A multilateration LMS station will be considered constructed and placed in operation if it is built in accordance with its authorized parameters and is regularly interacting with one or more other stations to provide location service, using multilateration technology, to one or more mobile units. Specifically, LMS multilateration stations will only be considered constructed and placed in operation if they are part of a system that can interrogate a mobile, receive the response at 3 or more sites, compute the location from the time of arrival of the responses and transmit the location either back to the mobile or to a subscriber's fixed site.

[45 FR 81208, Dec. 10, 1980, as amended at 47 FR 41044, Sept. 16, 1982; 48 FR 51927, Nov. 15, 1983; 54 FR 4030, Jan. 27, 1989; 56 FR 65859, Dec. 19, 1991; 60 FR 15252, Mar. 23, 1995; 61 FR 6155, Feb. 16, 1996]

§90.157 Discontinuance of station operation.

(a) The license for a station shall cancel automatically upon permanent discontinuance of operations and the licensee shall forward the station license to the Commission. Alternatively, the licensee may notify the Commission of the discontinuance of operations of a station by checking the appropriate box on Form 574–R or Form 405–A and requesting license cancellation. Notification of discontinued operation or cancellation shall be sent to: Federal Communications Commission, Gettysburg, PA 17326.

(b) For the purposes of this section, any station which has not operated for 1 year or more is considered to have been permanently discontinued.

[48 FR 36106, Aug. 9, 1983, as amended at 54 FR 38680, Sept. 20, 1989; 56 FR 65859, Dec. 19, 1991]

§90.159 Temporary and conditional permits.

(a) An applicant for a license under this part (other than a commercial mobile radio license) utilizing an already licensed facility may operate the radio station(s) for a period of up to one hundred eighty (180) days under a temporary permit evidenced by a properly executed temporary license certificate (Form 572) after submitting or filing a formal application for station license in accordance with §90.127, provided that all the antennas employed by control stations are 6.1 meters (20 feet) or less above ground or 6.1 meters (20 feet) or less above a man-made structure other than an antenna tower to which it is affixed. When required by §90.175, applications must be accompanied by evidence of frequency coordination. The temporary operation of stations, other than mobile stations within the Canadian coordination zone is limited

to stations with a maximum of 5 watts effective radiated power and a maximum antenna height of 6.1 meters (20 ft) above average terrain.

(b) An applicant proposing to operate a new land mobile station or modify an existing station below 470 MHz or in the one-way paging 929–930 MHz band (other than a commercial mobile radio service applicant or licensee on these bands) that is required to submit a frequency recommendation pursuant to paragraphs (a) through (e) of § 90.175 may operate the proposed station during the pendency of its application for a period of up to one hundred eighty (180) days under a conditional permit upon the filing of a properly completed formal application that complies with § 90.127 if the application is accompanied by evidence of frequency coordination in accordance with §§ 90.175 and 90.176, and provided that the following conditions are satisfied:

(1) For applicants proposing to operate below 470 MHz, that the proposed station location is south of Line A or west of Line C as defined in § 90.7; for applicants in the one-way paging 929–930 MHz band, that the proposed station location is west of Line C as defined in § 90.7.

(2) The proposed antenna structure has been previously studied by the Federal Aviation Administration and determined to pose no hazard to aviation safety as required by § 17.4 of the Commission's Rules; or the proposed antenna or tower structure does not exceed 6.1 meters (20 feet) above ground level or above an existing man-made structure (other than an antenna structure), if the antenna or tower has not been previously studied by the Federal Aviation Administration and cleared by the FCC.

(3) The grant of the application does not require a waiver of the Commission's Rules.

(4) The applicant has determined that the proposed facility will not significantly affect the environment as defined in § 1.1307.

(5) The applicant has determined that the proposed station affords the level of protection to radio ''quiet'' zones and monitoring facilities as specified in § 90.177.

(6) The applicant has submitted an application to the Commission stating the frequency the applicant intends to use and that the frequency coordination requirements specified in §§ 90.175 and 90.176 for selection and use of this frequency have been satisfied.

(c) An applicant proposing to operate an itinerant station or an applicant seeking the assignment of authorization or transfer of control of a license for an existing station below 470 MHz or in the 929–930 MHz band (other than a commercial mobile radio service applicant or licensee on these bands) may operate the proposed station during the pendency of the application for a period not to exceed one hundred eighty (180) days under a conditional permit upon the filing of a properly completed formal application that complies with § 90.127. Conditional authority ceases immediately if the application is returned by the Commission because it is not acceptable for filing. All other categories of applications listed in § 90.175(f) that do not require evidence of frequency coordination are excluded from the provisions of this rule section.

(d) A conditional authorization pursuant to paragraphs (b) and (c) of this section is evidenced by retaining the original executed conditional licensing 572C Certification Form with the station records. Conditional authorization does not prejudice any action the Commission may take on the subject application. Conditional authority is accepted with the express understanding that such authority may be modified or cancelled by the Commission at any time without hearing if, in the Commission's discretion, the need for such action arises. Consistent with § 90.175(d), the applicant assumes all risks associated with operation under conditional authority, the termination or modification of conditional authority, or the subsequent dismissal or denial of its application. Authority reverts back to the original licensee if an assignee or transferee's conditional authority is cancelled.

(e) The transmissions of new stations operating pursuant to conditional authority shall be identified by a temporary call sign consisting of the prefix ''WT'' followed by the applicant's local seven digit business telephone number

as provided in §2.302. Transmissions by applicants for the modification, assignment of authorization or transfer of control of an existing station shall be identified by the station's call sign.

[51 FR 14997, Apr. 22, 1986, as amended at 54 FR 50239, Dec. 5, 1989; 58 FR 44956, Aug. 25, 1993; 58 FR 62291, Nov. 26, 1993; 59 FR 59959, Nov. 21, 1994]

SPECIAL RULES GOVERNING FACILITIES USED TO PROVIDE COMMERCIAL MOBILE RADIO SERVICES

SOURCE: 59 FR 59959, Nov. 21, 1994, unless otherwise noted.

NOTE: The following rules (§§90.160 through 90.169) govern applications, licensing, and operation of radio facilities in the 220–222 MHz (subpart T), Business Radio (Subpart D), 929–930 MHz Paging (subpart P), and Specialized Mobile Radio (Subpart S) services that are used to provide commercial mobile radio services (see §§20.3 and 20.9 of this chapter). Compliance with the rules relating to applications and licensing of facilities on paging-only channels in the Business Radio Service (see §90.75(c)(10)) and 929–930 MHz paging channels (see §90.494(a),(b)) is not required prior to August 10, 1996. Compliance with §90.168 is also not required prior to August 10, 1996 for reclassified commercial mobile radio service providers who are to be regulated as private carriers until August 10, 1996 as provided in the Second Report and Order in GN Docket No. 93–252, 9 FCC Rcd 2348 (1994), paras. 280–284. The licensing and operation of radio facilities in the 220–222 MHz (Subpart T), Business Radio (Subpart D), 929–930 MHz Paging (Subpart P), and Specialized Mobile Radio (Subpart S) services that are used to provide commercial mobile radio services are also subject to rules elsewhere in this part that apply generally to Private Land Mobile Radio Services. In the case of any conflict between rules set forth in §§90.160 through 90.169 and other rules in this part, §§90.160 through 90.169 apply.

§90.160 Public notice.

Periodically, the Commission will issue Public Notices listing major filings and other information of public significance concerning commercial mobile radio services licensed under this part. Categories of Public Notice listings are as follows:

(a) *Accepted for filing.* Acceptance for filing of all applications and major amendments thereto.

(b) *Actions.* Commission actions on pending applications previously listed as accepted for filing.

(c) *Informative listings.* Information that the Commission, in its discretion, believes to be of public significance. Such listings do not create any rights to file oppositions or other pleadings.

§90.161 Amendment or dismissal of applications.

(a) *Amendment.* Pending applications concerning facilities for providing commercial mobile radio services may be amended as a matter of right if such applications have not been designated for hearing or listed in a Public Notice for a random selection or competitive bidding process, except as provided in paragraphs (a)(1) and (a)(2) of this section. If a petition to deny or other formal objection has been filed, a copy of any amendment (or other filing) must be served on the petitioner. If the Commission has issued a Public Notice stating that the application appears to be mutually exclusive with another application (or applications), a copy of any amendment (or other filing) must be served on any such mutually exclusive applicant (or applicants).

(1) Amendments to applications that resolve mutual exclusivity may be filed at any time, subject to the requirements of §90.162.

(2) Amendments to applications designated for hearing may be allowed by the presiding officer and amendments to applications selected in a random selection process may be allowed by the Commission for good cause shown. In such instances, a written petition demonstrating good cause must be submitted and served upon the parties of record.

(b) *Dismissal.* The Commission may dismiss any application for authorization, assignment of authorization, or consent to transfer of control of a commercial mobile radio facility.

(1) Upon request by the applicant; Any applicant may request that its application be returned or dismissed. A request for the return of an application after it has been listed on Public Notice as tentatively accepted for filing is considered to be a request for dismissal of that application without prejudice.

(i) If the applicant requests dismissal of its application with prejudice, the Commission will dismiss the application with prejudice.

(ii) If the applicant requests dismissal of its application without prejudice, the Commission will dismiss that application without prejudice, unless

(A) The application has been designated for comparative hearing;

(B) It has been selected in a random selection process; or

(C) It is an application for which the applicant submitted the winning bid in a competitive bidding process. If the applicant requests dismissal of its application for which it submitted the winning bid in a competitive bidding process, the Commission will dismiss that application with prejudice. If the applicant requests dismissal of its application after that application has been designated for comparative hearing or selected in a random selection process, it may submit a written petition requesting that the dismissal be without prejudice. Such petition must demonstrate good cause, comply with § 90.162 of this part, and be served upon all parties of record. The Commission may grant such petition and dismiss the application without prejudice or deny the petition and dismiss the application with prejudice.

(2) If the application is untimely filed; The Commission may dismiss without prejudice any application that is prematurely or filed late, including any application filed prior to the opening date or after the closing date of a filing window, or after the cut-off date for a mutually exclusive application filing group.

(3) If the application is mutually exclusive with another application that is selected or granted in accordance with the rules in this part; The Commission may dismiss any mutually exclusive application:

(i) For which the applicant did not submit the winning bid in a competitive bidding process;

(ii) That is included in a random selection process but is not granted; or

(iii) That receives comparative consideration in a hearing but is not granted by order of the presiding officer.

(4) For failure to prosecute; The Commission may dismiss applications for failure of the applicant to prosecute or for failure of the applicant to respond substantially within a specified time period to official correspondence or requests for additional information. Such dismissal will generally be without prejudice if the failure to prosecute or respond occurred prior to designation of the application for comparative hearing or prior to selection of the application in a random selection process, but may be with prejudice in cases of non-compliance with § 90.162. Dismissal will generally be with prejudice if the failure to prosecute or respond occurred after designation of the application for comparative hearing or after selection of the application in a random selection process. The Commission may dismiss applications with prejudice for failure of the applicant to comply with requirements related to a competitive bidding process.

(5) If the requested spectrum is not available; The Commission may dismiss any application that requests spectrum which is unavailable because:

(i) It was previously assigned to another licensee on an exclusive basis or cannot be assigned to the applicant without causing interference; or

(ii) Reasonable efforts have been made to coordinate the proposed facility with foreign administrations under applicable international agreements, and an unfavorable response (harmful interference anticipated) has been received.

(6) If the application is found to be defective. Such dismissal may be ''without prejudice,'' meaning that the Commission may accept from the applicant another application for the same purpose at any later time, or ''with prejudice,'' meaning that the Commission will not accept from the applicant another application for the same purpose for a period of one year following the date of the dismissal action taken by the Commission. Unless otherwise provided in this part, a dismissed application will not be returned to the applicant. The Commission may dismiss without prejudice applications that it finds to be defective. An application for authorization or assignment of authorization is defective if:

(i) It is unsigned or incomplete with respect to required answers to questions, informational showings, or other matters of a formal character; or

(ii) It requests an authorization that would not comply with the Commission's Rules and does not contain a request for waiver of these rule(s), or in the event that the Commission denies such a waiver request, does not contain an alternative proposal that fully complies with the rules.

§90.162 Agreements to dismiss applications, amendments, or pleadings.

(a) Parties that have filed an application concerning facilities used to provide commercial mobile radio services that is mutually exclusive with one or more other applications, and then enter into an agreement to resolve the mutual exclusivity by withdrawing or requesting dismissal of the application or an amendment thereto, must obtain the approval of the Commission. Parties that have filed or threatened to file a petition to deny, informal objection, or other pleading against a pending application, and then seek to withdraw or request dismissal of, or refrain from filing, the petition, either unilaterally or in exchange for a financial consideration, must obtain the approval of the Commission.

(b) The party withdrawing or requesting dismissal of its application, petition to deny, informal objection, or other pleading, or refraining from filing a pleading, must submit to the Commission a request for approval of the withdrawal or dismissal, a copy of any written agreement related to the withdrawal or dismissal, and an affidavit setting forth:

(1) A certification that neither the party nor its principals has received or will receive any money or other consideration in excess of the legitimate and prudent expenses incurred in preparing and prosecuting the application, petition to deny, informal objection, or other pleading in exchange for the withdrawal or dismissal of the application, petition to deny, informal objection, or other pleading, or threat to file a pleading, except that this provision does not apply to dismissal or withdrawal of applications pursuant to bona fide merger agreements:

(2) The exact nature and amount of any consideration received or promised;

(3) An itemized accounting of the expenses for which it seeks reimbursement; and

(4) The terms of any oral agreement related to the withdrawal or dismissal of the application, petition to deny, informal objection, or other pleading or threat to file a pleading.

(c) In addition, within five (5) days of the filing date of the applicant's or petitioner's request for approval, each remaining party to any written or oral agreement must submit an affidavit setting forth:

(1) A certification that neither the applicant nor its principals has paid or will pay money or other consideration in excess of the legitimate and prudent expenses of the petitioner in exchange for withdrawing or dismissing the application, petition to deny, informal objection, or other pleading; and

(2) The terms of any oral agreement relating to the withdrawal or dismissal of the application, petition to deny, informal objection, or other pleading.

(d) No person shall make or receive any payments in exchange for withdrawing a threat to file or refraining from filing a petition against an application. For purposes of this section, reimbursement by an applicant of the legitimate and prudent expenses of a potential petitioner or objector, incurred reasonably and directly in preparing to file a petition to deny, will not be considered to be payment for refraining from filing a petition to deny or an informal objection. Payments made directly to a potential petitioner or objector, or a person related to a potential petitioner or objector, to implement non-financial promises are prohibited unless specifically approved by the Commission.

(e) For purposes of this section:

(1) Affidavits filed pursuant to this section must be executed by the filing party, if an individual, a partner having personal knowledge of the facts, if a partnership, or an officer having personal knowledge of the facts, if a corporation or association.

(2) Applications, petitions to deny, informal objections, and other pleadings are deemed to be pending before the Commission from the time the application or petition to deny is filed with the Commission until such time

as an order of the Commission granting, denying, or dismissing the application, petition to deny, informal objection, or other pleading is no longer subject to reconsideration by the Commission or to review by any court.

(3) ''Legitimate and prudent expenses'' are those expenses reasonably incurred by a party in preparing to file, filing, prosecuting and/or settling its application, petition to deny, informal objection, or other pleading for which reimbursement is sought.

(4) ''Other consideration'' consists of financial concessions, including, but not limited to, the transfer of assets or the provision of tangible pecuniary benefit, as well as non-financial concessions that confer any type of benefit on the recipient.

§ 90.163 Petitions to deny, responsive pleadings.

Petitions to deny any major filing concerning facilities used to provide commercial mobile radio services may be filed by parties able to demonstrate standing to file such petitions. Responsive pleadings to such petitions may be filed in accordance with the provisions of this section.

(a) *Content and requirements.* Petitions to deny and responsive pleadings must:

(1) Clearly identify the pertinent major filing(s);

(2) Comply with all applicable requirements of §§ 1.41 through 1.52 of this chapter;

(3) Contain specific allegations of fact which, except for facts of which official notice may be taken, are supported by affidavit of a person or persons with personal knowledge thereof, and which are sufficient to demonstrate that the petitioner (or respondent) is a party in interest and that a grant or other Commission action regarding the major filing would be inconsistent with the public interest;

(4) Be filed within 30 days after the date of the Public Notice listing the major filing; and

(5) Contain a certificate of service showing that a copy has been mailed to the applicant no later than the date of filing with the Commission.

(b) *Expansion.* Petitions to deny a major amendment to an application may raise only matters directly related to the major amendment that could not have been raised in connection with the application as originally filed. This paragraph does not apply to petitioners who gain standing because of the major amendment.

(c) *Dismissal.* The Commission may, by letter, dismiss any petition to deny a major filing if the petition does not comply with the requirements of this section or § 90.161. The reason(s) for the dismissal must be stated in the letter. When a petition to deny is dismissed, any related responsive pleadings also are dismissed.

§ 90.164 Classification of filings as major or minor.

Applications and amendments to applications are classified as major or minor when such filings concern facilities used to provide commercial mobile radio services. Categories of major and minor filings are listed in section 309 of the Communications Act of 1934, as amended (47 U.S.C. 309). In general, a major filing is a request for a Commission action that has the potential to affect parties other than the applicant. The following are major filings:

(a) *Initial station authorization.* Filings for an initial authorization as defined in § 90.165(d)(2) are major.

(b) *Ownership or control change.* Filings are major if they specify a substantial change in beneficial ownership or control (de jure or de facto), unless such change is involuntary or if the filing merely amends an application to reflect a change in ownership or control that has already been approved by the Commission.

(c) *Renewal.* Applications for renewal of authorizations are major.

(d) *Environmental.* Filings are major if they request authorization for a facility that would have a significant environmental effect, as defined by §§ 1.1301 through 1.1319 of this chapter.

(e) In the Specialized Mobile Radio Service, in addition to filings listed in paragraphs (a) through (d) of this section, filings are major if they:

(1) Request a change in frequency;

(2) Request an authorization that would increase the effective radiated

power or antenna height above average terrain in any azimuth from an existing transmitter authorized to the filer;

(3) Request an authorization that would relocate an existing fixed transmitter;

(4) Amend a pending application to change a requested frequency;

(5) Amend a pending application in a way that would increase the proposed effective radiated power or antenna height above average terrain in any azimuth from an existing transmitter authorized to the filer;

(6) Amend a pending application to change the location of a fixed transmitter from that previously proposed in the application; or

(7) Amend a pending application for which pre-filing coordination was required to change the technical proposal substantially from that which was coordinated with other users.

§90.165 Procedures for mutually exclusive applications.

Mutually exclusive commercial mobile radio service applications are processed in accordance with the rules in this section, except for mutually exclusive applications for licenses in the 220–220 MHz service and the 929–930 MHz Paging service, which are processed in accordance with the rules in subpart P and subpart T of this part.

Two or more pending applications are mutually exclusive if the grant of one application would effectively preclude the grant of one or more of the others under Commission rules governing the services involved.

(a) *Separate applications.* Any applicant that files an application knowing that it will be mutually exclusive with one or more applications should not include in the mutually exclusive application a request for other channels or facilities that would not, by themselves, render the application mutually exclusive with those other applications. Instead, the request for such other channels or facilities should be filed in a separate application.

(b) *Filing groups.* Pending mutually exclusive applications are processed in filing groups. Mutually exclusive applications in a filing group are given concurrent consideration. The Commission may dismiss as defective (pursuant to §90.162) any mutually exclusive applications(s) whose filing date is outside of the date range for inclusion in the filing group. The types of filing groups used in day-to-day application processing are specified in paragraph (c)(3) of this section. A filing group is one of the following types:

(1) *Renewal filing group.* A renewal filing group comprises a timely-filed application for renewal of an authorization and all timely-filed mutually exclusive competing applications.

(2) *Same-day filing group.* A same-day filing group comprises all mutually exclusive applications whose filing date is the same day, which is normally the filing date of the first-filed applications(s).

(3) *Thirty-day notice and cut-off filing group.* A 30-day notice and cut-off filing group comprises mutually exclusive applications whose filing date is no later than thirty (30) days after the date of the Public Notice listing the first-filed application(s) (according to the filing dates) as acceptable for filing.

(4) *Window filing group.* A window filing group comprises mutually exclusive applications whose filing date is within an announced filing window. An announced filing window is a period of time between and including two specific dates, which are the first and last dates on which applications (or amendments) for a particular purpose may be accepted for filing. In the case of a one-day filing window, the two dates are the same. The dates are made known to the public in advance.

(c) *Procedures.* Generally, the Commission may grant one application in a filing group of mutually exclusive applications and dismiss the other application(s) in the filing group that are excluded by the grant, pursuant to §90.162.

(1) *Selection methods.* In selecting the application to grant, the Commission may use competitive bidding, random selection, or comparative hearings, depending on the type of applications involved.

(2) *Dismissal of applications.* The Commission may dismiss any application in a filing group that is defective or otherwise subject to dismissal under

§ 90.162, either before or after employing selection procedures.

(3) *Type of filing group used.* Except as otherwise provided in this part, the type of filing group used in processing of two or more mutually exclusive applications depends on the purpose(s) of the applications.

(i) If one of the mutually exclusive applications is a timely-filed application for renewal of an authorization, a renewal filing group is used.

(ii) If any mutually exclusive application filed on the earliest filing date is an application for modification and none of the mutually exclusive applications is a timely-filed application for renewal, a same-day filing group is used.

(iii) If all of the mutually exclusive applications filed on the earliest filing date are applications for initial authorization, a 30-day notice and cut-off filing group is used.

(4) *Disposition.* If there is only one application in any type of filing group, the Commission may grant that application and dismiss without prejudice any mutually exclusive applications not in the filing group. If there is more than one mutually exclusive application in a filing group, the Commission disposes of these applications as follows:

(i) Applications in a renewal filing group. All mutually exclusive applications in a renewal filing group are designated for comparative consideration in a hearing.

(ii) Applications in a 30-day notice and cut-off filing group.

(A) If all of the mutually exclusive applications in a 30-day notice and cut-off filing group are applications for initial authorization, the Commission administers competitive bidding procedures in accordance with subpart Q of part 1 of this chapter. After such procedures, the application of the successful bidder may be granted and the other applications may be dismissed without prejudice.

(B) If any of the mutually exclusive applications in a 30-day notice and cut-off filing group is an application for modification or an application for facilities, the Commission may attempt to resolve the mutual exclusivity by facilitating a settlement between the applicants. If a settlement is not reached within a reasonable time, the Commission may designate all applications in the filing group for comparative consideration in a hearing. In this event, the result of the hearing disposes all of the applications in the filing group.

(iii) Applications in a same-day filing group. If there are two or more mutually exclusive applications in a same-day filing group, the Commission may attempt to resolve the mutual exclusivity by facilitating a settlement between the applicants. If a settlement is not reached within a reasonable time, the Commission may designate all applications in the filing group for comparative consideration in a hearing. In this event, the result of the hearing disposes all of the applications in the filing group.

(iv) Applications in a window filing group. Applications in a window filing group are processed in accordance with the procedures for a 30-day notice and cut-off filing group in paragraph (c)(4)(ii) of this section.

(d) *Terminology.* For the purposes of this section, terms have the following meanings:

(1) The ''filing date'' of an application is the date on which that application was received in a condition acceptable for filing or the date on which the most recently filed major amendment to that application was received, whichever is later, excluding major amendments in the following circumstances:

(i) The major amendment reflects only a change in ownership or control found by the Commission to be in the public interest;

(ii) The major amendment as received is defective or otherwise found unacceptable for filing; or

(iii) The application being amended has been designated for hearing and the Commission or the presiding officer accepts the major amendment.

(2) An ''application for initial authorization'' is:

(i) Any application requesting an authorization for a new system or station;

(ii) Any application requesting authorization for an existing station to operate on an additional channel, unless the additional channel is for paired

two-way radiotelephone operation, is in the same frequency range as the existing channel(s), and will be operationally integrated with the existing channel(s) such as by trunking; or

(iii) any application requesting authorization for a new transmitter at a location more than 2 kilometers (1.2 miles) from any existing transmitters of the applicant licensee on the requested channel or channel block.

(3) An ''application for modification'' is any application other than an application for initial authorization or renewal.

§90.166 Grants of applications.

Applications for a commercial mobile radio service authorization under this part may be granted thirty (30) days after the issuance date of a Pubic Notice listing an application or the latest filed major amendment thereto as acceptable for filing.

(a) *Criteria for grants.* The Commission grants applications without a hearing if, after examination of the application and consideration of any petitions or other pleadings and of such other matters as it may officially notice, the Commission finds that:

(1) A grant will serve the public interest, convenience, and necessity;

(2) There are no substantial and material questions of fact presented;

(3) The applicant is eligible and qualified under applicable Commission regulations and policies;

(4) The application is acceptable for filing, and complies with the Commission rules and other applicable requirements;

(5) The application has not been designated for a hearing after being selected in a random selection process;

(6) There are no applications entitled to comparative consideration with the application being granted; and

(7) Operation of the proposed station would not cause interference to any authorized station(s).

(b) *Grant of petitioned applications.* The Commission may grant, without a formal hearing, applications against which petitions to deny have been filed. If any petition(s) to deny are pending (*i.e.*, have not been dismissed pursuant to §90.161 or withdrawn by the petitioner) when an application is granted, the Commission shall deny the petition(s) and issue a concise statement of the reason(s) for the denial, disposing of all substantive issues raised in the petitions.

(c) *Partial and conditional grants.* The Commission may grant applications in part, and/or subject to conditions other than those normally applied to authorizations of the same type. When the Commission does this, it will inform the applicant of the reasons therefor. Such partial or conditional grants are final unless the Commission revises its action in response to a petition for reconsideration. Such petitions for reconsideration must be filed by the applicant within thirty days after the date of the letter or order stating the reasons for the partial or conditional grant, and must reject the partial or conditional grant and return the instrument of authorization.

(d) *Designation for hearing.* The Commission may designate applications for a hearing, specifying with particularity the matters in issue, if, after consideration of the application, any petitions or other pleadings, and other matters which it may officially notice, the Commission is unable to make one or more of the findings listed in paragraph (a) of this section. The Commission may grant, deny, or take other action with respect to applications designated for a hearing.

§90.167 Time in which a station must commence service.

(a) Unless otherwise specified in this part, all 220–222 MHz, private carrier paging, Business Radio, and SMR licensees must commence service within twelve (12) months from the date of grant or the authorization cancels automatically and must be returned to the Commission.

(b) For purposes of this section, a station licensed to provide commercial mobile radio service is not considered to have commenced service unless it provides service to at least one unaffiliated party.

(c) Application for extension of time to commence service may be made on Commission Form 600. Extensions of

time must be filed prior to the expiration of the construction period. Extensions will be granted only if the licensee shows that the failure to commence service is due to causes beyond his or her control. No extensions will be granted for delays caused by lack of financing, lack of site availability, for the assignment or transfer of control of an authorization, or for failure to timely order equipment. If the licensee orders equipment within 90 days of the license grant, a presumption of due diligence is created.

(d) An application for modification of an authorization (under construction) at the existing location does not extend the initial construction period. If additional time to commence service is required, a request for such additional time must be submitted on Commission Form 600, either separately or in conjunction with the submission of the Commission Form 600 requesting modification.

§ 90.168 Equal employment opportunities.

Commercial Mobile Radio Services licensees shall afford equal opportunity in employment to all qualified persons, and personnel must not be discriminated against in employment because of sex, race, color, religion, or national origin.

(a) *Equal employment opportunity program.* Each licensee shall establish, maintain, and carry out a positive continuing program of specific practices designed to assure equal opportunity in every aspect of employment policy and practice.

(1) Under the terms of its program, each licensee shall:

(i) Define the responsibility of each level of management to insure a positive application and vigorous enforcement of the policy of equal opportunity, and establish a procedure to review and control managerial and supervisory performance.

(ii) Inform its employees and recognized employee organizations of the positive equal employment opportunity policy and program and enlist their cooperation.

(iii) Communicate its equal employment opportunity policy and program and its employment needs to sources of qualified applicants without regard to sex, race, color, religion or national origin, and solicit their recruitment assistance on a continuing basis.

(iv) Conduct a continuing campaign to exclude every form of prejudice or discrimination based upon sex, race, color, religion, or national origin, from the licensee's personnel policies and practices and working conditions.

(v) Conduct a continuing review of job structure and employment practices and adopt positive recruitment, training, job design and other measures needed in order to insure genuine equality of opportunity to participate fully in all organizational units, occupations and levels of responsibility.

(2) The program must reasonably address specific concerns through policies and actions as set forth in this paragraph, to the extent that they are appropriate in consideration of licensee size, location and other factors.

(i) To assure nondiscrimination in recruiting.

(A) Posting notices in the licensee's offices informing applicants for employment of their equal employment rights and their right to notify the Equal Employment Opportunity Commission (EEOC), the Federal Communications Commission (Commission), or other appropriate agency. Where a substantial number of applicants are Spanish-surnamed Americans, such notice should be posted in both Spanish and English.

(B) Placing a notice in bold type on the employment application informing prospective employees that discrimination because of sex, race, color, religion, or national origin is prohibited, and that they may notify the EEOC, the Commission, or other appropriate agency if they believe they have been discriminated against.

(C) Placing employment advertisements in media which have significant circulation among minority groups in the recruiting area.

(D) Recruiting through schools and colleges with significant minority group enrollments.

(E) Maintaining systematic contacts with minority and human relations organizations, leaders and spokespersons to encourage referral of qualified minority or female applicants.

(F) Encouraging present employees to refer minority or female applicants.

(G) Making known to the appropriate recruitment sources in the employer's immediate area that qualified minority members are being sought for consideration whenever the licensee hires.

(ii) To assure nondiscrimination in selection and hiring.

(A) Instructing employees of the licensee who make hiring decisions that all applicants for all jobs are to be considered without discrimination.

(B) Where union agreements exist, cooperating with the union or unions in the development of programs to assure qualified minority persons or females of equal opportunity for employment, and including an effective nondiscrimination clause in new or renegotiated union agreements.

(C) Avoiding use of selection techniques or tests that have the effect of discriminating against minority groups or females.

(iii) To assure nondiscriminatory placement and promotion.

(A) Instructing employees of the licensee who make decisions on placement and promotion that minority employees and females are to be considered without discrimination, and that job areas in which there is little or no minority or female representation should be reviewed to determine whether this results from discrimination.

(B) Giving minority groups and female employees equal opportunity for positions which lead to higher positions. Inquiring as to the interest and skills of all lower-paid employees with respect to any of the higher-paid positions, followed by assistance, counseling, and effective measures to enable employees with interest and potential to qualify themselves for such positions.

(C) Reviewing seniority practices to insure that such practices are nondiscriminatory and do not have a discriminatory effect.

(D) Avoiding use of selection techniques or tests that have the effect of discriminating against minority groups or females.

(iv) to assure nondiscrimination in other areas of employment practices.

(A) Examining rates of pay and fringe benefits for present employees with equivalent duties and adjusting any inequities found.

(B) Providing opportunity to perform overtime work on a basis that does not discriminate against qualified minority groups or female employees.

(b) *EEO statement.* Each licensee having sixteen (16) or more full-time employees shall file with the Commission, no later than May 31st following the grant of that licensee's first Commercial Mobile Radio Services authorization, a statement describing fully its current equal employment opportunity program, indicating specific practices to be followed in order to assure equal employment opportunity on the basis of sex, race, color, religion, or national origin in such aspects of employment practices as regards recruitment, selection, training, placement, promotion, pay, working conditions, demotion, layoff, and termination. Any licensee having sixteen (16) or more full-time employees that changes its existing equal employment opportunity program shall file with the Commission, no later than May 31st thereafter, a revised statement reflecting the change(s).

NOTE: Commercial mobile radio service licensees having sixteen (16) or more full-time employees that do not have a current EEO statement on file with the Commission as of January 2, 1995, must file the statement required by this paragraph no later than May 31, 1995.

(c) *Report of complaints filed against licensees.* Each licensee, regardless of how many employees it has, shall submit an annual report to the Commission no later than May 31st of each year indicating whether any complaints regarding violations by the licensee or equal employment provisions of Federal, State, Territorial, or local law have been filed before anybody having competent jurisdiction.

(1) The report should state the parties involved, the date filing, the courts or agencies before which the matters have been heard, the appropriate file number (if any), and the respective disposition or current status of any such complaints.

(2) Any licensee who has filed such information with the EEOC may file a

notification of such filing with the Commission in lieu of a report.

(d) *Complaints of violations of Equal Employment Programs.* Complaints alleging employment discrimination against a common carrier licensee are considered by the Commission in the following manner:

(1) If a complaint raising an issue of discrimination is received against a licensee who is within the jurisdiction of the EEOC, it is submitted to that agency. The Commission maintains a liaison with that agency that keeps the Commission informed of the disposition of complaints filed against common carrier licensees.

(2) Complaints alleging employment discrimination against a common carrier licensee who does not fall under the jurisdiction of the EEOC but is covered by appropriate enforceable State law, to which penalties apply, may be submitted by the Commission to the respective State agency.

(3) Complaints alleging employment discrimination against a common carrier licensee who does not fall under the jurisdiction of the EEOC or an appropriate State law, are accorded appropriate treatment by the Commission.

(4) The Commission will consult with the EEOC on all matters relating to the evaluation and determination of compliance by the common carrier licensees with the principles of equal employment as set forth herein.

(5) Complaints indicating a general pattern of disregard of equal employment practices which are received against a licensee that is required to file an employment report to the Commission under § 1.815(a) of this chapter are investigated by the Commission.

(e) *Commission records.* A copy of every annual employment report, equal employment opportunity program statement, reports on complaints regarding violation of equal employment provisions of Federal, State, Territorial, or local law, and copies of all exhibits, letters, and other documents filed as part thereof, all amendments thereto, all correspondence between the licensee and the Commission pertaining to the reports after they have been filed and all documents incorporated therein by reference, are open for public inspection at the offices of the Commission.

(f) *Licensee records.* Each licensee required to file annual employment reports (pursuant to § 1.815(a) of this chapter), equal employment opportunity program statements, and annual reports on complaints regarding violations of equal employment provisions of Federal, State, Territorial, or local law shall maintain for public inspection a file containing a copy of each such report and copies of all exhibits, letters, and other documents filed as part thereto, all correspondence between the licensee and the Commission pertaining to the reports after they have been filed and all documents incorporated therein by reference. The documents must be retained for a period of two (2) years.

§ 90.169 Construction prior to grant of application.

Applicants may construct facilities prior to grant of their applications, subject to the provisions of this section, but must not operate such facilities until the Commission grants an authorization. If the conditions stated in this section are not met, applicants must not begin to construct facilities.

(a) *When applicants may begin construction.* An applicant may begin construction of a facility thirty-five (35) days after the date of the Public Notice listing the application for that facility as acceptable for filing.

(b) *Notification to stop.* If the Commission for any reason determines that construction should not be started or should be stopped while an application is pending, and so notifies the applicant, orally (followed by written confirmation) or in writing, the applicant must not begin construction or, if construction has begun, must stop construction immediately.

(c) *Assumption of risk.* Applicants that begin construction pursuant to this section before receiving an authorization do so at their own risk and have no recourse against the United States for any losses resulting from:

(1) Applications that are not granted;

(2) Errors or delays in issuing Public Notices;

(3) Having to alter, relocate, or dismantle the facility; or

(4) Incurring whatever costs may be necessary to bring the facility into compliance with applicable laws, or Commission rules and orders.

(d) *Conditions.* Except as indicated, all pre-grant construction is subject to the following conditions:

(1) The application is not mutually exclusive with any other application;

(2) No petitions to deny the application have been filed;

(3) The application does not include a request for a waiver of one or more Commission rules;

(4) For any construction or alteration that would exceed the requirements of §17.7 of this chapter, the licensee has notified the appropriate Regional Office of the Federal Aviation Administration (FAA Form 7460–1), filed a request for antenna height clearance and obstruction marking and lighting specifications (FCC Form 854) with the Commission;

(5) The applicant has indicated in the application that the proposed facility would not have a significant environmental effect, in accordance with §§1.1301 through 1.1319 of this chapter; and,

(6) Under applicable international agreements and rules in this part, individual coordination of the proposed channel assignment(s) with a foreign administration is not required.

Subpart H—Policies Governing the Assignment of Frequencies

§90.171 Scope.

This subpart contains detailed information concerning the policies under which the Commission assigns frequencies for the use of licensees under this part, frequency coordination procedures, and procedures under which licensees may cooperatively share radio facilities.

§90.173 Policies governing the assignment of frequencies.

(a) The frequencies which ordinarily may be assigned to stations in the services governed by this part are listed in subparts B, C, D, E, and F of this part. Except as otherwise specifically provided in this part, frequencies assigned to land mobile stations are available on a shared basis only and will not be assigned for the exclusive use of any licensee.

(b) All applicants and licensees shall cooperate in the selection and use of frequencies in order to reduce interference and make the most effective use of the authorized facilities. Licensees of stations suffering or causing harmful interference are expected to cooperate and resolve this problem by mutually satisfactory arrangements. If the licensees are unable to do so, the Commission may impose restrictions including specifying the transmitter power, antenna height, or area or hours of operation of the stations concerned. Further the use of any frequency at a given geographical location may be denied when, in the judgment of the Commission, its use in that location is not in the public interest; the use of any frequency may be restricted as to specified geographical areas, maximum power, or such other operating conditions, contained in this part or in the station authorization.

(c) Frequencies allocated for Federal Government radio stations under Executive order of the President may be authorized for the use of stations in these services upon appropriate showing by the applicant that such assignment is necessary for inter-communication with government stations or required for coordination with activities of the Federal Government, and where the Commission finds, after consultation with the appropriate government agency or agencies, that such assignment is necessary.

(d) The radio facilities authorized under this part are intended for use in connection with and as an adjunct to the primary governmental or business activities of the licensee.

(e) Persons requesting authority to operate in the band 25–50 MHz should recognize that this band is shared with various services in other countries and that harmful interference may be caused by the propagation of signals in this band from distant stations. No protection from such harmful interference generally can be expected.

(f) After August 18, 1995, applications for stations in the 150–174 MHz and 421–512 MHz bands for operation on frequencies 15 kHz or less removed from

existing stations in the same geographic area will be granted based upon a recommendation from the applicable frequency coordinator.

(g) In the States of Alaska and Hawaii, and in areas outside the continental limits of the United States and the adjacent waters, the frequencies above 150.8 MHz which are listed elsewhere in this part as available for assignment to base stations or mobile stations in the Industrial and Land Transportation Radio Service, are also available for assignment to operational fixed stations in the same service, on a secondary basis.

(h) In the Public Safety Services listed in subpart B, base stations may be authorized to operate on a secondary basis on frequencies below 450 MHz which are available to mobile stations.

(i) In the 450–470 MHz band, the frequencies are ordinarily assigned in pairs, with the mobile station transmit frequency 5 MHz above the paired base station transmit frequency. In the 470–512 MHz band, the frequencies are ordinarily assigned in pairs with the mobile station transmit frequency 3 MHz above the paired base station transmit frequency. In the Taxicab Radio Service, in the 150 MHz range, the frequencies may be assigned in pairs with the separation between base and mobile frequencies being 5.26 MHz. A mobile station may be assigned the frequency which would normally be assigned to a base station for single-frequency operation. However, this single-frequency operation may be subject to interference that would not occur to a two-frequency system.

(j) Except for those frequencies that are not allocated to the Private Land Mobile Radio Services on a primary basis and those frequencies shared with the Federal Government, frequencies allocated to specific services and listed in the tables in subparts B, D, and E may also be available for assignment in services other than those to which they are allocated provided that such interservice sharing assignments meet the requirements of § 90.176.

(k) Notwithstanding any other provisions of this part, any eligible person may seek a dispositive preference for a channel assignment on an exclusive basis in the 220–222 MHz, 470–512 MHz, and 800/900 MHz (except on frequencies designated exclusively for SMR service) bands by submitting information that leads to the recovery of channels in these bands. Recovery of such channels must result from information provided regarding the failure of existing licensees to comply with the provisions of §§ 90.155, 90.157, 90.629, 90.631 (e) or (f), or 90.633 (c) or (d). Any recovered channels in the 900 MHz SMR service will revert automatically to the MTA licensee.

(l) In the 150–174 MHz band, authorizations for frequencies available prior to August 18, 1995 will be granted with channel bandwidths of 25 kHz or less. After August 18, 1995, authorizations for all other frequencies in this band will be granted with channel bandwidths of 12.5 kHz or less.

(m) In the 421–512 MHz band, authorizations for frequencies available prior to August 18, 1995 will be granted with channel bandwidths of 25 kHz or less. After August 18, 1995, new authorizations for frequencies 12.5 kHz removed from these frequencies will be made for channel bandwidths of 12.5 kHz or less, and authorizations for frequencies 6.25 kHz removed from these frequencies will be granted with channel bandwidths of 6.25 kHz or less.

(n) Any recovered channels in the 800 MHz SMR service will revert automatically to the holder of the EA license within which such channels are included. If there is no EA licensee for recovered channels, such channels will be retained by the Commission for future licensing.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307)

[43 FR 54791, Nov. 22, 1978, as amended at 45 FR 43419, June 27, 1980; 46 FR 55704, Nov. 12, 1981; 50 FR 13605, Apr. 5, 1985; 54 FR 39739, Sept. 28, 1989; 56 FR 65859, Dec. 19, 1991; 57 FR 24992, June 12, 1992; 58 FR 51252, Oct. 1, 1993; 60 FR 37261, July 19, 1995; 60 FR 48917, Sept. 21, 1995; 61 FR 6155, Feb. 16, 1996]

§ 90.175 Frequency coordination requirements.

Except for applications listed in paragraph (f) of this section, each application for a new frequency assignment, for a change in existing facilities as listed in § 90.135(a), or for operation at temporary locations in accordance

with § 90.137, must include a showing of frequency coordination as set forth below. An application to reinstate a license expired for more than thirty (30) days will be considered as a request for a new frequency assignment. When frequencies are shared by more than one service, concurrence must be obtained from the other applicable certified coordinators.

(a) For frequencies between 25 and 470 MHz: A statement from the applicable frequency coordinator recommending the most appropriate frequency. The coordinator's recommendation may include comments on technical factors such as power, antenna height and gain, terrain and other factors which may serve to minimize potential interference. Until August 18, 1995, for PLMR frequencies between 150 and 470 MHz, the coordinator:

(1) must not recommend any adjacent channel frequency 15 kHz or less removed to existing stations which would result in a separation of less than 16 km (10 mi), or 12 km (7 mi) in the Taxicab Radio Service, unless written concurrence is received from the licensee of such station(s); and

(2) if the frequency recommended is in the 150–170 MHz band, and is 17.5 kHz or less removed from frequency which is available to another radio service, the coordinators statement must show that approval has been received from the coordinator for the other service. Frequencies in the 450–470 MHz band, when used for secondary fixed operations, shall be assigned and coordinated pursuant to § 90.261.

(b) For frequencies between 470 and 512 MHz, 806–824/851–869 MHz, and 896–901/935–940 MHz: A statement from the applicable coordinator recommending specific frequencies that are available for assignment in accordance with the loading standards and mileage separations applicable to the specific radio service or category of user involved.

(c) For frequencies in the 929–930 MHz band. A statement from the coordinator recommending the most appropriate frequency. For applications under § 90.495, the coordinator's statement must verify that the proposed system meets the requirements of that section.

(d) Any recommendation submitted in accordance with paragraphs (a), (b) or (c) of this section is advisory in character and is not an assurance that the Commission will grant a license for operation on that frequency. Therefore, applicants are strongly advised not to purchase radio equipment operating on specific frequencies until a valid authorization has been obtained from the Commission.

(e) Applications for facilities near the Canadian border north of line A or east of line C in Alaska may require coordination with the Canadian government. See § 1.955 of this chapter.

(f) The following applications need not be accompanied by evidence of frequency coordination:

(1) Applications for frequencies below 25 MHz.

(2) Applications for a Federal Government frequency.

(3) Applications for frequencies in the 72–76 MHz band except for mobile frequencies subject to §§ 90.63(d)(27), 90.65(c)(43), 90.67(c)(34), 90.73(d)(7), 90.75(c)(45), 90.79(d)(4), 90.79(d)(28), 90.91(c)(2) and 90.91(c)(21).

(4) Applications for a frequency to be used for developmental purposes.

(5) Applications in the Special Industrial Radio Service or the Business Radio Service requesting a frequency designated for itinerant operation only.

(6) Applications in the Radiolocation Service.

(7) [Reserved]

(8) Applications for frequencies listed in the SMR tables contained in §§ 90.617 and 90.619.

(9) Applications indicating license assignments such as change in ownership, control or corporate structure if there is no change in technical parameters.

(10) Applications for mobile stations operating in the 470–512 MHz band or above 800 MHz if the frequency pair is assigned to a single system on an exclusive basis in the proposed area of operation.

(11) Applications for add-on base stations in multiple licensed systems operating in the 470–512 MHz band or above 800 MHz if the frequency pair is assigned to a single system on an exclusive basis.

(12) Applications for control stations operating below 470 or above 800 MHz and meeting the requirements of § 90.119(a)(2)(ii).

(13) Applications for frequencies in the 216–220 and 1427–1435 MHz bands.

(14) Applications for frequencies in the 220–222 MHz band.

(15) Applications timely-filed by recipients of a finder's preference, where the applicant intends to operate at the same site location, and with the same technical parameters as the prior licensee.

(g) Application for modification of license that only involves a change in the number of mobile transmitters or paging receivers from that authorized, except for systems operating on non-exclusive assignments in the 470–512 MHz, 800 MHz or 900 MHz bands, need not be accompanied by evidence of frequency coordination, but a copy of these applications must be sent to the applicable frequency coordinator at the same time they are filed with the Commission.

[51 FR 14998, Apr. 22, 1986, as amended at 51 FR 36014, Oct. 8, 1986; 53 FR 1024, Jan. 15, 1988; 54 FR 4030, Jan. 27, 1989; 54 FR 39740, Sept. 28, 1989; 56 FR 19602, Apr. 29, 1991; 56 FR 65859, Dec. 19, 1991; 57 FR 48739, Oct. 28, 1992; 57 FR 60135, Dec. 18, 1992; 58 FR 62291, Nov. 26, 1993; 60 FR 37261, July 19, 1995]

§ 90.176 Interservice sharing of frequencies in the 150–174 and 450–470 MHz bands.

(a) Entities eligible in the Public Safety Radio Services governed by this rule part may apply to use any of the 150–174 and 450–470 MHz frequencies allocated to these services. Applicants are required to make the showing set forth in paragraph (c) of this section.

(b) Entities eligible in the Special Emergency Radio Service or the Industrial and Land Transportation Radio Services governed by this rule part may apply to use any of the above-mentioned frequencies allocated to these services. Applicants are required to make the showing set forth in paragraph (c) of this section.

(c) Applications for frequencies available under this rule must be accompanied by:

(1) A determination by the applicable frequency coordinator that there are no satisfactory frequencies available within the applicant's own radio service in the area of desired operation;

(2) A demonstration that the frequency(ies) requested in another radio service are not assigned in that radio service in the area of desired operation;

(3) A statement from the frequency coordinator having responsibility for coordination in the radio service or group in which the frequency is assigned concurring in its assignment in the manner requested. In cases where concurrence is not given, the coordinator must provide an explanation why the requested sharing is inappropriate;

(4) A statement or showing that the proposed use of the assignment will not violate any of the technical limitations applicable in the service or services to which the frequency is regularly allocated.

(d) Provisions governing the assignment and use of frequencies in the 450–470 MHz band for secondary fixed operations are provided in § 90.261.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307)

[46 FR 55704, Nov. 12, 1982, as amended at 51 FR 14998, Apr. 22, 1986; 54 FR 39740, Sept. 28, 1989; 57 FR 24992, June 12, 1992; 58 FR 12181, Mar. 3, 1993]

§ 90.177 Protection of certain radio receiving locations.

This section pertains to applications for new or modified authorizations in the vicinity of the National Radio Astronomy Observatory, Green Bank, Pocahontas County, WV, the Naval Radio Research Observatory, Sugar Grove, Pendleton County, WV, the Table Mountain Radio receiving zone, Boulder, CO, the Federal Communications Commission monitoring stations and other protected sites.

(a) Any applicant for a new permanent base or fixed station, or for a modification of an existing authorization which would change the frequency, power, antenna height, directivity, or location within the boundaries described in paragraph (b) of this section shall notify the Director, National Radio Astronomy Observatory, P.O. Box 2, Green Bank, WV 24944, in writing, of the technical parameters of the proposal.

(1) The notification shall be made prior to, or simultaneously with the

filing of the application with the Commission.

(2) The notification shall state the geographical coordinates of the antenna, antenna height, antenna directivity, proposed frequency, type of emission, and effective radiated power.

(3) After receipt of such applications, the Commission will allow a period of 20 days for comments or objections in response to the notifications indicated. If an objection to the proposed operation is received during the 20-day period from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the Commission will consider all aspects of the problem and take whatever action is deemed appropriate.

(4) The provisions of this paragraph do not apply to applications for mobile, temporary base, or temporary fixed stations.

(b) The area of concern for the National Radio Astronomy Observatory or the Naval Radio Research Observatory is the area bounded by 39°15′ N. on the north, 78°30′ W. on the east, 37°30′ N. on the south, and 80°30′ W. on the west.

(c) Protection for Table Mountain Radio Receiving Zone, Boulder County, Colorado. Applicants for a station authorization to operate in the vicinity of Boulder County, Colorado under this part are advised to give due consideration, prior to filing applications, to the need to protect the Table Mountain Radio Receiving Zone from harmful interference. These are the research laboratories of the Department of Commerce, Boulder County, CO. To prevent degradation of the present ambient radio signal level at the site, the Department of Commerce seeks to ensure that the field strengths of any radiated signals (excluding reflected signals) received on this 1800 acre site (in the vicinity of coordinates 40°07′50″ N Latitude, 105° 14′40″ W Longitude) resulting from new assignments (other than mobile stations) or from the modification or relocation of existing facilities do not exceed the following values:

Frequency range	Field strength (millivolt per meter) in authorized bandwidth of service	Power flux density [1] (dBW per square meter) in authorized bandwidth of service
Below 540 kHz	10	65.8
540 to 1600 kHz	20	59.8
1.6 to 470 MHz	10	65.8
470 to 890 MHz	30	56.2
Above 890 MHz	1	85.8

[1] Equivalent values of power flux density are calculated assuming free space characteristic impedance of 376.7=120π ohms.

(1) Advance consultation is recommended particularly for those applicants who have no reliable data which indicates whether the field strength or power flux density figures in the above table would be exceeded by their proposed radio facilities (except mobile stations). In such instances, the following is a suggested guide for determining whether coordination is recommended:

(i) All stations within 2.4 km (1.5 statute miles);

(ii) Stations within 4.8 km (3 statute miles) with 50 watts or more effective radiated power (ERP) in the primary plane of polarization in the azimuthal direction of the Table Mountain Radio Receiving Zone;

(iii) Stations within 16 km (10 statute miles) with 1 kW or more ERP in the primary plane of polarization in the azimuthal direction of the Table Mountain Receiving Zone;

(iv) Stations within 80 km (50 statute miles) with 25 kW or more ERP in the primary plane of polarization in the azimuthal direction of the Table Mountain Receiving Zone.

(2) Applicants concerned are urged to communicate with the Radio Frequency Management Coordinator, Department of Commerce, Research Support Services, NOAA R/E5X2, Boulder Laboratories, Boulder, CO 80303; telephone (303) 497–6548, in advance of filing their applications with the Commission.

(3) The Commission will not screen applications to determine whether advance consultation has taken place. However, applicants are advised that such consultation can avoid objections

from the Department of Commerce or proceedings to modify any authorization which may be granted which, in fact, delivers a signal at the site in excess of the field strength specified herein.

(d) Protection for Federal Communications Commission monitoring stations:

(1) Applicants in the vicinity of an FCC monitoring station for a radio station authorization to operate new transmitting facilities or changed transmitting facilities which would increase the field strength produced over the monitoring station over that previously authorized are advised to give consideration, prior to filing applications, to the possible need to protect the FCC stations from harmful interference. Geographical coordinates of the facilities which require protection are listed in §0.121(c) of the Commission's Rules. Applications for stations (except mobile stations) which will produce on any frequency a direct wave fundamental field strength of *greater than 10 mV/m* in the authorized bandwidth of service (-65.8 dBW/m^2 power flux density assuming a free space characteristic impedance of 120 times pi, or 377, ohms) at the referenced coordinates, may be examined to determine extent of possible interference. Depending on the theoretical field strength value and existing root-sum-square or other ambient radio field signal levels at the indicated coordinates, a clause protecting the monitoring station may be added to the station authorization.

(2) In the event that calculated value of expected field exceeds 10 mV/m (-65.8 dBW/m^2) at the reference coordinates, or if there is any question whether field strength levels might exceed the threshold value, advance consultation with the FCC to discuss any protection necessary should be considered. Prospective applicants may communicate with: Chief, Compliance and Information Bureau, Federal Communications Commission, Washington, DC 20554, Telephone (202) 632–6980.

(3) Advance consultation is suggested particularly for those applicants who have no reliable data which indicates whether the field strength or power flux density figure indicated would be exceeded by their proposed radio facilities (except mobile stations). In such instances, the following is a suggested guide for determining whether an applicant should coordinate:

(i) All stations within 2.4 kilometers (1.5 statute miles);

(ii) Stations within 4.8 kilometers (3 statute miles) with 50 watts or more average effective radiated power (ERP) in the primary plane of polarization in the azimuthal direction of the Monitoring Stations;

(iii) Stations within 16 kilometers (10 statute miles) with 1 kW or more average ERP in the primary plane of polarization in the azimuthal direction of the Monitoring Station;

(iv) Stations within 80 kilometers (50 statute miles) with 25 kW or more average ERP in the primary plane of polarization in the azimuthal direction of the Monitoring Station.

(4) Advance coordination for stations operating above 1000 MHz is recommended only where the proposed station is in the vicinity of a monitoring station designated as a satellite monitoring facility in §0.121(c) of the Commission's Rules and also meets the criteria outlined in paragraphs (d)(2) and (3) of this section.

(5) The Commission will not screen applications to determine whether advance consultation has taken place. However, applicants are advised that such consultation can avoid objections from the Federal Communications Commission or modification of any authorization which will cause harmful interference.

(e) In the band 420 to 450 MHz, applicants should not expect to be accommodated if their area of service is within 160 kilometers (100 miles) of the following locations:

(1) 45°45″ N., 70°32′ W,
(2) 64°17′ N., 149°10′ W,
(3) 48°43′ N., 97°54′ W;

within 200 kilometers (124 miles) of the following locations:

(1) 32°38′ N., 83°35′ W,
(2) 31°25′ N., 100°24′ W;

within 240 kilometers (150 miles) of the following location:

(1) 39°08′ N., 121°26′ W;

within 320 kilometers (200 miles) of the following locations:

(1) 28°21′ N., 80°43′ W,
(2) 30°30′ N., 86°30′ W,
(3) 43°09′ N., 119°11′ W;

or in the following locations:

(1) The state of Arizona,
(2) The state of Florida,
(3) Portions of California and Nevada south of 37°10′ N,
(4) And portions of Texas and New Mexico bounded by 31°45′ N., 34°30′ N., 104°00′ W. and 107°30′ W.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307)

[43 FR 54791, Nov. 22, 1978, as amended at 44 FR 77167, Dec. 31, 1979; 47 FR 34420, Aug. 9, 1982; 49 FR 32770, Aug. 16, 1984; 50 FR 39003, Sept. 25, 1985; 54 FR 38680, Sept. 20, 1989; 54 FR 39740, Sept. 28, 1989; 61 FR 8478, Mar. 5, 1996]

§90.179 Shared use of radio stations.

Licensees of radio stations authorized under this rule part may share the use of their facilities. A station is shared when persons not licensed for the station control the station for their own purposes pursuant to the licensee's authorization. Shared use of a radio station may be either on a non-profit cost shared basis or on a for-profit private carrier basis. Shared use of an authorized station is subject to the following conditions and limitations:

(a) Persons may share a radio station only on frequencies for which they would be eligible for a separate authorization.

(b) The licensee of the shared radio station is responsible for assuring that the authorized facility is used only by persons and only for purposes consistent with the requirements of this rule part.

(c) Participants in the sharing arrangement may obtain a license for their own mobile units (including control points and/or control stations for control of the shared facility), or they may use mobile stations, and control stations or control points authorized to the licensee.

(d) If the licensee shares the land station on a non-profit, cost shared basis to the licensee, this shared use must be pursuant to a written agreement between the licensee and each participant which sets out (1) the method of operation, (2) the components of the system which are covered by the sharing arrangements, (3) the method by which costs are to be apportioned, and (4) acknowledgement that all shared transmitter use must be subject to the licensee's control. These agreements must be kept as part of the station records.

(e) If the land station which is being shared is interconnected with the public switched telephone network, the provisions of §90.477 *et seq.* apply.

(f) Above 800 MHz, shared use on a for-profit private carrier basis is permitted only by SMR, Private Carrier Paging, and LMS licensees. See subparts M, P, and S of this part.

(g) The provisions of this section do not apply to licensees authorized to provide commercial mobile radio service under this part.

[48 FR 26620, June 9, 1983, as amended at 51 FR 36014, Oct. 8, 1986; 53 FR 12156, Apr. 13, 1988; 54 FR 4030, Jan. 27, 1989; 54 FR 38681, Sept. 20, 1989; 57 FR 48739, Oct. 28, 1992; 59 FR 59965, Nov. 21, 1994; 60 FR 15252, Mar. 23, 1995]

§90.185 Multiple licensing of radio transmitting equipment in the mobile radio service.

Two or more persons eligible for licensing under this rule part may be licensed for the same land station under the following terms and conditions.

(a) Each licensee complies with the general operating requirements set out in §90.403 of the rules.

(b) Each licensee is eligible for the frequency(ies) on which the land station operates.

(c) If the multiple licensed base station is interconnected with the public switched telephone network, the provisions of §90.477 *et seq.* apply.

[48 FR 26621, June 9, 1983]

Subpart I—General Technical Standards

§90.201 Scope.

This subpart sets forth the general technical requirements for use of frequencies and equipment in the radio services governed by this part. Such requirements include standards for acceptability of equipment, frequency

tolerance, modulation, emissions, power, and bandwidths. Special additional technical standards applicable to certain frequency bands and certain specialized uses are set forth in subparts J, K, and N.

[43 FR 54791, Nov. 22, 1978, as amended at 54 FR 4030, Jan. 27, 1989]

§ 90.203 Type acceptance required.

(a) Except as specified in paragraph (b) of this section, each transmitter utilized for operation under this part and each transmitter marketed as set forth in § 2.803 (of part 2) must be of a type which is included in the Commission's current Radio Equipment List as type accepted for use under this part; or, be of a type which has been type accepted by the Commission for use under this part in accordance with the procedures in paragraph (a)(2) of this section.

(1) The Commission periodically publishes a list of equipment entitled ''Radio Equipment List, Equipment Acceptable for Licensing.'' Copies of this list are available for public reference at the Commission's offices in Washington, D.C., and at each of its field offices. This list includes type accepted and, also, until such time as it may be removed by Commission action, other equipment which appeared in this list on May 16, 1955.

(2) Any manufacturer of radio transmitting equipment (including signal boosters) to be used in these services may request type acceptance for such equipment following the procedures set forth in subpart J of part 2 of this chapter. Type acceptance for an individual transmitter or signal booster also may be requested by an applicant for a station authorization by following the procedure set forth in part 2 of this chapter. Such equipment if approved or accepted will not normally be included in the Commission's ''Radio Equipment List'' but will be individually enumerated on the station authorization.

(b) Type acceptance is not required for the following:

(1) Transmitters used in developmental operations in accordance with subpart Q.

(2) Transmitters used for police zone and interzone stations authorized as of January 1, 1965.

(3) Transmitting equipment used in the band 1427–1435 MHz.

(4) Transmitters used in radiolocation stations in accordance with subpart F authorized prior to January 1, 1974, for public safety and land transportation applications (old parts 89 and 93).

(5) Transmitters used in radiolocation stations in accordance with subpart F authorized for industrial applications (old part 91) prior to January 1, 1978.

(6) Until March 1, 1995 transmitters used in narrowband stations authorized prior to May 6, 1985 if they continue to be used at those stations.

(7) Transmitters imported and marketed prior to September 1, 1996 for use by LMS systems.

(c) Radiolocation transmitters for use in public safety and land transportation applications marketed prior to January 1, 1974, must meet the applicable technical standards in this part, pursuant to § 2.805 of this chapter.

(d) Radiolocation transmitters for use in public safety and land transportation applications marketed after January 1, 1974, must comply with the requirements of paragraph (a) of this section.

(e) Except as provided in paragraph (g) of this section, transmitters designed to operate above 25 MHz shall not be type accepted for use under this part if the operator can program and transmit on frequencies, other than those programmed by the manufacturer, service or maintenance personnel, using the equipment's external operation controls.

(f) Except as provided in paragraph (g) of this section, transmitters designed to operate above 25 MHz that have been type accepted prior to January 15, 1988, and that permit the operator, by using external controls, to program the transmitter's operating frequencies, shall not be manufactured in, or imported into the United States after March 15, 1988. Marketing of these transmitters shall not be permitted after March 15, 1989.

(g) Transmitters having frequency programming capability and that are

designed to operate above 25 MHz are exempt from paragraphs (e) and (f) of this section if the design of such transmitters:

(1) Is such that transmitters with external controls normally available to the operator must be internally modified to place the equipment in the programmable mode. Further, while in the programmable mode, the equipment shall not be capable of transmitting. The procedures for making the modification and altering the frequency program shall not be made available with the operating information normally supplied to the end user of the equipment; or

(2) Requires the tramsitter to be programmed for frequencies through controls normally inaccessible to the operator; or

(3) Requires equipment to be programmed for frequencies through use of external devices or specifically programmed modules made available only to service/maintenance personnel; or

(4) Requires equipment to be programmed through cloning (copying a program directly from another transmitter) using devices and procedures made available only to service/maintenance personnel.

(h) The requirements of paragraphs (e), (f), and (g) of this section shall not apply if:

(1) The equipment has been designed and manufactured specifically for aircraft use; and

(2) The part 90 type acceptance limits the use of the equipment to operations only under § 90.423.

(i) Equipment type accepted after February 16, 1988 and marketed for public safety operation in the 821–824/866–869 MHz bands must have the capability to be programmed for operation on the mutual aid channels as designated in § 90.617(a) of the Rules.

(j) For transmitters operating on frequencies in the 150–174 MHz and 421–512 MHz bands:

(1) Prior to August 1, 1996, type acceptance will be granted for equipment with channel bandwidths up to 25 kHz.

(2) On or after August 1, 1996, type acceptance will only be granted for equipment with the following channel bandwidths:

(i) 12.5 kHz or less for single bandwidth mode equipment or multi-bandwidth mode equipment with a maximum channel bandwidth of 12.5 kHz.

(ii) 25 kHz for multi-bandwidth mode equipment with a maximum channel bandwidth of 25 kHz if it is capable of operating on channels of 12.5 kHz or less.

(iii) 25 kHz if the equipment meets the efficiency standard of paragraph (j)(3) of this section.

(3) On or after August 1, 1996, requests for part 90 type acceptance of transmitters designed to operate on frequencies in the 150–174 MHz and 421–512 MHz bands must include a certification that the equipment meets a spectrum efficiency standard of one voice channel per 12.5 kHz of channel bandwidth. If the equipment is capable of transmitting data and has an overall bandwidth of 6.25 kHz or more, the equipment must be capable of supporting a minimum data rate of 4800 bits per second per 6.25 kHz of bandwidth.

(4) On or after January 1, 2005, except for hand-held transmitters with an output power of two watts or less, type acceptance will only be granted for equipment with the following channel bandwidths:

(i) 6.25 kHz or less for single bandwidth mode equipment.

(ii) 12.5 kHz for multi-bandwidth mode equipment with a maximum channel bandwidth of 12.5 kHz if it is capable of operating on channels of 6.25 kHz or less.

(iii) 25 kHz for multi-bandwidth mode equipment with a maximum channel bandwidth of 25 kHz if it is capable of operating on channels of 6.25 kHz or less.

(iv) Up to 25 kHz if the equipment meets the efficiency standard of paragraph (j)(5) of this section.

(5) On or after January 1, 2005, requests for part 90 type acceptance of transmitters designed to operate on frequencies in the 150–174 MHz and 421–512 MHz bands must include a certification that the equipment meets a spectrum efficiency standard of one voice channel per 6.25 kHz of channel bandwidth. If the equipment is capable of transmitting data and has an overall bandwidth of 6.25 kHz or more, the

equipment must be capable of supporting a minimum data rate of 4800 bits per second per 6.25 kHz of bandwidth.

(6) The Commission's Equipment Authorization Division will not accept applications for modification or permissive changes of Type Acceptance grants for single bandwidth mode transmitters designed to operate on channel bandwidths wider than 12.5 kHz granted prior to August 1, 1996, except under the following conditions:

(i) Transmitters that have the inherent capability for multi-mode or narrowband operation allowed in paragraphs (j)(2) and (j)(4) of this section, may have their grant of Type Acceptance modified upon demonstrating that the original unit complies with the technical requirements for operation.

(ii) New FCC Identifiers will be needed to identify modified equipment that complies with the requirements of paragraphs (j)(2) and (j)(4) of this section.

(7) Transmitters designed for one-way paging operations will be type accepted with a 25 kHz channel bandwidth.

[43 FR 54791, Nov. 22, 1978; 44 FR 32219, June 5, 1979, as amended at 50 FR 13606, Apr. 5, 1985; 52 FR 47570, Dec. 15, 1987; 53 FR 1024, Jan. 15, 1988; 54 FR 38681, Sept. 20, 1989; 60 FR 15252, Mar. 23, 1995; 60 FR 37261, July 19, 1995; 61 FR 18986, Apr. 30, 1996]

§ 90.205 Power and antenna height limits.

Applicants for licenses must request and use no more power than the actual power necessary for satisfactory operation. Except where otherwise specifically provided for, the maximum power that will be authorized to applicants whose license applications for new stations are filed after August 18, 1995 is as follows:

(a) *Below 25 MHz.* For single sideband operations (J3E emission), the maximum transmitter peak envelope power is 1000 watts.

(b) *25–50 MHz.* The maximum transmitter output power is 300 watts.

(c) *72–76 MHz.* The maximum effective radiated power (ERP) for stations operating on fixed frequencies is 300 watts. Stations operating on mobile-only frequencies are limited to one watt transmitter output power.

(d) *150–174 MHz.* (1) The maximum allowable station ERP is dependent upon the station's antenna HAAT and required service area and will be authorized in accordance with table 1. Applicants requesting an ERP in excess of that listed in table 1 must submit an engineering analysis based upon generally accepted engineering practices and standards that includes coverage contours to demonstrate that the requested station parameters will not produce coverage in excess of that which the applicant requires.

(2) Applications for stations with ERPs higher than permitted in table 1 will be submitted to the frequency coordinator accompanied by an technical analysis, based upon generally accepted engineering practices and standards, that demonstrates that the requested station parameters will not produce a signal strength in excess of 37 dBu at any point along the edge of the requested service area. The coordinator may then recommend any ERP appropriate to meet this condition.

(3) An applicant for a station with a service area radius greater than 40 km (25 mi) must justify the requested service area radius, which will be authorized only in accordance with table 1, note 4. Base stations with a service area radius greater than 80 km (50 mi) will be authorized only on a secondary basis.

TABLE 1—150–174MHz—MAXIMUM ERP/REFERENCE HAAT FOR A SPECIFIC SERVICE AREA RADIUS

	Service area radius (km)									
	3	8	13	16	24	32	40	48 [4]	64 [4]	80 [4]
Maximum ERP (w) [1]	1	28	178	[2] 500	[2] 500	[2] 500	500	[2] 500	[2] 500	[2] 500
Up to reference HAAT (m) [3] ..	15	15	15	15	33	65	110	160	380	670

[1] Maximum ERP indicated provides for a 37 dBu signal strength at the edge of the service area per FCC Report R–6602, Fig. 19 (See § 73.699, Fig. 10).

[2] Maximum ERP of 500 watts allowed. Signal strength at the service area contour may be less than 37 dBu.

[3] When the actual antenna HAAT is greater than the reference HAAT, the allowable ERP will be reduced in accordance with the following equation: $ERP_{allow} = ERP_{max} \times (HAAT_{ref} / HAAT_{actual})^2$.

[4] Applications for this service area radius may be granted upon specific request with justification and must include a technical demonstration that the signal strength at the edge of the service area does not exceed 37 dBu.

(e) *220–222 MHz*. Limitations on power and antenna heights are specified in § 90.729.

(f) *421–430 MHz*. Limitations on power and antenna heights are specified in § 90.279.

(g) *450–470 MHz*.

(1) The maximum allowable station effective radiated power (ERP) is dependent upon the station's antenna HAAT and required service area and will be authorized in accordance with table 2. Applicants requesting an ERP in excess of that listed in table 2 must submit an engineering analysis based upon generally accepted engineering practices and standards that includes coverage contours to demonstrate that the requested station parameters will not produce coverage in excess of that which the applicant requires.

(2) Applications for stations with ERPs higher than permitted in table 2 will be submitted to the frequency coordinator accompanied by an technical analysis, based upon generally accepted engineering practices and standards, that demonstrates that the requested station parameters will not produce a signal strength in excess of 39 dBu at any point along the edge of the requested service area. The coordinator may then recommend any ERP appropriate to meet this condition.

(3) An applicant for a station with a service area radius greater than 32 km (20 mi) must justify the requested service area radius, which may be authorized only in accordance with table 2, note 4. Base stations with a service area radius greater than 80 km (50 mi) will be authorized only on a secondary basis.

TABLE 2.—450–470 MHz—MAXIMUM ERP/REFERENCE HAAT FOR A SPECIFIC SERVICE AREA RADIUS

	Service area radius (km)									
	3	8	13	16	24	32	40 [4]	48 [4]	64 [4]	80 [4]
Maximum ERP (w) [1]	2	100	[2] 500	[2] 500	[2] 500	[2] 500	[2] 500	[2] 500	[2] 500	[2] 500
Up to reference HAAT (m) [3]	15	15	15	27	63	125	250	410	950	2700

[1] Maximum ERP indicated provides for a 39 dBu signal strength at the edge of the service area per FCC Report R–6602, Fig. 29 (See § 73.699, Fig. 10 b).

[2] Maximum ERP of 500 watts allowed. Signal strength at the service area contour may be less than 39 dBu.

[3] When the actual antenna HAAT is greater than the reference HAAT, the allowable ERP will be reduced in accordance with the following equation: $ERP_{allow} = ERP_{max} \times (HAAT_{ref} / HAAT_{actual})^2$.

[4] Applications for this service area radius may be granted upon specific request with justification and must include a technical demonstration that the signal strength at the edge of the service area does not exceed 39 dBu.

(h) *470–512 MHz.* Power and height limitations are specified in §§90.307 and 90.309.

(i) *806–824/851–869 MHz and 896–901/935–940 MHz.* Power and height limitations are specified in §90.635.

(j) *902–928 MHz.* LMS systems operating pursuant to subpart M of this part in the 902–927.25 MHz band will be authorized a maximum of 30 watts ERP. LMS equipment operating in the 927.25–928 MHz band will be authorized a maximum of 300 watts ERP. ERP must be measured as peak envelope power. Antenna heights will be as specified in §90.353(h).

(k) *929–930 MHz.* Limitations on power and antenna heights are specified in §90.494.

(l) *2450–2483.5 MHz.* The maximum transmitter power is 5 watts.

(m) *All other frequency bands.* Requested transmitter power will be considered and authorized on a case by case basis.

[60 FR 37262, July 19, 1995]

§90.207 Types of emissions.

Unless specified elsewhere in this part, stations will be authorized emissions as provided for in paragraphs (b) through (n) of this section.

(a) *Explanation of emission symbols.* For a complete listing of emission symbols see §2.201 of this chapter.

(1) The first symbol indicates the type of modulation on the transmitter carrier.

A—Amplitude modulation, double sideband with identical information on each sideband.

F—Frequency modulation.

G—Phase modulation.

J—Single sideband with suppressed carrier.

P—Unmodulated pulse.

(2) The second symbol indicates the type of signal modulating the transmitter carrier.

0—No modulation.

1—Digital modulation, no subcarrier.

2—Digital modulation, modulated subcarrier.

3—Analog modulation.

(3) The third symbol indicates the type of transmitted information.

A—Telegraphy for aural reception.

B—Telegraphy for machine reception.

C—Facsimile.

D—Data, telemetry, and telecommand.

E—Voice.

N—No transmitted information.

(b) Authorizations to use A3E, F3E, or G3E emission also include the use of emissions for tone signals or signaling devices whose sole functions are to establish and to maintain communications, to provide automatic station identification, and for operations in the Public Safety and Special Emergency Radio Services, to activate emergency warning devices used solely for the purpose of advising the general public or emergency personnel of an impending emergency situation.

(c) The use of F3E or G3E emission in these services will be authorized only on frequencies above 25 MHz.

(d) Except for Travelers' Information stations in the Local Government Radio Service authorized in accordance with §90.242, only J3E emission will be authorized for telephony systems on frequencies below 25 MHz.

(e) For non-voice paging operations, only A1A, A1D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B, or G2D emissions will be authorized.

(f) For radioteleprinter operations that may be authorized in accordance with §90.237, only F1B, F2B, G1B or G2B emissions will be authorize above 25 MHz, and A1B or A2B emissions below 25 MHz.

(g) For radiofacsimile operations that may be authorized in accordance with §90.237, only F3C or G3C emissions will be authorized above 25 MHz, and A3C emissions below 25 MHz.

(h) [Reserved]

(i) For telemetry operations, when specifically authorized under this part, only A1D, A2D, F1D, or F2D emissions will be authorized.

(j) For call box operations that may be authorized in accordance with §90.241, only A1A, A1D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B, G2D, F3E or G3E emissions will be authorized.

(k) For radiolocation operations as may be authorized in accordance with subpart F, unless otherwise provided for any type of emission may be authorized upon a satisfactory showing of need.

(l) For stations in the Fire, Police and Power Radio Services utilizing digital voice modulation, in either the scrambled or unscrambled mode, F1E or G1E emission will be authorized. Authorization to use F3Y emission is construed to include the use of F1D, F2D, G1D, or G2D emission subject to the provisions of § 90.233.

(m) For narrowband operations in a 3.6 kHz maximum authorized bandwith, any modulation type may be used which complies with the emission limitations of § 90.209.

(n) *Other emissions.* Requests for emissions other than those listed in paragraphs (c) through (e) of this section will be considered on a case-by-case basis to ensure that the requested emission will not cause more interference than other currently permitted emissions.

[49 FR 48711, Dec. 14, 1984, as amended at 50 FR 13606, Apr. 5, 1985; 50 FR 25240, June 18, 1985; 52 FR 29856, Aug. 12, 1987; 54 FR 38681, Sept. 20, 1989; 60 FR 15252, Mar. 23, 1995; 60 FR 37263, July 19, 1995]

§ 90.209 Bandwidth limitations.

(a) Each authorization issued to a station licensed under this part will show an emission designator representing the class of emission authorized. The designator will be prefixed by a specified necessary bandwidth. This number does not necessarily indicate the bandwidth occupied by the emission at any instant. In those cases where § 2.202 of this chapter does not provide a formula for the computation of necessary bandwidth, the occupied bandwidth, as defined in part 2 of this chapter, may be used in lieu of the necessary bandwidth.

(b) The maximum authorized single channel bandwidth of emission corresponding to the type of emission specified in § 90.207 is as follows:

(1) For A1A or A1B emissions, the maximum authorized bandwidth is 0.25 kHz. The maximum authorized bandwidth for type A3E emission is 8 kHz.

(2) For operations below 25 MHz utilizing J3E emission, the bandwidth occupied by the emission shall not exceed 3000 Hz. The assigned frequency will be specified in the authorization. The authorized carrier frequency will be 1400 Hz lower in frequency than the assigned frequency. Only upper sideband emission may be used. In the case of regularly available double sideband radiotelephone channels, an assigned frequency for J3E emissions is available either 1600 Hz below or 1400 Hz above the double sideband radiotelephone assigned frequency.

(3) For all other types of emissions, the maximum authorized bandwidth shall not be more than that normally authorized for voice operations.

(4) Where a frequency is assigned exclusively to a single licensee, more than a single emission may be used within the authorized bandwidth. In such cases, the frequency stability requirements of § 90.213 must be met for each emission.

(5) Unless specified elsewhere, channel spacings and bandwidths that will be authorized in the following frequency bands are given in the following table.

STANDARD CHANNEL SPACING/BANDWIDTH

Frequency band (MHz)	Channel spacing (kHz)	Authorized bandwidth (kHz)
Below 25 [2]		
25–50	20	20
72–76	20	20
150–174	[1] 7.5	[1,3] 20/11.25/6
220–222	5	4
421–512 [2]	[1] 6.25	[1,3] 20/11.25/6
806–821/851–866	25	20
821–824/866–869	12.5	20
896–901/935–940	12.5	13.6
902–928 [4]		
929–930	25	20
1427–1435 [2]		
2450–2483.52 [2]		
Above 2500 [2]		

[1] For stations authorized on or after August 18, 1995.

[2] Bandwidths for radiolocation stations in the 420–450 MHz band and for stations operating in bands subject to this footnote will be reviewed and authorized on a case-by-case basis.

[3] Operations using equipment designed to operate with a 25 kHz channel bandwidth will be authorized a 20 kHz bandwidth. Operations using equipment designed to operate with a 12.5 kHz channel bandwidth will be authorized a 11.25 kHz bandwidth. Operations using equipment designed to operate with a 6.25 kHz channel bandwidth will be authorized a 6 kHz bandwidth.

[4] The maximum authorized bandwidth shall be 12 MHz for non-multilateration LMS operations in the band 909.75–921.75 MHz and 2 MHz in the band 902.00–904.00 MHz. The maximum authorized bandwidth for multilateration LMS operations shall be 5.75 MHz in the 904.00–909.75 MHz band; 2 MHz in the 919.75–921.75 MHz band; 5.75 MHz in the 921.75–927.25 MHz band and its associated 927.25–927.50 MHz narrowband forward link; and 8.00 MHz if the 919.75–921.75 MHz and 921.75–927.25 MHz bands and their associated 927.25–927.50 MHz and 927.50–927.75 MHz narrowband forward links are aggregated.

[60 FR 37263, July 19, 1995]

§90.210 Emission masks.

Except as indicated elsewhere in this part, transmitters used in the radio services governed by this part must comply with the emission masks outlined in this section. Unless otherwise stated, per paragraphs (d)(4), (e)(4), and (m) of this section, measurements of emission power can be expressed in either peak or average values provided that emission powers are expressed with the same parameters used to specify the unmodulated transmitter carrier power. For transmitters that do not produce a full power unmodulated carrier, reference to the unmodulated transmitter carrier power refers to the total power contained in the channel bandwidth. Unless indicated elsewhere in this part, the table in this section specifies the emission masks for equipment operating in the frequency bands governed under this part.

APPLICABLE EMISSION MASKS

Frequency band (MHz)	Mask for equipment with audio low pass filter	Mask for equipment without audio low pass filter
Below 25[1]	A or B	A or C
25–50	B	C
72–76	B	C
150–174[2]	B, D, or E	C, D, or E
150 Paging-only	B	C
220–222	F	F
421–512[2]	B, D, or E	C, D, or E
450 Paging-only	B	G
806–821/851–866[3]	B	G
821–824/866–869	B	H
896–901/935–940	I	J
902–928	K	K
929–930	B	G
Above 940	B	C
All other bands	B	C

[1] Equipment using single sideband J3E emission must meet the requirements of Emission Mask A. Equipment using other emissions must meet the requirements of Emission Mask B or C, as applicable.

[2] Equipment designed to operate with a 25 kHz channel bandwidth must meet the requirements of Emission Mask B or C, as applicable. Equipment designed to operate with a 12.5 kHz channel bandwidth must meet the requirements of Emission Mask D, and equipment designed to operate with a 6.25 kHz channel bandwidth must meet the requirements of Emission Mask E.

[3] Equipment used in this band licensed to EA systems shall comply with the emission mask provisions of §90.691.

(a) *Emission Mask A.* For transmitters utilizing J3E emission, the carrier must be at least 40 dB below the peak envelope power and the power of emissions must be reduced below the output power (P in watts) of the transmitter as follows:

(1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 150 percent of the authorized bandwidth: At least 25 dB.

(2) On any frequency removed from the assigned frequency by more than 150 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB.

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 + 10 log P dB.

(b) *Emission Mask B.* For transmitters that are equipped with an audio low-pass filter pursuant to §90.211(a), the power of any emission must be below the unmodulated carrier power (P) as follows:

(1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 100 percent of the authorized bandwidth: At least 25 dB.

(2) On any frequency removed from the assigned frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB.

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

(c) *Emission Mask C.* For transmitters that are not equipped with an audio low-pass filter pursuant to §90.211(b), the power of any emission must be attenuated below the unmodulated carrier output power (P) as follows:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5 kHz, but not more than 10 kHz: At least 83 log (f_d/5) dB;

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 10 kHz, but not more than 250 percent of the authorized bandwidth: At least 29 log (f_d^2/11) dB or 50 dB, whichever is the lesser attenuation;

(3) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

(d) *Emission Mask D—12.5 kHz channel bandwidth equipment.* For transmitters designed to operate with a 12.5 kHz channel bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

(1) On any frequency from the center of the authorized bandwidth f_0 to 5.625 kHz removed from f_0: Zero dB.

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5.625 kHz but no more than 12.5 kHz: At least $7.27(f_d - 2.88$ kHz) dB.

(3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 12.5 kHz: At least 50 + 10 log (P) dB or 70 dB, whichever is the lesser attenuation.

(4) The reference level for showing compliance with the emission mask shall be established using a resolution bandwidth sufficiently wide (usually two to three times the channel bandwidth) to capture the true peak emission of the equipment under test. In order to show compliance with the emissions mask up to and including 50 kHz removed from the edge of the authorized bandwidth, adjust the resolution bandwidth to 100 Hz with the measuring instrument in a peak hold mode. A sufficient number of sweeps must be measured to insure that the emission profile is developed. If video filtering is used, its bandwidth must not be less than the instrument resolution bandwidth. For emissions beyond 50 kHz from the edge of the authorized bandwidth, see paragraph (m) of this section. If it can be shown that use of the above instrumentation settings do not accurately represent the true interference potential of the equipment under test, then an alternate procedure may be used provided prior Commission approval is obtained.

(e) *Emission Mask E—6.25 kHz or less channel bandwidth equipment.* For transmitters designed to operate with a 6.25 kHz or less bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

(1) On any frequency from the center of the authorized bandwidth f_0 to 3.0 kHz removed from f_0: Zero dB.

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 3.0 kHz but no more than 4.6 kHz: At least $30 + 16.67(f_d - 3$ kHz) or 55 + 10 log (P) or 65 dB, whichever is the lesser attenuation.

(3) On any frequency removed from the center of the authorized bandwidth by more than 4.6 kHz: At least 55 + 10 log (P) or 65 dB, whichever is the lesser attenuation.

(4) The reference level for showing compliance with the emission mask shall be established using a resolution bandwidth sufficiently wide (usually two to three times the channel bandwidth) to capture the true peak emission of the equipment under test. In order to show compliance with the emissions mask up to and including 50 kHz removed from the edge of the authorized bandwidth, adjust the resolution bandwidth to 100 Hz with the measuring instrument in a peak hold mode. A sufficient number of sweeps must be measured to insure that the emission profile is developed. If video filtering is used, its bandwidth must not be less than the instrument resolution bandwidth. For emissions beyond 50 kHz from the edge of the authorized bandwidth, see paragraph (m) of this section. If it can be shown that use of the above instrumentation settings do not accurately represent the true interference potential of the equipment under test, then an alternate procedure may be used provided prior Commission approval is obtained.

(f) *Emission Mask F.* For transmitters operating in the 220–222 MHz frequency band, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

(1) On any frequency from the center of the authorized bandwidth f_o to the edge of the authorized bandwidth f_e: Zero dB.

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 2 kHz up to and including 3.75 kHz: $30 + 20(f_d - 2)$ dB or 55 + 10 log

(P), or 65 dB, whichever is the lesser attenuation.

(3) On any frequency beyond 3.75 kHz removed from the center of the authorized bandwidth f_d: At least 55 + 10 log (P) dB.

(g) *Emission Mask G.* For transmitters that are not equipped with an audio low-pass filter pursuant to § 90.211(b), the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5 kHz, but no more than 10 kHz: At least 83 log (f_d/5) dB;

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 10 kHz, but no more than 250 percent of the authorized bandwidth: At least 116 log (f_d/6.1) dB, or 50 + 10 log (P) dB, or 70 dB, whichever is the lesser attenuation;

(3) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

(h) *Emission Mask H.* For transmitters that are not equipped with an audio low-pass filter pursuant to § 90.211(b), the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of 4 kHz or less: Zero dB.

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 4 kHz, but no more than 8.5 kHz: At least 107 log (f_d/4) dB;

(3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 8.5 kHz, but no more than 15 kHz: At least 40.5 log (f_d/1.16) dB;

(4) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 15 kHz, but no more than 25 kHz: At least 116 log (f_d/6.1) dB;

(5) On any frequency removed from the center of the authorized bandwidth by more than 25 kHz: At least 43 + log (P) dB.

(i) *Emission Mask I.* For transmitters that are equipped with an audio low pass filter pursuant to § 90.211(a), the power of any emission must be attenuated below the unmodulated carrier power of the transmitter (P) as follows:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency of more than 6.8 kHz, but no more than 9.0 kHz: At least 25 dB;

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency of more than 9.0 kHz, but no more than 15 kHz: At least 35 dB;

(3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency of more than 15 kHz: At least 43 + 10 log (P) dB, or 70 dB, whichever is the lesser attenuation.

(j) *Emission Mask J.* For transmitters that are not equipped with an audio low-pass filter pursuant to § 90.211(b), the power of any emission must be attenuated below the unmodulated carrier power of the transmitter (P) as follows:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 2.5 kHz, but no more than 6.25 kHz: At least 53 log (f_d/2.5) dB;

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 6.25 kHz, but no more than 9.5 kHz: At least 103 log (f_d/3.9) dB;

(3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 9.5 kHz: At least 157 log (f_d/5.3) dB, or 50 + 10 log (P) dB or 70 dB, whichever is the lesser attenuation.

(k) *Emission Mask K.* —(1) *Wideband multilateration transmitters.* For transmitters authorized under subpart M to provide forward or reverse links in a multilateration system in the subbands 904–909.75 MHz, 921.75–927.25 MHz and 919.75–921.75 MHz, and which transmit an emission occupying more than 50 kHz bandwidth: in any 100 kHz band, the center frequency of which is removed from the center of authorized sub-band(s) by more than 50 percent of the authorized bandwidth, the power of emissions shall be attenuated below

the transmitter output power, as specified by the following equation, but in no case less than 31 dB:

A=16+0.4 (D−50)+10 log B (attenuation greater than 66 dB is not required)

Where:

A=attenuation (in decibels) below the maximum permitted output power level

D=displacement of the center frequency of the measurement bandwidth from the center frequency of the authorized sub-band, expressed as a percentage of the authorized bandwidth B

B=authorized bandwidth in megahertz.

(2) *Narrowband forward link transmitters.* For LMS multilateration narrowband forward link transmitters operating in the 927.25–928 MHz frequency band the power of any emission shall be attenuated below the transmitter output power (P) in accordance with following schedule:

On any frequency outside the authorized sub-band and removed from the edge of the authorized sub-band by a displacement frequency (f_d in kHz): at least 116 log ((f_d+10)/6.1) dB or 50 + 10 log (P) dB or 70 dB, whichever is the lesser attenuation.

(3) *Other transmitters.* For all other transmitters authorized under Subpart M, the peak power of any emission shall be attenuated below the power of the highest emission contained within the authorized channel bandwidth in accordance with the following schedule:

(i) On any frequency within the authorized bandwidth: Zero dB;

(ii) On any frequency outside of the authorized bandwidth: 55+10log(P) dB where (P) is the highest emission (watts) of the transmitter inside the authorized bandwidth.

(4) The resolution bandwidth of the instrumentation used to measure the emission power shall be 100 kHz, except that, in regard to paragraph (2) of this section, a minimum spectrum analyzer resolution bandwidth of 300 Hz shall be used for measurement center frequencies within 1 MHz of the edge of the authorized subband. If a video filter is used, its bandwidth shall not be less than the resolution bandwidth.

(5) Emission power shall be measured in peak values.

(l) *Other frequency bands.* Transmitters designed for operation under this part on frequencies other than listed in this section must meet the emission mask requirements of Emission Mask B. Equipment operating under this part on frequencies allocated to but shared with the Federal Government, must meet the applicable Federal Government technical standards.

(m) *Instrumentation.* The reference level for showing compliance with the emission mask shall be established, except as indicated in §§ 90.210 (d), (e), and (k), using standard engineering practices for the modulation characteristic used by the equipment under test. When measuring emissions in the 150–174 MHz and 421–512 MHz the following procedures will apply. A sufficient number of sweeps must be measured to insure that the emission profile is developed. If video filtering is used, its bandwidth must not be less than the instrument resolution bandwidth. For frequencies more than 50 kHz removed from the edge of the authorized bandwidth a resolution of at least 10 kHz must be used for frequencies below 1000 MHz. Above 1000 MHz the resolution bandwidth of the instrumentation must be at least 1 MHz. If it can be shown that use of the above instrumentation settings do not accurately represent the true interference potential of the equipment under test, then an alternate procedure may be used provided prior Commission approval is obtained.

[60 FR 37264, July 19, 1995, as amended at 61 FR 4235, Feb. 5, 1996; 61 FR 6155, Feb. 16, 1996; 61 FR 18986, Apr. 30, 1996]

§ 90.211 Modulation requirements.

Each transmitter must meet the requirements of either paragraph (a) or (b) of this section. The requirements of this paragraph do not apply to mobile stations that are authorized to operate with a maximum power output of 2 watts or less.

(a) Transmitters utilizing analog emissions that are equipped with an audio low-pass filter and must meet the emission limitations specified in § 90.210 under all possible conditions of operation.

(b) Transmitters utilizing digital or analog emissions without an audio low-pass filter must be tested for type acceptance using the digital or analog modulating signal or signals specified by the part 2 of this chapter. The type acceptance application must contain such information as may be necessary to demonstrate that the transmitter complies with the emission limitations specified in §90.210.

[60 FR 37266, July 19, 1995]

§90.212 Provisions relating to the use of scrambling devices and digital voice modulation.

(a) Analog scrambling techniques may be employed at any station authorized the use of A3E, F3E, or G3E emission, subject to the provision of paragraph (d) of this section.

(b) The use of digital scrambling techniques or digital voice modulation requires the specific authorization of F1E or G1E emission, and these emissions will only be authorized subject to the provisions of paragraph (d) of this section.

(c) The transmission of any non-voice information or data under the authorization of F1E or G1E emission is prohibited. However, stations authorized the use of F1E or G1E emission may also be authorized F1D, F2D, G1D or G2D emission for non-voice communication purposes, pursuant to paragraph (k) of §90.207.

(d) Station identification shall be transmitted in the unscrambled analog mode (clear voice) or Morse code in accordance with the provisions of §90.425. All digital encoding and digital modulation shall be disabled during station identification.

[43 FR 54791, Nov. 22, 1978, as amended at 47 FR 15340, Apr. 9, 1982; 49 FR 48711, Dec. 14, 1984]

§90.213 Frequency stability.

(a) Unless noted elsewhere, transmitters used in the services governed by this part must have a minimum frequency stability as specified in the following table.

MINIMUM FREQUENCY STABILITY

[Parts per million (ppm)]

Frequency range (MHz)	Fixed and base stations	Mobile stations	
		Over 2 watts output power	2 watts or less output power
Below 25	[1,2,3] 100	100	200
25–50	20	20	50
72–76	5	.....	50
150–174	[5,11] 5	[6] 5	[4,6] 5
220–222 [12]	0.1	1.5	1.5
421–512	[7,11] 2.5	[8] 5	[8] 5
806–821	1.5	2.5	2.5
821–824	1.0	1.5	1.5
851–866	1.5	2.5	2.5
866–869	1.0	1.5	1.5
896–901	0.1	1.5	1.5
902–928	2.5	2.5	2.5
902–928 [13]	2.5	2.5	2.5
929–930	1.5	.....	.....
935–940	0.1	1.5	1.5
1427–1435	[9] 300	300	300
Above 2450 [10]	.....	.....	.....

[1] Fixed and base stations with over 200 watts transmitter power must have a frequency stability of 50 ppm except for equipment used in the Public Safety Radio Services where the frequency stability is 100 ppm.

[2] For single sideband operations below 25 MHz, the carrier frequency must be maintained within 50 Hz of the authorized carrier frequency.

[3] Travelers information station transmitters operating from 530–1700 kHz and transmitters exceeding 200 watts peak envelope power used for disaster communications and long distance circuit operations pursuant to §§90.242 and 90.264 must maintain the carrier frequency to within 20 Hz of the authorized frequency.

[4] Stations operating in the 154.45 to 154.49 MHz or the 173.2 to 173.4 MHz bands must have a frequency stability of 5 ppm.

[5] In the 150–174 MHz band, fixed and base stations with a 12.5 kHz channel bandwidth must have a frequency stability of 2.5 ppm. Fixed and base stations with a 6.25 kHz channel bandwidth must have a frequency stability of 1.0 ppm.

[6] In the 150–174 MHz band, mobile stations designed to operate with a 12.5 kHz channel bandwidth or designed to operate on a frequency specifically designated for itinerant use or designed for low-power operation of two watts or less, must have a frequency stability of 5 ppm. Mobile stations designed to operate with a 6.25 kHz channel bandwidth must have a frequency stability of 1.0 ppm.

[7] In the 421–512 MHz band, fixed and base stations with a 12.5 kHz channel bandwidth must have a frequency stability of 1.5 ppm. Fixed and base stations with a 6.25 kHz channel bandwidth must have a frequency stability of 0.1 ppm.

[8] In the 421–512 MHz band, mobile stations designed to operate with a 12.5 kHz channel bandwidth or designed to operate on a frequency specifically designated for itinerant use or designed for low-power operation of two watts or less, must have a frequency stability of 2.5 ppm. Mobile stations designed to operate with a 6.25 kHz channel bandwidth must have a frequency stability of 0.5 ppm.

[9] Fixed stations with output powers above 120 watts and necessary bandwidth less than 3 kHz must operate with a frequency stability of 100 ppm. Fixed stations with output powers less than 120 watts and using time-division multiplex, must operate with a frequency stability of 500 ppm.

[10] Frequency stability to be specified in the station authorization.

[11] Paging transmitters operating on paging-only frequencies must operate with frequency stability of 5 ppm in the 150–174 MHz band and 2.5 ppm in the 421–512 MHz band.

[12] Mobile units may utilize synchronizing signals from associated base stations to achieve the specified carrier stability.

[13] Fixed non-multilateration transmitters with an authorized bandwidth that is more than 40 kHz from the band edge, intermittently operated hand-held readers, and mobile transponders are not subject to frequency tolerance restrictions.

(b) For the purpose of determining the frequency stability limits, the power of a transmitter is considered to be the maximum rated output power as specified by the manufacturer.

[60 FR 37266, July 19, 1995, as amended at 61 FR 4235, Feb. 5, 1996; 61 FR 18986, Apr. 30, 1996; 61 FR 38403, July 24, 1996]

§ 90.214 Transient frequency behavior.

In the 150–174 MHz and 421–512 MHz frequency bands, transient frequencies must be within the maximum frequency difference limits during the time intervals indicated:

TRANSIENT FREQUENCY BEHAVIOR FOR EQUIPMENT DESIGNED TO OPERATE ON 25 kHz CHANNELS

Time intervals [1, 2]	Maximum frequency difference [3] (kHz)	Frequency ranges (MHz)					
		Base stations and portable radios			Mobile radios		
		150 to 174 (ms)	450 to 500 (ms)	500 to 512 (ms)	150 to 174 (ms)	450 to 500 (ms)	500 to 512 (ms)
t_1 [4]	±25.0	5.0	10.0	20.0	5.0	10.0	5.0
t_2	±12.5	20.0	25.0	50.0	20.0	25.0	20.0
t_3 [4]	±25.0	5.0	10.0	10.0	5.0	10.0	5.0

TRANSIENT FREQUENCY BEHAVIOR FOR EQUIPMENT DESIGNED TO OPERATE ON 12.5 kHz CHANNELS

Time intervals [1, 2]	Maximum frequency difference [3] (kHz)	Frequency ranges (MHz) All equipment		
		150 to 174 (ms)	450 to 500 (ms)	500 to 512 (ms)
t_1 [4]	±12.5	5.0	10.0	20.0
t_2	±6.25	20.0	25.0	50.0
t_3 [4]	±12.5	5.0	10.0	10.0

TRANSIENT FREQUENCY BEHAVIOR FOR FQUIPMENT DESIGNED TO OPERATE ON 6.25 kHz CHANNELS

Time intervals [1, 2]	Maximum frequency difference [3] (kHz)	Frequency ranges (MHz) All equipment		
		150 to 174 (ms)	450 to 500 (ms)	500 to 512 (ms)
t_1 [4]	±6.25	5.0	10.0	20.0
t_2	±3.125	20.0	25.0	50.0
t_3 [4]	±6.25	5.0	10.0	10.0

[1] t_{on} is the instant when a 1 kHz test signal is completely suppressed, including any capture time due to phasing.
t_1 is the time period immediately following t_{on}.
t_2 is the time period immediately following t_1.
t_3 is the time period from the instant when the transmitter is turned off until t_{off}.
t_{off} is the instant when the 1 kHz test signal starts to rise.
[2] During the time from the end of t_2 to the beginning of t_3, the frequency difference must not exceed the limits specified in § 90.213.
[3] Difference between the actual transmitter frequency and the assigned transmitter frequency.
[4] If the transmitter carrier output power rating is 6 watts or less, the frequency difference during this time period may exceed the maximum frequency difference for this time period.

[60 FR 37267, July 19, 1995]

§ 90.215 Transmitter measurements.

(a) The licensee of each station shall employ a suitable procedure to determine that the carrier frequency of each transmitter authorized to operate with an output power in excess of two watts is maintained within the tolerence prescribed in § 90.213. This determination shall be made, and the results entered in the station records in accordance with the following:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may affect the carrier frequency or its stability.

(b) The licensee of each station shall employ a suitable procedure to determine that each transmitter authorized to operate with an output power in excess of two watts does not exceed the maximum figure specified on the current station authorization. On authorizations stating only the input power to the final radiofrequency stage, the maximum permissible output power is 75 percent for frequencies below 25 MHz and 60 percent of the input power for frequencies above 25 MHz. If a non-DC final radiofrequency stage is utilized, then the output power shall not exceed 75 percent of the input power. This determination shall be made, and the results thereof entered into the station records, in accordance with the following:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may increase the transmitter power input.

(c) The licensee of each station shall employ a suitable procedure to determine that the modulation of each transmitter, which is authorized to operate with an output power in excess of two watts, does not exceed the limits specified in this part. This determination shall be made and the following results entered in the station records, in accordance with the following:

(1) When the transmitter is initially installed;

(2) When any change is made in the transmitter which may affect the modulation characteristics.

(d) The determinations required by paragraphs (a), (b), and (c) of this section may, at the opinion of the licensee, be made by a qualified engineering measurement service, in which case the required record entries shall

show the name and address of the engineering measurement service as well as the name of the person making the measurements.

(e) In the case of mobile transmitters, the determinations required by paragraphs (a) and (c) of this section may be made at a test or service bench: *Provided,* That the measurements are made under load conditions equivalent to actual operating conditions; and provided further, that after installation in the mobile unit the transmitter is given a routine check to determine that it is capable of being received satisfactorly by an appropriate receiver.

§90.217 Exemption from technical standards.

Except as noted herein, transmitters used at stations licensed in the Business Radio Service which have an output power not exceeding 120 milliwatts are exempt from the technical requirements set out in this subpart, but must instead comply with the following:

(a) For equipment designed to operate with a 20 kHz channel bandwidth, the sum of the bandwidth occupied by the emitted signal plus the bandwidth required for frequency stability shall be adjusted so that any emission appearing on a frequency 40 kHz or more removed from the assigned frequency is attenuated at least 30 dB below the unmodulated carrier.

(b) For equipment designed to operate with a 12.5 kHz channel bandwidth, the sum of the bandwidth occupied by the emitted signal plus the bandwidth required for frequency stability shall be adjusted so that any emission appearing on a frequency 25 kHz or more removed from the assigned frequency is attenuated at least 30 dB below the unmodulated carrier.

(c) For equipment designed to operate with a 6.25 kHz channel bandwidth, the sum of the bandwidth occupied by the emitted signal plus the bandwidth required for frequency stability shall be adjusted so that any emission appearing on a frequency 12.5 kHz or more removed from the assigned frequency is attenuated at least 30 dB below the unmodulated carrier.

(d) Transmitters may be operated in the continuous carrier transmit mode.

[60 FR 37267, July 19, 1995]

§90.219 Use of signal boosters.

Licensees authorized to operate radio systems in the frequency bands above 150 MHz may employ signal boosters at fixed locations in accordance with the following criteria:

(a) The amplified signal is retransmitted only on the exact frequency(ies) of the originating base, fixed, mobile, or portable station(s). The booster will fill in only weak signal areas and cannot extend the system's normal signal coverage area.

(b) Class A narrowband signal boosters must be equipped with automatic gain control circuitry which will limit the total effective radiated power (ERP) of the unit to a maximum of 5 watts under all conditions. Class B broadband signal boosters are limited to 5 watts ERP for each authorized frequency that the booster is designed to amplify.

(c) Class A narrowband boosters must meet the out-of-band emission limits of §90.209 for each narrowband channel that the booster is designed to amplify. Class B broadband signal boosters must meet the emission limits of §90.209 for frequencies outside of the booster's design passband.

(d) Class B broadband signal boosters are permitted to be used only in confined or indoor areas such as buildings, tunnels, underground areas, etc., or in remote areas, i.e., areas where there is little or no risk of interference to other users.

(e) The licensee is given authority to operate signal boosters without separate authorization from the Commission. Type-accepted equipment must be employed and the licensee must ensure that all applicable rule requirements are met.

(f) Licensees employing either Class A narrowband or Class B broadband signal boosters as defined in §90.7 are responsible for correcting any harmful interference that the equipment may cause to other systems. Normal co-

channel transmissions will not be considered as harmful interference. Licensees will be required to resolve interference problems pursuant to § 90.173(b).

[61 FR 31052, June 19, 1996]

Subpart J—Non-Voice and Other Specialized Operations

§ 90.231 Scope.

This subpart sets forth requirements and standards for licensing and operation of non-voice and other specialized radio uses (other than radiolocation). Such uses include secondary signaling, telemetry, radioteleprinter, radiofacsimile, automatic vehicle monitoring (AVM), radio call box, relay, vehicular repeater, and control station operations.

§ 90.233 Base/mobile non-voice operations.

The use of A1D, A2D, F1D, F2D, G1D, or G2D emission may be authorized to base/mobile operations in accordance with the following limitations and requirements.

(a) Licensees employing non-voice communications are not relieved of their responsibility to cooperate in the shared use of land mobile radio channels. See also §§ 90.403 and 90.173(a) and (b).

(b) Authorization for non-voice emission may be granted only on frequencies subject to the coordination requirements set forth in § 90.175. Non-voice operations on frequencies not subject to these requirements are permitted only a secondary basis to voice communications.

(c) Provisions of this section do not apply to authorizations for paging, telemetry, radiolocation, AVM, radioteleprinter, radio call box operations, or authorizations granted pursuant to subpart T of this part.

[48 FR 2794, Feb. 3, 1983, as amended at 49 FR 48711, Dec. 14, 1984; 56 FR 19602, Apr. 29, 1991]

§ 90.235 Secondary fixed signaling operations.

Fixed operations may, subject to the following conditions, be authorized on a secondary basis for voice, tone or impulse signaling on a licensee's mobile service frequency(ies) above 25 MHz within the area normally covered by the licensee's mobile system. Voice signaling will be permitted only in the Police Radio Service.

(a) The bandwidth shall not exceed that authorized to the licensee for the primary operations on the frequency concerned.

(b) The output power shall not exceed 30 watts at the remote site.

(c) A1D, A2D, F1D, F2D, G1D and G2D emissions may be authorized. In the Police Radio Service, A3E, F1E, F2E, F3E, G1E, G2E, or G3E emissions may also be authorized.

(d) Except for those systems covered under paragraph (e) of this section, the maximum duration of any non-voice signaling transmission shall not exceed 2 seconds and shall not be repeated more than 3 times. Signaling transmissions may be staggered at any interval or may be continuous. In the Police Radio Service, the maximum duration of any voice signaling transmission shall not exceed 6 seconds and shall not be repeated more than 3 times.

(e) Until December 31, 1999, for systems in the Public Safety Radio Services authorized prior to June 20, 1975, and in the Power and Petroleum Radio Services authorized prior to June 1, 1976, the maximum duration of any signaling transmission shall not exceed 6 seconds and shall not be repeated more than 5 times. For Power Radio Service systems authorized between June 1, 1976, and August 14, 1989, signaling duration shall not exceed 2 seconds and shall not be repeated more than 5 times. Such systems include existing facilities and additional facilities which may be authorized as a clear and direct expansion of existing facilities. After December 31, 1999, all signaling systems shall be required to comply with the two second message duration and three message repetition requirements.

(f) Systems employing automatic interrogation shall be limited to non-voice techniques and shall not be activated for this purpose more than 10 seconds out of any 60 second period. This 10 second timeframe includes both transmit and response times.

(g) Automatic means shall be provided to deactivate the transmitter in the event the r.f. carrier remains on for a period in excess of 3 minutes or if a transmission for the same signaling function is repeated consecutively more than five times.

(h) Fixed stations authorized pursuant to the provisions of this section are exempt from the requirements of §§90.137(b), 90.425, and 90.429.

(i) Base, mobile, or mobile relay stations may transmit secondary signaling transmissions to receivers at fixed locations subject to the conditions set forth in this section.

(j) Under the provisions of this section, a mobile service frequency may not be used exclusively for secondary signaling.

(k) The use of secondary signaling will not be considered in whole or in part as a justification for authorizing additional frequencies in a licensee's land mobile radio system.

(l) Secondary fixed signaling operations conducted in accordance with the provisions of §§90.317(a), or 90.637(c), or 90.731 are exempt from the foregoing provisions of this section.

[54 FR 28679, July 7, 1989, as amended at 57 FR 34693, Aug. 6, 1992; 58 FR 30996, May 28, 1993; 60 FR 50123, Sept. 28, 1995]

§90.237 Interim provisions for operation of radioteleprinter and radiofacsimile devices.

These provisions authorize and govern the use of radioteleprinter and radiofacsimile devices for base station use (other than on mobile-only or paging-only frequencies) in the radio services (except in the Radiolocation and Special Emergency Radio Services) in this part.

(a) Information must be submitted with an application to establish that the minimum separation between a proposed radioteleprinter or radiofacsimile base station and the nearest co-channel base station of another licensee operating a voice system is 120 km. (75 mi.) for a single frequency mode of operation, or 56 km. (35 mi.) two frequency mode of operation. Where this minimum mileage separation cannot be achieved, either agreement to the use of F1B, F2B, F3C, G1B, G2B or G3C emission must be received from all existing co-channel licensees using voice emission within the applicable mileage limits, or if agreement was not received, the licensee of the radioteleprinter or radiofacsimile system is responsible for eliminating any interference with preexisting voice operations. New licenses of voice operations will be expected to share equally any frequency occupied by established radioteleprinter or radiofacsimile operations.

(b) The application must list the manufacturer and model number of the radioteleprinter or radiofacsimile system to be employed, or contain a detailed technical description of the system.

(c) Transmitters type-accepted under this part for use of G3E or F3E emission may also be used for F1B, F2B, F3C, G1B, G2B or G3C emission for radioteleprinter or radiofacsimile, provided the keying signal is passed through the low pass audio frequency filter required for G3E or F3E emission. The transmitter must be so adjusted and operated that the instantaneous frequency deviation does not exceed the maximum value allowed for G3E or F3E.

(d) Frequencies will not be assigned exclusively for F1B, F2B, F3C, G1B, G2B or G3C emission for radioteleprinter or radiofacsimile (except where specifically provided for in the frequency limitations).

(e) The requirements in this part applicable to the use of G3E or F3E emission are also applicable to the use of F1B, F2B, F3C, G1B, G2B or G3C emission for radioteleprinter and radiofacsimile transmissions.

(f) The station identification required by §90.425 must be given by voice or Morse code.

(g) For single sideband operations in accordance with §90.266, transmitters type-accepted under this part for use of J3E emissions may also be used for A2B and F2B emission for radioteleprinter transmissions. Transmitters type-accepted under this part for use of J3E emissions in accordance with §§90.63(d)(1), 90.65(c)(1), 90.73(d)(1) and 90.81(d)(13) may also be used for A1B, A2B, F1B, F2B, J2B, and A3C emissions to provide standby backup circuits for

operational telecommunications circuits which have been disrupted, where so authorized in other sections of this part.

[43 FR 54791, Nov. 22, 1978, as amended at 49 FR 48712, Dec. 14, 1984; 51 FR 14998, Apr. 22, 1986]

§ 90.238 Telemetry operations.

The use of telemetry is authorized under this part on the following frequencies.

(a) 72–76 MHz (as available in specific radio service frequency listings in accordance with § 90.257 and subject to the rules governing the use of that band).

(b) 154.45625, 154.46375, 154.47125, 154.47875 MHz (as available in specific radio service frequency listings and subject to the rules governing use of those frequencies).

(c) 173.20375, 173.2100, 173.2375, 173.2625, 173.2875, 173.3125, 173.3375, 173.3625, 173.3900, 173.39625 MHz (as available in specific radio service frequency listings and subject to the rules governing the use of that band).

(d) 216–220 and 1427–1435 MHz (as available in specific radio service frequency listings and in accordance with § 90.259.

(e) In the 450–470 MHz band, telemetry operations will be authorized on a secondary basis with a transmitter output power not to exceed 2 watts on frequencies subject to the limitations in the following sections:

90.17 (c)(24)
90.19 (c)(26)
90.21 (c)(16)
90.23 (c)(18)
90.25 (c)(22)
90.27 (c)(2)
90.53 (b)(30)
90.63 (d)(24)
90.65 (c)(41)
90.67 (c)(36)
90.69 (c)(12)
90.71 (c)(12)
90.73 (d)(35)
90.75 (c)(24)
90.79 (d)(23)
90.81 (d)(11)
90.89 (c)(21)
90.91 (c)(18)
90.93 (c)(15)
90.95 (d)(18)

(f) 220–222 MHz as available under subpart T of this part.

(g) 450–470 MHz band (as available for secondary fixed operations in accordance with § 90.261).

(h) 458–468 MHz band (as available in the Emergency Medical Radio Service for bio-medical telemetry operations).

(i) Frequencies available for low power (2 watts or less) operations in the Business Radio Service.

[44 FR 17183, Mar. 21, 1979, as amended at 46 FR 45955, Sept. 16, 1981; 50 FR 39680, Sept. 30, 1985; 50 FR 40976, Oct. 8, 1985; 56 FR 19603, Apr. 29, 1991; 60 FR 37268, July 19, 1995; 61 FR 6576, Feb. 21, 1996]

§ 90.239 [Reserved]

§ 90.241 Radio call box operations.

(a) The frequencies in the 72–76 MHz band listed in § 90.257(a)(1) may be assigned in the Local Government Radio Service for operation of radio call boxes to be used by the public to request fire, police, ambulance, road service, and other emergency assistance, subject to the following conditions and limitations:

(1) Maximum transmitter power will be either 2.5 watts plate input to the final stage or 1 watt output.

(2) Antenna gain shall not exceed zero dBd (referred to a half-wave dipole) in any horizontal direction.

(3) Only vertical polarization of antennas shall be permitted.

(4) The antenna and its supporting structure must not exceed 6.1 m (20 feet) in height above the ground.

(5) Only A1D, A2D, F1D, F2D, G1D, or G2D emission shall be authorized.

(6) The transmitter frequency tolerance shall be 0.005 percent.

(7) Except for test purposes, each transmission must be limited to a maximum of two seconds and shall not be automatically repeated more than two times at spaced intervals within the following 30 seconds. Thereafter, the authorized cycle may not be reactivated for one minute.

(8) All transmitters installed after December 10, 1970, shall be furnished with an automatic means to deactivate the transmitter in the event the carrier remains on for a period in excess of three minutes. The automatic cutoff

system must be designed so the transmitter can be only manually reactivated.

(9) Frequency selection must be made with regard to reception of television stations on channels 4 (66–72 MHz) and 5 (76–82 MHz) and should maintain the greatest possible frequency separation from either or both of these channels, if they are assigned in the area.

(b) [Reserved]

(c) Frequencies in the 450–470 MHz band which are designated as available for assignment to central control stations and radio call box installations in §90.17(b) or §90.17(c)(11) may be assigned in the Local Government Radio Service for highway call box systems subject to the following requirements:

(1) Call box transmitters shall be installed only on limited access highways and may communicate only with central control stations of the licensee.

(2) Maximum transmitter power for call boxes will be either 2.5 watts input to the final amplifier stage or one watt output. The central control station shall not exceed 25 watts effective radiated power (ERP).

(3) The height of a call box antenna may not exceed 6.1 meters (20 feet) above the ground, the natural formation, or the existing man-made structure (other than an antenna supporting structure) on which it is mounted. A central station transmitting antenna, together with its supporting structure shall not exceed 15 m. (50 ft.) above the ground surface.

(4) Only F1D, F2D, F3E, G1D, G2D, or G3E, emission may be authorized for nonvoice signaling, radiotelephony, and multiplexed voice and nonvoice use. The provisions in this part applicable to the use of F3E or G3E emission are also applicable to the use of F1D, F2D, G1D or G2D emission for call box transmitters.

(5) The station identification required by §90.425 shall be by voice and may be transmitted for the system from the central control station. Means shall be provided at each central control station location to automatically indicate the call box unit identifier when a call box unit is activated.

(6) Call box installations must be so designed that their unit identifier is automatically transmitted when the handset is lifted.

(7) Each application for a call box system must include a description of the nonvoice transmitting equipment. This description shall specify the character structure, bit rate, modulating tone frequencies, identification codes, and the method of modulation (i.e., frequency shift, tone shift, or tone phase shift).

(8) Call box installations may be used secondarily for the transmission of information from roadside sensors. Central control station transmitters may be used secondarily to interrogate call box roadside sensors and for the transmission of signals to activate roadside signs.

(9) Each call box transmitter must be provided with a timer which will automatically deactivate the transmitter after 2 minutes unless the central control station operator reactivates the timer cycle.

(10) The central control station must include facilities that permit direct control of any call box in the system.

(11) Call box transmitter frequency tolerance shall be 0.001 percent.

(12) Transmitters type accepted under this part for use of F3E or G3E emission may be used for F1D, F2B, G2B or G2D emission provided that the audio tones or digital data bits are passed through the low pass audio filter required to be provided in the transmitter for F3E or G3E emission. The transmitter must be adjusted and operated so that the instantaneous frequency deviation does not exceed the maximum value allowed for F3E or G3E emission.

(d) In addition to the frequencies available pursuant to §90.17(b) the frequencies set forth in §90.17(c)(11) may be used for central control station and call box installations in areas where such frequencies are available for fixed system use subject to the requirements and limitations of that section and subject to the provisions of paragraphs (c)(1), (4), (5), (6), (7), (8), (9), (10), and (12) of this section.

(e) In accordance with subpart Q of this part, the frequencies available pursuant to §90.17(b) and (c)(11) for central

control station and call box installations may be assigned for developmental operation as part of a highway safety communication program which is designed to provide radio communications directly with motorists to and from their motor vehicles.

[43 FR 54791, Nov. 22, 1978; 44 FR 32219, June 5, 1979; 49 FR 48712, Dec. 14, 1984; 50 FR 39680, Sept. 30, 1985; 50 FR 40976, Oct. 8, 1985; 54 FR 38681, Sept. 20, 1989; 54 FR 45891, Oct. 31, 1989; 58 FR 44957, Aug. 25, 1993]

§ 90.242 Travelers' information stations.

(a) The frequencies 530 through 1700 kHz in 10 kHz increments may be assigned to the Local Government Radio Service for the operation of Travelers Information Stations subject to the following conditions and limitations.

(1) For Travelers' Information Station applications only, eligibility requirements as set forth in § 90.17(a) are extended to include park districts and authorities.

(2) Each application for a station or system shall be accompanied by:

(i) A statement certifying that the transmitting site of the Travelers Information Station will be located at least 15 km (9.3 miles) measured orthogonally outside the measured 0.5 mV/m daytime contour (0.1 mV/m for Class A stations) of any AM broadcast station operating on a first adjacent channel or at least 130 km (80.6 miles) outside the measured 0.5 mV/m daytime contour (0.1 mV/m for Class A stations) of any AM broadcast station operating on the same channel, or, if nighttime operation is proposed, outside the theoretical 0.5 mV/m–50% nighttime skywave contour of a U.S. Class A station. If the measured contour is not available, then the calculated 0.5 mV/m field strength contour shall be acceptable. These contours are available for inspection at the concerned AM broadcast station and FCC offices in Washington, DC.

(ii) In consideration of possible cross-modulation and inter-modulation interference effects which may result from the operation of a Travelers Information Station in the vicinity of an AM broadcast station on the second or third adjacent channel, the applicant shall certify that he has considered these possible interference effects and, to the best of his knowledge, does not foresee interference occurring to broadcast stations operating on second or third adjacent channels.

(iii) A map showing the geographical location of each transmitter site and an estimate of the signal strength at the contour of the desired coverage area. For a cable system, the contour to be shown is the estimated field strength at 60 meters (197 feet) from any point on the cable. For a conventional radiating antenna, the estimated field strength contour at 1.5 km (0.93 mile) shall be shown. A contour map comprised of actual on-the-air measurements shall be submitted to the Commission within 60 days after station authorization or completion of station construction, whichever occurs later. A sufficient number of points shall be chosen at the specified distances (extrapolated measurements are acceptable) to adequately show compliance with the field strength limits.

(iv) For each transmitter site, the transmitter's output power, the type of antenna utilized, its length (for a cable system), its height above ground, distance from transmitter to the antenna, and the elevation above sea level at the transmitting site.

(3) Travelers Information Stations will be authorized on a secondary basis to stations authorized on a primary basis in the bands 510–535 and 1605–1715 kHz.

(4) A Travelers Information Station authorization may be suspended, modified, or withdrawn by the Commission without prior notice of right to hearing if necessary to resolve interference conflicts, to implement agreements with foreign governments, or in other circumstances warranting such action.

(5) The transmitting site of each Travelers' Information Station shall be restricted to the immediate vicinity of the following specified areas: Air, train, and bus transportation terminals, public parks and historical sites, bridges, tunnels, and any intersection of a Federal Interstate Highway with any other Interstate, Federal, State, or local highway.

(6) A Travelers Information Station shall normally be authorized to use a single transmitter. However, a system

of stations, with each station in the system employing a separate transmitter, may be authorized for a specified area provided sufficient need is demonstrated by the applicant.

(7) Travelers Information Stations shall transmit only noncommercial voice information pertaining to traffic and road conditions, traffic hazard and travel advisories, directions, availability of lodging, rest stops and service stations, and descriptions of local points of interest. It is not permissible to identify the commercial name of any business establishment whose service may be available within or outside the coverage area of a Travelers Information Station. However, to facilitate announcements concerning departures/arrivals and parking areas at air, train, and bus terminals, the trade name identification of carriers is permitted.

(b) *Technical standards.* (1) The use of 6K00A3E emission will be authorized, however N0N emission may be used for purposes of receiver quieting, but only for a system of stations employing ''leaky'' cable antennas.

(2) A frequency tolerance of 100 Hz shall be maintained.

(3) For a station employing a cable antenna, the following restrictions apply:

(i) The length of the cable antenna shall not exceed 3.0 km (1.9 miles).

(ii) Transmitter RF output power shall not exceed 50 watts and shall be adjustable downward to enable the user to comply with the specified field strength limit.

(iii) The field strength of the emission on the operating frequency shall not exceed 2 mV/m when measured with a standard field strength meter at a distance of 60 meters (197 feet) from any part of the station.

(4) For a station employing a conventional radiating antenna(s) (ex. vertical monopole, directional array) the following restrictions apply:

(i) The antenna height above ground level shall not exceed 15.0 meters (49.2 feet).

(ii) Only vertical polarization of antennas shall be permitted.

(iii) Transmitter RF output power shall not exceed 10 watts to enable the user to comply with the specified field strength limit.

(iv) The field strength of the emission on the operating frequency shall not exceed 2 mV/m when measured with a standard field strength meter at a distance of 1.50 km (0.93 miles) from the transmitting antenna system.

(5) For co-channel stations operating under different licenses, the following minimum separation distances shall apply:

(i) 0.50 km (0.31 miles) for the case when both stations are using cable antennas.

(ii) 7.50 km (4.66 miles) for the case when one station is using a conventional antenna and the other is using a cable antenna.

(iii) 15.0 km (9.3 miles) for the case when both stations are using conventional antennas.

(6) For a system of co-channel transmitters operating under a single authorization utilizing either cable or conventional antennas, or both, no minimum separation distance is required.

(7) An applicant desiring to locate a station that does not comply with the separation requirements of this section shall coordinate with the affected station.

(8) Each transmitter in a Travelers Information Station shall be equipped with an audio low-pass filter. Such filter shall be installed between the modulation limiter and the modulated stage. At audio frequencies between 3 kHz and 20 kHz this filter shall have an attenuation greater than the attenuation at 1 kHz by at least:

$$60 \log_{10} (f/3) \text{ decibels.}$$

where ''f'' is the audio frequency in kHz. At audio frequencies above 20 kHz, the attenuation shall be at least 50 decibels greater than the attenuation at 1 kHz.

[43 FR 54791, Nov. 22, 1978; 44 FR 67118, Nov. 23, 1979; 49 FR 48712, Dec. 14, 1984, as amended at 54 FR 39740, Sept. 28, 1989; 56 FR 64874, Dec. 12, 1991]

§90.243 Mobile relay stations.

(a) Mobile relay stations under this part may be authorized only as follows:

(1) On frequencies below 450 MHz, except for the 220–222 MHz band, mobile relay stations may be authorized within the contiguous 48 states to operate

only in the Police, Fire, Local Government, Highway Maintenance, Forestry-Conservation, Emergency Medical, Power, Petroleum, Forest Products, Manufacturers, Telephone Maintenance, and Railroad Radio Services.

(2) On frequencies below 450 MHz, except for the 220–222 MHz band, mobile relay stations may be authorized outside the contiguous 48 states to operate only in the Police, Fire, Local Government, Highway Maintenance, Forestry-Conservation, Emergency Medical, Power, Petroleum, Forest Products, Manufacturers, Telephone Maintenance, Railroad, Business, and Special Industrial Radio Services.

(3) Mobile relay operations will be authorized in the 220–222 MHz band.

(4) Mobile relay stations will be authorized on frequencies between 450 MHz and 470 MHz in all of the services governed by this part except for the Radiolocation Service.

(5) Mobile relay stations will be authorized on frequencies between 470 MHz and 512 MHz in all of the services that have been allocated such frequencies.

(b) Special provisions for mobile relay operations:

(1) In the Emergency Medical and Special Emergency Radio Services, medical services systems in the 150–160 MHz band are permitted to be cross banded for mobile and control station operations with mobile relay stations authorized to operate in the 450–470 MHz band.

(2) In the Business Radio Service, mobile relay stations may be authorized on frequencies below 450 MHz when those frequencies are reserved for low-power operation of 2 watts or less. Such stations will be authorized a maximum output power not to exceed one watt and the mobile relay antenna system may not be more than 13 m (40 ft) above the ground.

(3) In the Railroad Radio Service, mobile relay operation shall be on a secondary basis to other co-channel operations.

(4) Except where specifically precluded, a mobile relay station may be authorized to operate on any frequency available for assignment to base stations.

(5) A mobile station associated with mobile relay station(s) may not be authorized to operate on a frequency below 25 MHz.

(c) Technical requirements for mobile relay stations.

(1) Each new mobile relay station with an output power of more than one watt, and authorized after January 1, 1972, that is activated by signals below 50 MHz shall deactivate the station upon cessation of reception of the activating continuous coded tone signal. Licensees may utilize a combination of digital selection and continuous coded tone control where required to insure selection of only the desired mobile relay station.

(2) Mobile relay stations controlled by signals above 50 MHz or authorized prior to January 1, 1972, to operate below 50 MHz are not required to incorporate coded signal or tone control devices unless the transmitters are consistently activated by undesired signals and cause harmful interference to other licensees. If activation by undesired signals causes harmful interference, the Commission will require the installation of tone control equipment within 90 days of a notice to the licensee.

(3) Except in the Railroad Radio Service, each new mobile-relay station authorized after January 1, 1972, shall be equipped for automatic deactivation of the transmitter within 5 seconds after the signals controlling the station cease.

(4) Except in the Railroad Radio Service, each new mobile relay station authorized after January 1, 1972, during periods that it is not controlled from a manned fixed control point; shall have an automatic time delay or clock device that will deactivate the station not more than 3 minutes after its activation by a mobile unit.

(5) In the Railroad Radio Service, each mobile relay station, regardless of the frequency or frequencies of the signals by which it is activated shall be so designated and installed that it will be deactivated automatically when its associated receiver or receivers are not receiving a signal on the frequency or frequencies which normally activate it.

(6) Multiple mobile relay station radio systems shall use wireline or

radio stations on fixed frequencies for any necessary interconnect circuits between the mobile relay stations.

[43 FR 54791, Nov. 22, 1978, as amended at 49 FR 40177, Oct. 15, 1984; 50 FR 13606, Apr. 5, 1985; 50 FR 39680, Sept. 30, 1985; 50 FR 40976, Oct. 8, 1985; 54 FR 39740, Sept. 28, 1989; 56 FR 19603, Apr. 29, 1991; 56 FR 32517, July 17, 1991; 60 FR 37268, July 19, 1995; 61 FR 6576, Feb. 21, 1996]

§90.245 Fixed relay stations.

Except where specifically provided for, fixed relay stations shall be authorized to operate only on frequencies available for use by operational fixed stations.

§90.247 Mobile repeater stations.

A mobile station authorized to operate on a mobile service frequency above 25 MHz may be used as a mobile repeater to extend the communications range of hand-carried units subject to the following:

(a) Mobile repeaters and/or associated hand-carried transmitters may be assigned separate base/mobile frequencies for this use (including, in the Railroad Radio Service, any ''base only'' frequency in the 450–470 MHz range) in addition to the number of frequencies normally assignable to the licensee.

(b) In the Business and Special Industrial Radio Services on frequencies below 450 MHz, only low-power frequencies (2 watts or less output power) may be assigned for use by mobile repeaters or by hand-carried transmitters whose communications are directed to mobile repeaters, when separate frequencies are assigned for that purpose.

(c) Except as provided in paragraph (d) of this section, hand-carried transmitters whose communications will be automatically relayed by mobile stations shall be limited to a maximum output power of 2.5 watts.

(d) In the Railroad Radio Service, use of mobile repeaters is on a secondary basis to the stations of any other licensee. Hand-carried units used in connection with mobile repeaters in the Railroad Radio Service may operate only above 150 MHz and are limited to a maximum output power of 6 watts. The frequency and maximum power shall be specified in the station authorization.

(e) In the Railroad Radio Service, the output power of a mobile repeater station, when transmitting as a repeater station on the frequency used for communication with its associated pack-carried or hand-carried units, shall not exceed 6 watts except when the same frequency is also used by the same station for direct communication with vehicular mobile units or with one or more base stations.

(f) When automatically retransmitting messages originated by or destined for hand-carried units, each mobile station shall activate the mobile transmitter only with a continuous coded tone, the absence of which will de-activate the mobile transmitter. The continuous coded tone is not required when the mobile unit is equipped with a switch that activates the automatic mode of the mobile unit and an automatic time-delay device that de-activates the transmitter after any uninterrupted transmission period in excess of 3 minutes.

§90.249 Control stations.

Control stations associated with land mobile stations under this part shall be authorized to operate subject to the following:

(a) *Frequencies for control stations.* (1) Control stations may be authorized to operate on frequencies available for use by operational fixed stations.

(2) A control station associated with mobile relay station(s) may, at the option of the applicant, be assigned the frequency of the associated mobile station. In the Railroad Radio Service such a control station may be assigned any mobile service frequency available for assignment to mobile stations in that service. Such operation is on a secondary basis to use of the frequency for regular mobile service communications.

(3) Control and fixed stations in the Public Safety and Special Emergency Radio Services may be authorized on a temporary basis to operate on frequencies available for base and mobile stations between 152 and 450 MHz, where there is an adequate showing

that such operations cannot be conducted on frequencies allocated for assignment to operational fixed stations. Such operation will not be authorized initially or renewed for periods in excess of one year. Any such authorization shall be subject to immediate termination if harmful interference is caused to stations in the mobile service, or if the particular frequency is required for mobile service operations in the area concerned.

(b) [Reserved]

(c) A base station which is used intermittently as a control station for one or more associated mobile relay stations of the same licensee shall operate only on the mobile service frequency assigned to the associated mobile relay station when operating as a base station and on the mobile service frequency assigned to the associated mobile station when operating as a control station. Authority for such dual classification and use must be shown on the station authorization. When operating as a control station, the licensee must meet all control station requirements. In the Railroad Radio Service base stations used intermittently as control stations shall operate only on a mobile service frequency which is available for assignment to base stations.

[43 FR 54791, Nov. 22, 1978, as amended at 49 FR 36376, Sept. 17, 1984]

§ 90.250 Meteor burst communications.

Meteor burst communications may be authorized for the use of private radio stations subject to the following provisions:

(a) Station operation is limited to the State of Alaska only.

(b) The frequency 44.20 MHz may be used for base station operation and 45.90 MHz for remote station operation on a primary basis. The frequencies 42.40 and 44.10 MHz may be used by base and remote stations, respectively, on a secondary basis to common carrier stations utilizing meteor burst communications. Users shall cooperate among themselves to the extent practicable to promote compatible operation.

(c) The maximum transmitter output power shall not exceed 2000 watts for base stations and 500 watts for remote stations.

(d) Co-channel base stations of different licensees shall be located at least 241 km (150 miles) apart. A remote station and a base station of different licensees shall be located at least 241 km (150 miles) apart if the remote units of the different licensees operate on the same frequency. Waiver of this requirement may be granted if affected users agree to a cooperative sharing arrangement.

(e) The authorized emission designator to be used in F1E, F7W, G1E or G7W to allow for Phase Shift Keying (PSK) or Frequency Shift Keying (FSK).

(f) The maximum authorized bandwidth is 20 kHz (20 F1E, F7W, G1E or G7W).

(g) Station identification in accordance with § 90.425(a) or (b) shall only be required for the base station.

(h) Stations may be required to comply with additional conditions of operation as necessary on a case-by-case basis as specified in the authorization.

(i) Stations employing meteor burst communications shall not cause interference to other stations operating in accordance with the allocation table. New authorizations will be issued subject to the Commission's developmental grant procedure as outlined in subpart Q of this part. Prior to expiration of the developmental authorization, application Form 574 should be filed for issuance of a permanent authorization.

[48 FR 34043, July 27, 1983, as amended at 49 FR 48712, Dec. 14, 1984; 58 FR 44957, Aug. 25, 1993]

Subpart K—Standards for Special Frequencies or Frequency Bands

§ 90.251 Scope.

This subpart sets forth special requirements applicable to the use of certain frequencies or frequency bands.

[54 FR 39740, Sept. 28, 1989]

§ 90.253 Use of frequency 5167.5 kHz.

The frequency 5167.5 kHz may be used by any station authorized under this part to communicate with any other station in the State of Alaska for emergency communications. The maximum power permitted is 150 watts peak

envelope power (PEP). All stations operating on this frequency must be located in or within 50 nautical miles (92.6 km) of the State of Alaska. This frequency may also be used by stations authorized in the Alaska-private fixed service for calling and listening, but only for establishing communication before switching to another frequency.

[49 FR 32201, Aug. 13, 1984]

§90.255 [Reserved]

§90.257 Assignment and use of frequencies in the band 72–76 MHz.

(a) The following criteria shall govern the authorization and use of frequencies within the band 72–76 MHz by fixed stations. (For call box operations see §90.241).

(1) The following frequencies in the band 72–76 MHz may be used for fixed operations:

MHz: 72.02, 72.04, 72.06, 72.08, 72.10, 72.12, 72.14, 72.16, 72.18, 72.20, 72.22, 72.24, 72.26, 72.28, 72.30, 72.32, 72.34, 72.36, 72.38, 72.40, 72.42, 72.46, 72.50, 72.54, 72.58, 72.62, 72.64, 72.66, 72.68, 72.70, 72.72, 72.74, 72.76, 72.78, 72.80, 72.82, 72.84, 72.86, 72.88, 72.90, 72.92, 72.94, 72.96, 72.98, 75.42, 75.46, 75.50, 75.54, 75.58, 75.62, 75.64, 75.66, 75.68, 75.70, 75.72, 75.74, 75.76, 75.78, 75.80, 75.82, 75.84, 75.86, 75.88, 75.90, 75.92, 75.94, 75.96, 75.98.

(2) All authorizations are subject to the condition that no harmful interference will be caused to television reception on Channels 4 and 5.

(3) The applicant must agree to eliminate any harmful interference caused by his operation to TV reception on either Channel 4 or 5 that might develop by whatever means are necessary. Such action must be taken within 90 days of notification by the Commission. If such interference is not eliminated within the 90-day period, operation of the fixed station will be discontinued.

(4) Vertical polarization must be used.

(5) Whenever it is proposed to locate a 72–76 MHz fixed station less than 128 km (80 mi.) but more than 16 km (10 mi.) from the site of a TV transmitter operating on either channel 4 or 5, or from the post office of a community in which such channels are assigned but not in operation, the fixed station shall be authorized only if there are fewer than 100 family dwelling units (as defined by the U.S. Bureau of the Census), excluding units 112 or more km (70 mi.) distant from the TV antenna site, located within a circle centered at the location of the proposed fixed station. The radius shall be determined by use of the following chart entitled, ''Chart for Determining Radius From Fixed Station in 72–76 MHz Band to Interference Contour Along Which 10 Percent of Service From Adjacent Channel Television Station Would Be Destroyed.'' Two charts are available, one for Channel 4, and one for Channel 5. The Commission may, however, in a particular case, authorize the location of a fixed station within a circle containing 100 or more family dwelling units upon a showing that:

(i) The proposed site is the only suitable location.

(ii) It is not feasible, technically or otherwise, to use other available frequencies.

(iii) The applicant has a plan to control any interference that might develop to TV reception from his operations.

(iv) The applicant is financially able and agrees to make such adjustments in the TV receivers affected as may be necessary to eliminate any interference caused by his operations.

(v) All applications seeking authority to operate with a separation of less than 16 km (10 mi.) will be returned without action.

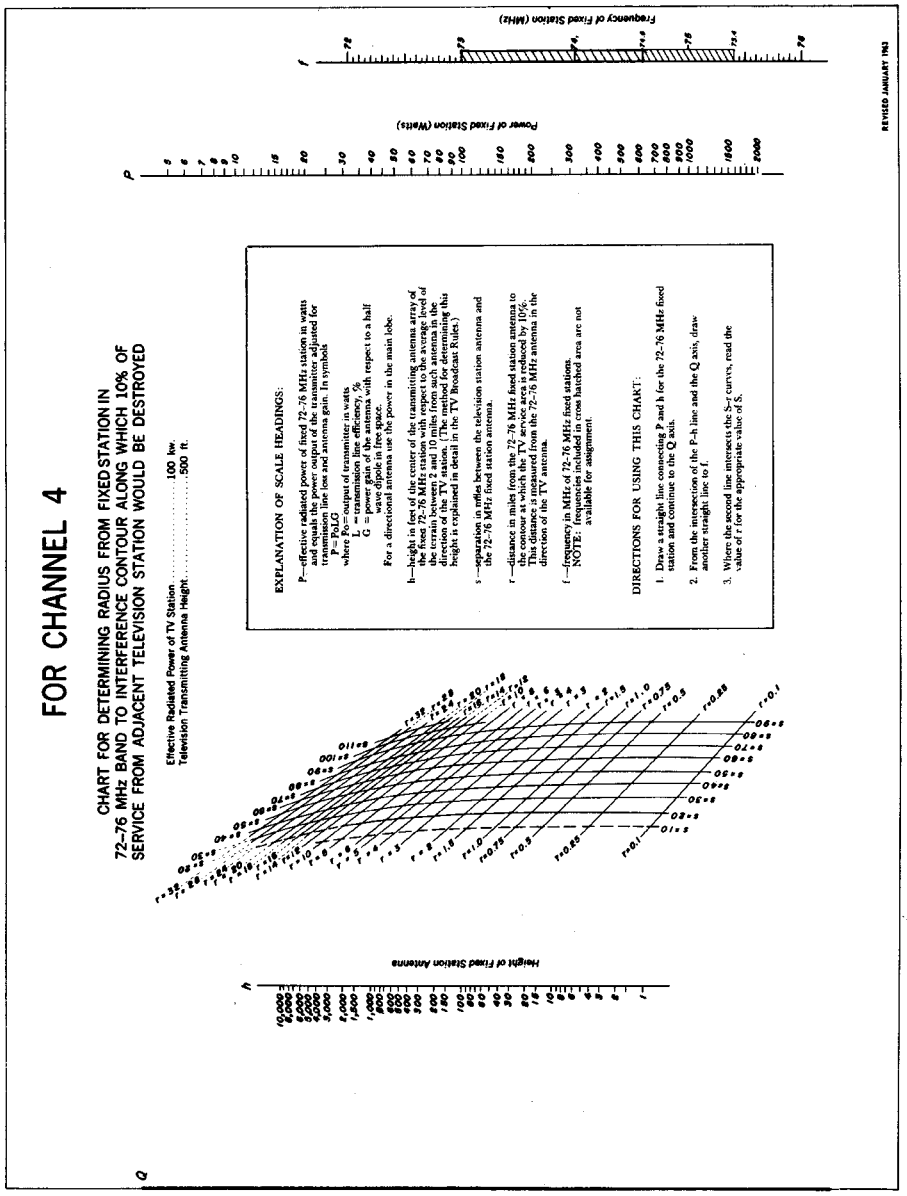
(b) The following criteria governs the authorization and use of frequencies in the 72–76 MHz band by mobile stations in the Special Industrial, Manufacturers, Forest Products, Railroad, Power, Petroleum, and Business Radio Services.

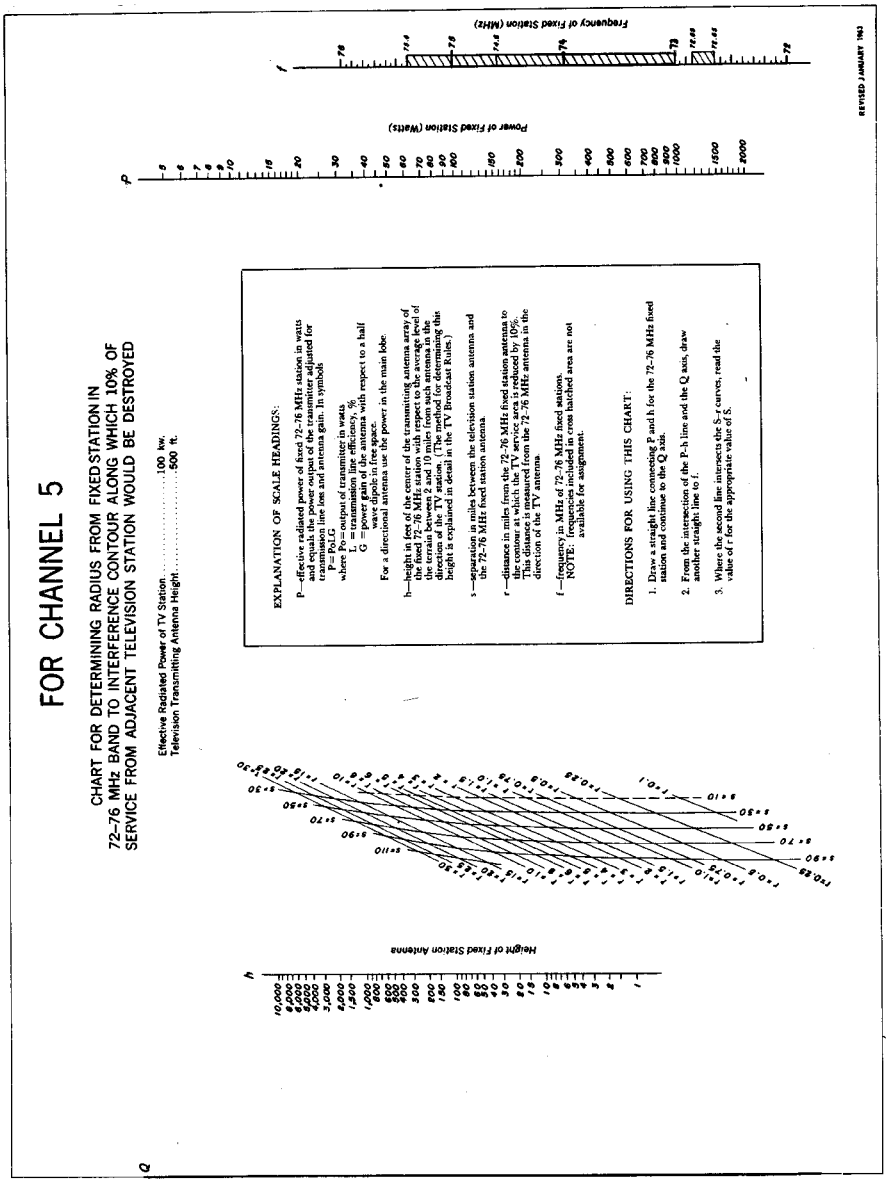
(1) Mobile operation on frequencies in the 72–76 MHz band is subject to the condition that no interference is caused to the reception of television stations operating on Channel 4 or 5. Interference will be considered to occur whenever reception of a regularly used television signal is impaired by signals radiated by stations operating under these rules in the 72 to 76 MHz band regardless of the quality of such reception or the strength of the signal used. In order to minimize the hazard of such interference, it shall be the duty of the

licensee to determine whether interference is being caused to television reception, wherever television receivers other than those under the control of the licensee, are located within 31 m. (100 ft.) of any point where the stations licensed under these rules may be operated. In any case, it shall be the responsibility of the licensee to correct, at its own expense, any such interference and if the interference cannot be eliminated by the application of suitable techniques, the operation of the offending transmitter shall be suspended. If the complainant refuses to permit the licensee to apply remedial techniques which demonstrably will eliminate the interference without impairment of the original reception, the licensee is absolved of further responsibility.

(2) The maximum transmitter output power that will be authorized is 1 watt; and each station authorized will be classified and licensed as a mobile station. Any units of such a station, however, may be used to provide the operational functions of a base or fixed station. The antennas of transmitters operating on these frequencies must be directly mounted or installed upon the transmitting unit: Except that when permanently installed aboard a vehicle, antenna and transmitter may be separated as required for convenience in mounting. Horizontal polarization will not be allowed; and the gain of antennas employed shall not exceed that of a halfwave dipole. The maximum bandwidth that will be authorized is 20 kHz. Tone control transmissions are permitted.

(c) Radio remote control of models is permitted on frequencies 10 kHz removed from these frequencies authorized for fixed and mobile operations in the 72–76 MHz band. Remote control operations are secondary to operation of fixed and mobile stations as provided for in this section.


FOR CHANNEL 4
CHART FOR DETERMINING RADIUS FROM FIXED STATION IN 72–76 MHz BAND TO INTERFERENCE CONTOUR ALONG WHICH 10% OF SERVICE FROM ADJACENT TELEVISION STATION WOULD BE DESTROYED
Effective Radiated Power of TV Station ..... 100 kw.
Television Transmitting Antenna Height ..... 500 ft.
EXPLANATION OF SCALE HEADINGS:
P—effective radiated power of fixed 72–76 MHz station in watts and equals the power output of the transmitter adjusted for transmission line loss and antenna gain. In symbols
P = PoLG
where Po = output of transmitter in watts
L = transmission line efficiency, %
G = power gain of the antenna with respect to a half wave dipole in free space.
For a directional antenna use the power in the main lobe.
h—height in feet of the center of the transmitting antenna array of the fixed 72–76 MHz station with respect to the average level of the terrain between 2 and 10 miles from such antenna in the direction of the TV station. (The method for determining this height is explained in detail in the TV Broadcast Rules.)
s—separation in miles between the television station antenna and the 72–76 MHz fixed station antenna.
r—distance in miles from the 72–76 MHz fixed station antenna to the contour at which the TV service area is reduced by 10%. This distance is measured from the 72–76 MHz antenna in the direction of the TV antenna.
f—frequency in MHz of 72–76 MHz fixed stations.
NOTE: frequencies included in cross hatched area are not available for assignment.
DIRECTIONS FOR USING THIS CHART:
1. Draw a straight line connecting P and h for the 72–76 MHz fixed station and continue to the Q axis.
2. From the intersection of the P–h line and the Q axis, draw another straight line to f.
3. Where the second line intersects the S=r curves, read the value of r for the appropriate value of S.
Power of Fixed Station (Watts)
Frequency of Fixed Station (MHz)
Height of Fixed Station Antenna
REVISED JANUARY 1963



[43 FR 54791, Nov. 22, 1978; 44 FR 32219, June 5, 1979, as amended at 47 FR 51879, Nov. 18, 1982; 49 FR 41249, Oct. 22, 1984; 54 FR 38681, Sept. 20, 1989; 58 FR 30129, May 26, 1993; 60 FR 37268, July 19, 1995]

§90.259 Assignment and use of frequencies in the bands 216–220 MHz and 1427–1435 MHz.

Frequencies in the bands 216–220 MHz and 1427–1435 MHz may be assigned to applicants under this part provided the band is listed in the individual radio service under which they establish eligibility. Use of these bands is limited to telemetering purposes only and all operation is secondary to Federal Government operations. Operation in the band 216–220 MHz is also secondary to the maritime mobile service and operation in the band 1427–1429 MHz is also secondary to the space operation service (earth-to-space). Base stations authorized in these bands shall be used to perform telecommand functions with associated mobile telemetering stations. Base stations may also command actions by the vehicle itself, but will not be authorized solely to perform this function. Airborne use will not be authorized. Each application will be coordinated with the Federal Government by the Federal Communications Commission and is subject to such technical and operational limitations as may be imposed by the government. Each application should include precise information concerning emission characteristics, transmitter frequency deviation, output power, type and directional characteristics, if any, of the antenna, and the minimum necessary hours of operation.

[43 FR 54791, Nov. 22, 1978, as amended at 54 FR 38681, Sept. 20, 1989]

§90.261 Assignment and use of the frequencies in the band 450–470 MHz for fixed operations.

(a) Except as provided for in paragraphs (d) and (e) of this section, frequencies in the 450–470 MHz band as listed in the tables of frequencies for the radio services in this part may be assigned to all eligibles, with the exception of Business Radio Service eligibles, for fixed use on a secondary basis to land mobile operations.

(b) Fixed stations located 140 km (87 mi) or more from the center of any urbanized area of 600,000 or more population are limited to a transmitter output power of 75 watts. Fixed stations less than 140 km (87 mi) from the centers of these areas are limited to a transmitter output power of 20 watts. Urbanized areas of 600,000 or more population are defined in the U.S. Census of Population 1970, Vol. 1, Table 20, pages 1–74. The centers of the urbanized areas are determined from the Appendix, page 226, of the U.S. Department of Commerce publication ''Airline Distance Between Cities in the United States.''

(c) All fixed systems are limited to one frequency pair with 5 MHz spacing and must employ directional antennas with a front-to-back ratio of 15 dB, except that omnidirectional antennas having unity gain may be employed by stations communicating with a minimum of three receiving locations encompassed in a sector of at least 160° in azimuth. Stations authorized for secondary fixed operations prior to (effective date of the rules) may continue to operate under the conditions of their initial authorization.

(d) Frequencies in the Business Radio Service subject to §90.75(c)(26) will be authorized only to Business Radio Service eligibles. Business Radio Service eligibles may not access frequencies allocated to another radio service for the purposes of conducting secondary fixed operations.

(e) Coordination of assignable frequencies subject to the provisions of this section will be permitted by any certified frequency coordinator. If an applicant elects to obtain a frequency recommendation from the certified frequency coordinator for the service in which the applicant is eligible, the coordinator shall first attempt to recommend a frequency within the applicant's own radio service. If none are available, the coordinator may then recommend a frequency allocated to another radio service. If an applicant elects to obtain a frequency recommendation from a certified coordinator of a service in which the applicant is not eligible, that coordinator may only recommend a frequency allocated to the service for which the coordinator is certified. If a coordinator recommends a frequency allocated to a service where the applicant is not eligible on a primary basis, or if a recommended frequency is shared by more than one radio service on a primary basis, then the coordinator must notify

all coordinators certified to recommend that frequency on a primary basis. If any of these coordinators objects to a recommendation, they must notify the coordinator making the frequency recommendation of such objection within 10 working days, as calculated in accordance with §1.4 of the Rules, from receipt of the notification. The recommending coordinator should attempt to resolve any objections raised by the notified coordinators and may not submit the application to the Commission prior to the expiration of this 10-day period.

(f) Secondary fixed operations pursuant to paragraph (a) of this section will not be authorized on the following frequencies:

Frequencies (MHz)
451.800/456.800
451.80625/456.80625
451.8125/456.8125
451.81875/456.81875
452.525
452.53125
452.5375
452.54375
452.550
452.55625
452.5625
452.56875
452.575
452.58125
452.5875
452.59375
452.600
452.60625
452.6125
452.61875
452.925/457.925
452.93125/457.93125
452.9375/457.9375
452.94375/457.94375
452.950/457.950
452.95625/457.95625
452.9625/457.9625
452.96875/457.96875
453.025/458.025
453.03125/458.03125
453.0375/458.0375
453.04375/458.04375
453.075/458.075
453.08125/458.08125
453.0875/458.0875
453.09375/458.09375
453.125/458.125
453.13125/458.13125
453.1375/458.1375
453.14375/458.14375
453.175/458.175
453.18125/458.18125
453.1875/458.1875
453.19375/458.19375
454.000/459.000
454.00625/459.00625
454.0125/459.0125
454.01875/459.01875
462.950/467.950
462.95625/467.95625
462.9625/467.9625
462.96875/467.96875
462.975/467.975
462.98125/467.98125
462.9875/467.9875
462.99375/467.99375
463.000/468.000
463.00625/468.00625
463.0125/468.0125
463.01875/468.01875
463.025/468.025
463.03125/468.03125
463.0375/468.0375
463.04375/468.04375
463.050/468.050
463.05625/468.05625
463.0625/468.0625
463.06875/468.06875
463.075/468.075
463.08125/468.08125
463.0875/468.0875
463.09375/468.09375
463.100/468.100
463.10625/468.10625
463.1125/468.1125
463.11875/468.11875
463.125/468.125
463.13125/468.13125
463.1375/468.1375
463.14375/468.14375
463.150/468.150
463.15625/468.15625
463.1625/468.1625
463.16875/468.16875
463.175/468.175
463.18125/468.18125
463.1875/468.1875
463.19375/468.19375

[57 FR 24992, June 12, 1992, as amended at 58 FR 33212, June 16, 1993; 60 FR 37268, July 19, 1995]

§ 90.263 Substitution of frequencies below 25 MHz.

Frequencies below 25 MHz when shown in radio service frequency listings under this part will be assigned to base or mobile stations only upon a

satisfactory showing that, from a safety of life standpoint, frequencies above 25 MHz will not meet the operational requirements of the applicant. These frequencies are available for assignment in many areas; however, in individual cases such assignment may be impracticable due to conflicting frequency use authorized to stations in other services by this and other countries. In such cases, a substitute frequency, if found to be available, may be assigned from the following bands 1605–1750, 2107–2170, 2194–2495, 2506–2850, 3155–3400, or 4438–4650 kHz. Since such assignments are in certain instances subject to additional technical and operation limitation, it is necessary that each application also include precise information concerning transmitter output power, type and directional characteristics, if any, of the antenna, and the minimum necessary hours of operation. (This section is not applicable to the Radiolocation Radio Service, subpart F.)

§90.264 Disaster communications between 2 and 10 MHz.

(a) The use of any particular frequency between 2 and 10 MHz is limited to those frequencies falling within the bands allocated to the fixed and land mobile services as indicated in §2.106 of the Commission's Rules and Regulations.

(b) Only in the following circumstances will authority be extended to stations to operate on the frequencies between 2 and 10 MHz:

(1) To provide communications circuits in emergency and/or disaster situations, where safety of life and property are concerned;

(2) To provide standby and/or backup communications circuits to regular domestic communications circuits which have been disrupted by disasters and/or emergencies.

(c) The FCC will not accept responsibility for protection of the circuits from harmful interference caused by foreign operations.

(d) In the event that a complaint of harmful interference resulting from operation of these circuits is received from a foreign source, the offending circuit(s) must cease operation on the particular frequency concerned immediately upon notification by the Commission.

(e) In order to accomodate the situations described in paragraphs (c) and (d) of this section, the equipment shall be capable of transmitting and receiving on any frequency within the bands between 2 and 10 MHz and capable of immediate change among the frequencies.

(f) Only 2K80J3E, 100HA1A and those emission types listed in §90.237(g) are permitted.

(g) Applicants must fulfill eligibility requirements set out in §90.17(c)(25) and shall submit disaster communications plans pursuant to §90.129(m).

(h) Training exercises which require use of these frequencies for more than 420 minutes per week, cumulative, are not authorized without prior written approval from the Commission.

[46 FR 52373, Oct. 27, 1981, as amended at 48 FR 32831, July 19, 1983; 49 FR 48712, Dec. 14, 1984]

§90.265 Assignment and use of frequencies in the bands 169–172 MHz and 406–413 MHz.

(a) The following frequencies are available for assignment to fixed stations in the Power, Petroleum, Forest Products, Special Industrial, Business and Railroad Radio Services subject to the provisions of this section:

FREQUENCIES (MHz)

169.425	171.125
169.450	171.825
169.475	171.850
169.500	171.875
169.525	171.900
170.225	171.925
170.250	406.125
170.275	406.175
170.300	409.675
170.325	409.725
171.025	412.625
171.050	412.675
171.075	412.725
171.100	412.775

(1) The use of these frequencies is limited to transmitting hydrological or meteorological data.

(2) All use of these frequencies is on a secondary basis to Federal Government stations and the hydrological or meteorological data being handled must be made available on request to governmental agencies.

(3) Other provisions of this part notwithstanding, an operational fixed station operating on these frequencies shall not communicate with any station in the mobile service unless written authorization to do so has been obtained from the Commission.

(4) Persons who desire to operate stations on these frequencies should communicate with the Commission for instructions concerning the procedure to be followed in filing formal application.

(b) The following frequencies are available for wireless microphone operations to eligibles in this part, subject to the provisions of this paragraph:

FREQUENCIES (MHz)

169.445	170.245
171.045	171.845
169.505	170.305
171.105	171.905

(1) The emission bandwidth shall not exceed 54 kHz.

(2) The output power shall not exceed 50 milliwatts.

(3) The frequency stability of wireless microphones shall limit the total emission to within ±32.5 kHz of the assigned frequency.

(4) Wireless microphone operations are unprotected from interference from other licensed operations in the band. If any interference from wireless microphone operation is received by any Government or non-Government operation, the wireless microphone must cease operation on the frequency involved. Applications are subject to Government coordination.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, §§0.131 and 0.331 of the Commission's Rules and 5 U.S.C. 553 (b)(3)(B) and (d)(3))

[49 FR 20506, May 15, 1984]

§ 90.266 Long distance communications on frequencies between 2 and 25 MHz.

(a) The use of any particular frequency between 2 and 25 MHz is limited to those frequencies falling within the bands allocated to the fixed and land mobile services as indicated in § 2.106 of the Commission's Rules and Regulations.

(b) Only in the following circumstances will authority be extended to stations to operate on the frequencies between 2 and 25 MHz:

(1) To provide communications circuits to support operations which are highly important to the national interest and where other means of telecommunication are unavailable;

(2) To provide standby and/or backup communications circuits to regular domestic communications circuits which have been disrupted by disasters and/or emergencies.

(c) No protection is afforded to users of these frequencies from harmful interference caused by foreign operations.

(d) In the event that a complaint of harmful interference resulting from operation of these circuits is received from a foreign source, the offending circuit(s) must cease operation on the particular frequency concerned immediately upon notification by the Commission.

(e) In order to accommodate the situations described in paragraphs (c) and (d) of this section, the equipment shall be capable of transmitting and receiving on any frequency within the bands between 2 and 25 MHz and capable of immediate change among the frequencies, provided, however, that this requirement does not apply to equipment manufactured prior to August 15, 1983.

(f) Only 2K80J3E, 100HA1A, 100HA1B and those emission types listed in § 90.237(g) are permitted.

(g) Applicants must fulfill eligibility requirements set out in § 90.63(d)(1), § 90.65(c)(1), § 90.73(d)(1) or § 90.81(d)(14) and shall submit communications plans pursuant to § 90.129(o).

(h) Exercises or circuits tests which require use of these frequencies for more than seven hours per week cumulative are prohibited unless prior written approval is obtained from the Commission.

[48 FR 32996, July 20, 1983, as amended at 49 FR 48712, Dec. 14, 1984; 52 FR 29856, Aug. 12, 1987]

§ 90.267 Assignment and use of frequencies in the 450–470 MHz band for low-power use.

(a) Any regularly assignable frequency in the 450–470 MHz band listed in the tables in subparts B, C, D, and E

of this part, may be designated as a low-power channel in a defined geographic area by the frequency coordinator of the service in which the frequency is available. These channels are subject to the following conditions.

(1) For channels available in more than one radio service, concurrence for low-power designation must be obtained from coordinators of all such services.

(2) For channels available in more than one radio service, the frequency coordination requirements in § 90.175 apply in all such services.

(3) Stations are limited to 2 watts output power and will be licensed as mobile, but may serve the functions of base, fixed, or mobile relay stations.

(4) Wide area operations will not be authorized. The area of normal day-to-day operations will be described in the application in terms of maximum distance from a geographical center (latitude and longitude).

(5) A hospital or health care institution holding a license to operate a radio station under this part may operate a medical radio telemetry device with an output power not to exceed 20 milliwatts without specific authorization from the Commission. All licensees operating under this authority must comply with the requirements and limitations set forth in this section.

(6) Each coordinator must maintain a list of all channels it designates for low-power use and the geographic areas where such channels are available. The coordinator must make this list available to the public upon request.

(7) Antennas of mobile stations used as fixed stations communicating with one or more associated stations located within 45 degrees of azimuth shall be directional and have a front to back ratio of at least 15 dB. Except as provided in this paragraph (b)(7), the height of the antenna used at any mobile station serving as a base, fixed or mobile relay station may not exceed 7 m. (20 ft) above the ground level.

(i) No limit shall be placed on the length or height above ground level of any commercially manufactured radiating transmission line when the transmission line is terminated in a non-radiating load and is routed at least 7 m. (20 ft) interior to the edge of any structure or is routed below ground level.

(ii) Only sea-based stations, and central alarm stations operating on frequencies allocated for central station protection operations, may utilize antennas mounted not more than 7 m. (20 ft.) above a man-made supporting structure, including antenna structures.

(b) Frequencies separated by 3.125 kHz from regularly assignable frequencies in the 450–470 MHz band listed in the tables in subparts B, C, D, and E of this part, may be assigned in accordance with the following conditions:

(1) All stations will be licensed as mobiles but may serve the functions of base, fixed, or mobile relay stations. Stations are limited to 2 watts output power.

(2) The maximum authorized bandwidth for these frequencies is 6 kHz.

(3) All operations will be on a secondary basis to the primary operations (3.125 kHz removed) and shall be entitled to no protection from primary stations.

(4) The frequency coordination requirements in § 90.175 apply for all channels available under this section. For channels which are between primary channels available to more than one service of this section, the frequency coordination requirements in § 90.175 apply in all such services.

(5) Wide area operations will not be authorized. The area of normal day-to-day operations will be described in the application in terms of maximum distance from a geographical center (latitude and longitude).

(6) Applicants for stations under this section must specify base, mobile, or fixed operation, but are otherwise exempt from any limitation on the number of frequencies assignable contained elsewhere in part 90.

(7) Antennas of mobile stations used as fixed stations communicating with one or more associated stations located within 45 degrees of azimuth shall be directional and have a front to back ratio of at least 15 dB. Except as provided in this paragraph (b)(7), the height of the antenna used at any mobile station serving as a base, fixed or mobile relay station may not exceed 7 m. (20 ft) above the ground level.

(i) No limit shall be placed on the length or height above ground level of any commercially manufactured radiating transmission line when the transmission line is terminated in a non-radiating load and is routed at least 7 m. (20 ft) interior to the edge of any structure or is routed below ground level.

(ii) Only sea-based stations, and central alarm stations operating on frequencies allocated for central station protection operations, may utilize antennas mounted not more than 7 m. (20 ft.) above a man-made supporting structure, including antenna structures.

(8) A hospital or health care institution holding a license to operate a radio station under this part may operate a medical radio telemetry device with an output power not to exceed 20 milliwatts without specific authorization from the Commission. All licensees operating under this authority must comply with the requirements and limitations set forth in this section.

(9) No assignment will be made on a frequency immediately adjacent to non-private radio service allocations.

(10) Frequencies from 462.7375 MHz to 462.9375 MHz and 464.9875 MHz to 465.0125 MHz are not available for authorization.

(11) Frequencies from 460.900 MHz to 461.01875 MHz and 465.900 MHz to 466.01875 MHz are available only for listed central station protection services and subject to § 90.75(c)(27) and (41).

[60 FR 37268, July 19, 1995, as amended at 61 FR 4235, Feb. 5, 1996]

§ 90.269 Use of frequencies for self-powered vehicle detectors.

(a) Frequencies bearing limitation (17) in the frequency table § 90.23(b) may be used for the operation of self-powered vehicle detectors by licensees of base/mobile stations in any of the Public Safety Radio Services in accordance with the following conditions:

(1) All stations are limited to 100 milliwatts carrier power and 20K00F7W, 20K00F7X, 20K00F8W, 20K00F8X, 20K00F9W or 20K00F9X emissions. The frequency deviation shall not exceed 5 kHz. No more than two 30 ms. pulses may be emitted for each vehicle sensed.

(2) The transmitters must be crystal controlled with a frequency tolerance of plus or minus .005% from −20° to plus 50° C. They must be type accepted.

(3) The total length of the transmission line plus antenna may not exceed one-half wavelength and must be integral with the unit.

(4) All operation shall be on a secondary, non-interference basis.

(b) [Reserved]

[48 FR 54982, Dec. 8, 1983, as amended at 54 FR 38681, Sept. 20, 1989]

§ 90.273 Availability and use of frequencies in the 421–430 MHz band.

The frequency bands 422.1875–425.4875 MHz and 427.1875–429.9875 MHz are available for use in the Detroit, Michigan and Cleveland, Ohio areas. The bands 423.8125–425.4875 MHz and 428.8125–429.9875 MHz are available for use in the Buffalo, New York area. Sections 90.273 through 90.281 address the specific rules applicable to these bands. Use of these bands is also subject to the general technical standards and application procedures contained in other subparts of part 90. The technical standards applicable in this band are the same as those contained in subpart I of part 90 for the 450–470 MHz band. Private land mobile use of these frequencies is subject to accepting any interference from Federal Government radiolocation operations.

(a) The following tables list frequencies available for assignment in the public safety, business or industrial/land transportation pools as indicated. In the tables, the public safety pool is denoted as ''PS'', the business pool as ''B'', and the industrial/land transportation pool as ''I/LT.'' The frequencies 422.19375 MHz through 424.99375 MHz are paired with frequencies 427.19375 MHz through 429.99375 MHz, respectively. Only the lower half of each frequency pair, available for base station operation, is listed in the tables. Corresponding mobile and control station frequencies are 5 MHz higher than the base station frequency. The frequencies 425.000 through 425.48125 are unpaired and are available for either single frequency dispatch or paging operations.

TABLE 1.—CHANNELS AVAILABLE IN DETROIT AND CLEVELAND AREAS ONLY

Frequency (MHz)	Pool in which assigned
Paired channels:	
422.19375*	I/LT
422.200	I/LT
422.20625*	I/LT
422.21250	I/LT
422.21875*	I/LT
422.225	I/LT
422.23125*	I/LT
422.23750	I/LT
422.24375*	I/LT
422.250	I/LT
422.25625*	I/LT
422.26250	I/LT
422.26875*	I/LT
422.275	I/LT
422.28125*	I/LT
422.28750	I/LT
422.29375*	I/LT
422.300	I/LT
422.30625*	I/LT
422.31250	I/LT
422.31875*	I/LT
422.325	I/LT
422.33125*	I/LT
422.33750	I/LT
422.34375*	I/LT
422.350	I/LT
422.35625*	I/LT
422.36250	I/LT
422.36875*	I/LT
422.375	I/LT
422.38125*	I/LT
422.38750	I/LT
422.39375*	I/LT
422.400	I/LT
422.40625*	I/LT
422.41250	I/LT
422.41875*	I/LT
422.425	I/LT
422.43125*	I/LT
422.43750	I/LT
422.44375*	I/LT
422.450	I/LT
422.45625*	I/LT
422.46250	I/LT
422.46875*	I/LT
422.475	I/LT
422.48125*	I/LT
422.48750	I/LT
422.49375*	I/LT
422.500	I/LT
422.50625*	I/LT
422.51250	I/LT
422.51875*	I/LT
422.525	I/LT
422.53125*	I/LT
422.53750	I/LT
422.54375*	I/LT
422.550	I/LT
422.55625*	I/LT
422.56250	I/LT
422.56875*	I/LT
422.575	I/LT
422.58125*	I/LT
422.58750	I/LT
422.59375*	I/LT
422.600	B
422.60625*	B
422.61250	B
422.61875*	B

TABLE 1.—CHANNELS AVAILABLE IN DETROIT AND CLEVELAND AREAS ONLY—Continued

Frequency (MHz)	Pool in which assigned
422.625	B
422.63125*	B
422.63750	B
422.64375*	B
422.650	B
422.65625*	B
422.66250	B
422.66875*	B
422.675	B
422.68125*	B
422.68750	B
422.69375*	B
422.700	B
422.70625*	B
422.71250	B
422.71875*	B
422.725	B
422.73125*	B
422.73750	B
422.74375*	B
422.750	B
422.75625*	B
422.76250	B
422.76875*	B
422.775	B
422.78125*	B
422.78750	B
422.79375*	B
422.800	B
422.80625*	B
422.81250	B
422.81875*	B
422.825	B
422.83125*	B
422.83750	B
422.84375*	B
422.850	B
422.85625*	B
422.86250	B
422.86875*	B
422.875	B
422.88125*	B
422.88750	B
422.89375*	B
422.900	B
422.90625*	B
422.91250	B
422.91875*	B
422.925	B
422.93125*	B
422.93750	B
422.94375*	B
422.950	B
422.95625*	B
422.96250	B
422.96875*	B
422.975	B
422.98125*	B
422.98750	B
422.99375*	B
423.000	PS
423.00625*	PS
423.01250	PS
423.01875*	PS
423.025	PS
423.03125*	PS
423.03750	PS
423.04375*	PS
423.050	PS
423.05625*	PS

TABLE 1.—CHANNELS AVAILABLE IN DETROIT AND CLEVELAND AREAS ONLY—Continued

Frequency (MHz)	Pool in which assigned
423.06250	PS
423.06875*	PS
423.075	PS
423.08125*	PS
423.08750	PS
423.09375*	PS
423.100	PS
423.10625*	PS
423.11250	PS
423.11875*	PS
423.125	PS
423.13125*	PS
423.13750	PS
423.14375*	PS
423.150	PS
423.15625*	PS
423.16250	PS
423.16875*	PS
423.175	PS
423.18125*	PS
423.18750	PS
423.19375*	PS
423.200	PS
423.20625*	PS
423.21250	PS
423.21875*	PS
423.225	PS
423.23125*	PS
423.23750	PS
423.24375*	PS
423.250	PS
423.25625*	PS
423.26250	PS
423.26875*	PS
423.275	PS
423.28125*	PS
423.28750	PS
423.29375*	PS
423.300	PS
423.30625*	PS
423.31250	PS
423.31875*	PS
423.325	PS
423.33125*	PS
423.33750	PS
423.34375*	PS
423.350	PS
423.35625*	PS
423.36250	PS
423.36875*	PS
423.375	PS
423.38125*	PS
423.38750	PS
423.39375*	PS
423.400	PS
423.40625*	PS
423.41250	PS
423.41875*	PS
423.425	PS
423.43125*	PS
423.43750	PS
423.44375*	PS
423.450	PS
423.45625*	PS
423.46250	PS
423.46875*	PS
423.475	PS
423.48125*	PS
423.48750	PS
423.49375*	PS

TABLE 1.—CHANNELS AVAILABLE IN DETROIT AND CLEVELAND AREAS ONLY—Continued

Frequency (MHz)	Pool in which assigned
423.500	PS
423.50625*	PS
423.51250	PS
423.51875*	PS
423.525	PS
423.53125*	PS
423.53750	PS
423.54375*	PS
423.550	PS
423.55625*	PS
423.56250	PS
423.56875*	PS
423.575	PS
423.58125*	PS
423.58750	PS
423.59375*	PS
423.600	PS
423.60625*	PS
423.61250	PS
423.61875*	PS
423.625	PS
423.63125*	PS
423.63750	PS
423.64375*	PS
423.650	PS
423.65625*	PS
423.66250	PS
423.66875*	PS
423.675	PS
423.68125*	PS
423.68750	PS
423.69375*	PS
423.700	PS
423.70625*	PS
423.71250	PS
423.71875*	PS
423.725	PS
423.73125*	PS
423.73750	PS
423.74375*	PS
423.750	PS
423.75625*	PS
423.76250	PS
423.76875*	PS
423.775	PS
423.78125*	PS
423.78750	PS
423.79375*	PS
423.800	PS
423.80625*	PS

*This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

TABLE 2.—CHANNELS AVAILABLE IN BUFFALO, DETROIT AND CLEVELAND AREAS

Frequency (MHz)	Pool in which assigned
Paired channels:	
423.81875*	PS
423.825	PS
423.83125*	PS
423.83750	PS
423.84375*	PS
423.850	PS
423.85625*	PS
423.86250	PS

TABLE 2.—CHANNELS AVAILABLE IN BUFFALO, DETROIT AND CLEVELAND AREAS—Continued

Frequency (MHz)	Pool in which assigned
423.86875*	PS
423.875	PS
423.88125*	PS
423.88750	PS
423.89375*	PS
423.900	PS
423.90625*	PS
423.91250	PS
423.91875*	PS
423.925	PS
423.93125*	PS
423.93750	PS
423.94375*	PS
423.950	PS
423.95625*	PS
423.96250	PS
423.96875*	PS
423.975	PS
423.98125*	PS
423.98750	PS
423.99375*	PS
424.000	PS
424.00625*	PS
424.01250	PS
424.01875*	PS
424.025	PS
424.03125*	PS
424.03750	PS
424.04375*	PS
424.050	PS
424.05625*	PS
424.06250	PS
424.06875*	PS
424.075	PS
424.08125*	PS
424.08750	PS
424.09375*	PS
424.100	PS
424.10625*	PS
424.11250	PS
424.11875*	PS
424.125	PS
424.13125*	PS
424.13750	PS
424.14375*	PS
424.150	PS
424.15625*	PS
424.16250	PS
424.16875*	PS
424.175	PS
424.18125*	PS
424.18750	PS
424.19375*	PS
424.200	PS
424.20625*	PS
424.21250	PS
424.21875*	PS
424.225	PS
424.23125*	PS
424.23750	PS
424.24375*	PS
424.250	PS
424.25625*	PS
424.26250	PS
424.26875*	PS
424.275	PS
424.28125*	PS
424.28750	PS
424.29375*	PS
424.300	PS

TABLE 2.—CHANNELS AVAILABLE IN BUFFALO, DETROIT AND CLEVELAND AREAS—Continued

Frequency (MHz)	Pool in which assigned
424.30625*	PS
424.31250	PS
424.31875*	PS
424.325	PS
424.33125*	PS
424.33750	PS
424.34375*	PS
424.350	PS
424.35625*	PS
424.36250	PS
424.36875*	PS
424.375	PS
424.38125*	PS
424.38750	PS
424.39375*	PS
424.400	I/LT
424.40625*	I/LT
424.41250	I/LT
424.41875*	I/LT
424.425	I/LT
424.43125*	I/LT
424.43750	I/LT
424.44375*	I/LT
424.450	I/LT
424.45625*	I/LT
424.46250	I/LT
424.46875*	I/LT
424.475	I/LT
424.48125*	I/LT
424.48750	I/LT
424.49375*	I/LT
424.500	I/LT
424.50625*	I/LT
424.51250	I/LT
424.51875*	I/LT
424.525	I/LT
424.53125*	I/LT
424.53750	I/LT
424.54375*	I/LT
424.550	I/LT
424.55625*	I/LT
424.56250	I/LT
424.56875*	I/LT
424.575	I/LT
424.58125*	I/LT
424.58750	I/LT
424.59375*	I/LT
424.600	I/LT
424.60625*	I/LT
424.61250	I/LT
424.61875*	I/LT
424.625	I/LT
424.63125*	I/LT
424.63750	I/LT
424.64375*	I/LT
424.650	I/LT
424.65625*	I/LT
424.66250	I/LT
424.66875*	I/LT
424.675	I/LT
424.68125*	I/LT
424.68750	I/LT
424.69375*	I/LT
424.700	B
424.70625*	B
424.71250	B
424.71875*	B
424.725	B
424.73125*	B
424.73750	B

TABLE 2.—CHANNELS AVAILABLE IN BUFFALO, DETROIT AND CLEVELAND AREAS—Continued

Frequency (MHz)	Pool in which assigned
424.74375*	B
424.750	B
424.75625*	B
424.76250	B
424.76875*	B
424.775	B
424.78125*	B
424.78750	B
424.79375*	B
424.800	B
424.80625*	B
424.81250	B
424.81875*	B
424.825	B
424.83125*	B
424.83750	B
424.84375*	B
424.850	B
424.85625*	B
424.86250	B
424.86875*	B
424.875	B
424.88125*	B
424.88750	B
424.89375*	B
424.900	B
424.90625*	B
424.91250	B
424.91875*	B
424.925	B
424.93125*	B
424.93750	B
424.94375*	B
424.950	B
424.95625*	B
424.96250	B
424.96875*	B
424.975	B
424.98125*	B
424.98750	B
424.99375*	B
Single channels:	
425.000	B
425.00625*	B
425.01250	B
425.01875*	B
425.025	B
425.03125*	B
425.03750	B
425.04375*	B
425.050	B
425.05625*	B
425.06250	B
425.06875*	B
425.075	B
425.08125*	B
425.08750	B
425.09375*	B
425.100	B
425.10625*	B
425.11250	B
425.11875*	B
425.125	I/LT
425.13125*	I/LT
425.13750	I/LT
425.14375*	I/LT
425.150	I/LT
425.15625*	I/LT
425.16250	I/LT
425.16875*	I/LT

TABLE 2.—CHANNELS AVAILABLE IN BUFFALO, DETROIT AND CLEVELAND AREAS—Continued

Frequency (MHz)	Pool in which assigned
425.175	I/LT
425.18125*	I/LT
425.18750	I/LT
425.19375*	I/LT
425.200	I/LT
425.20625*	I/LT
425.21250	I/LT
425.21875*	I/LT
425.225	I/LT
425.23125*	I/LT
425.23750	I/LT
425.24375*	I/LT
425.250	PS
425.25625*	PS
425.26250	PS
425.26875*	PS
425.275	PS
425.28125*	PS
425.28750	PS
425.29375*	PS
425.300	PS
425.30625*	PS
425.31250	PS
425.31875*	PS
425.325	PS
425.33125*	PS
425.33750	PS
425.34375*	PS
425.350	PS
425.35625*	PS
425.36250	PS
425.36875*	PS
425.375	PS
425.38125*	PS
425.38750	PS
425.39375*	PS
425.400	PS
425.40625*	PS
425.41250	PS
425.41875*	PS
425.425	PS
425.43125*	PS
425.43750	PS
425.44375*	PS
425.450	PS
425.45625*	PS
425.46250	PS
425.46875*	PS
425.475	PS
425.48125*	PS

*This frequency is not available until August 18, 1996. After August 18, 1996 this frequency will be assigned with an authorized bandwidth not to exceed 6 kHz.

(b) Channels in the public safety pool are available for assignment to eligibles in the Public Safety and Special Emergency Radio Services. Channels in the industrial/land transportation pool are available for assignment to eligibles in the Power, Petroleum, Forest Products, Film and Video Production, Relay Press, Special Industrial, Manufacturers, Telephone Maintenance, Motor Carrier, Railroad, Taxicab, and Automobile Emergency Radio Services.

Channels in the business pool are available to eligibles in the Business Radio Service.

(c) Base or control stations shall be located within 48 km (30 miles) of the center of Buffalo or 80 km (50 miles) of the center of Detroit. In Cleveland, base or control stations will be allowed at locations north of line A that are within 48 km (30 miles) of the city center. In addition, low power (2 watts or less) base stations may locate within 80 km (50 miles) of the center of Buffalo. The following coordinates shall be used for the centers of these areas:

Buffalo, NY	42°52′52″ North latitude. 78°52′21″ West longitude.
Cleveland, OH	41°29′51″ North latitude. 81°41′50″ West longitude.
Detroit, MI	42°19′48″ North latitude. 83°02′57″ West longitude.

(d) Mobile operation shall be confined to within 80 km (50 miles) of the centers of Detroit, Cleveland, or Buffalo.

[52 FR 6156, Mar. 2, 1987, as amended at 54 FR 38681, Sept. 20, 1989; 58 FR 31476, June 3, 1993; 58 FR 44957, Aug. 25, 1993; 60 FR 37269, July 19, 1995; 61 FR 6576, Feb. 21, 1996]

§90.275 Selection and assignment of frequencies in the 421–430 MHz band.

Applicants must specify the frequencies on which the proposed system will operate pursuant to a recommendation by the frequency coordinator designated for the pool in which the requested frequency is assigned.

[52 FR 6157, Mar. 2, 1987]

§90.277 Interpool sharing of 421–430 MHz frequencies.

In the business pool and the industrial/land transportation pool, applicants in one pool may have access to channels in the other pool after March 30, 1988 under the following conditions:

(a) There are no satisfactory channels in the applicant's own pool, as determined by the frequency coordinator for that pool; and

(b) Channels in the pool from which the applicant wishes to obtain a channel must be available in the proposed area of operation, as determined by the frequency coordinator for that pool.

[52 FR 6157, Mar. 2, 1987]

§90.279 Power limitations applicable to the 421–430 MHz band.

(a) Base station authorizations in the 421–430 MHz band will be subject to Effective Radiated Power (ERP) and Effective Antenna Height (EAH) limitations as shown in the table below. ERP is defined as the product of the power supplied to the antenna and its gain relative to a half-wave dipole in a given direction. EAH is calculated by subtracting the Assumed Average Terrain Elevation (AATE) as listed in table 7 of §90.619 from the antenna height above mean sea level.

LIMITS OF EFFECTIVE RADIATED POWER (ERP) CORRESPONDING TO EFFECTIVE ANTENNA HEIGHTS (EAH) OF BASE STATIONS IN THE 421–430 MHZ BAND

Effective antenna height (EAH) in meters (feet)	Maximum effective radiated power (ERP) (watts)
0–152 (0–500)	250
Above 152–305 (above 500–1000)	150
Above 305–457 (above 1000–1500)	75
Above 457–610 (above 1500–2000)	40
Above 610–762 (above 2000–2500)	20
Above 762–914 (above 2500–3000)	15
Above 914–1219 (above 3000–4000)	10
Above 1219 (above 4000)	5

(b) The maximum transmitter power output that will be authorized for control stations is 20 watts.

[52 FR 6157, Mar. 2, 1987, as amended at 58 FR 44957, Aug. 25, 1993]

§90.281 Restrictions on operational fixed stations in the 421–430 MHz band.

(a) Except for control stations, operational fixed facilities will not be authorized in the 421–430 MHz band. This does not preclude secondary fixed tone signaling and alarm operations authorized in §90.235.

(b) Control stations associated with one or more mobile relay stations will be authorized only on the assigned frequency of the associated mobile station. Use of a mobile service frequency by a control station of a mobile relay system is subject to the condition that harmful interference shall not be

caused to stations of licensees authorized to use the frequency for mobile service communications.

[52 FR 6158, Mar. 2, 1987, as amended at 54 FR 38681, Sept. 20, 1989]

§ 90.283 Inter-service sharing of maritime frequencies in the 156–162 MHz band.

(a) The following frequency pairs may be assigned to any station eligible for licensing in the Industrial and Land Transportation Radio Services (subparts D and E of this part excluding § 90.75) for duplex operation within the 48 contiguous states in accordance with the rules of their individual services, the conditions set forth in this section, and the CANADA/U.S.A. channeling agreement for VHF maritime public correspondence found in § 80.57 of this chapter.

Frequency (MHz)	
Mobile station transmit	Base station transmit
157.200	161.800
157.225	161.825
157.250	161.850
157.275	161.875
157.300	161.900
157.325	161.925
157.350	161.950
157.375	161.975
157.400	162.000

(b) Assignment will be made only when VHF frequencies available for assignment under this part are unavailable due to congestion, as determined by a certified private land mobile frequency coordinator. Applicants must provide evidence of frequency coordination in accordance with § 90.175.

(c) Station power, as measured at the output terminals of the transmitter, must not exceed 50 watts for base stations and 20 watts for mobile stations. Antenna height (HAAT) must not exceed 122 meters (400 feet) for base stations and 4.5 meters (15 feet) for mobile stations. Such base and mobile stations must not be operated on board aircraft in flight.

(d) The following table, along with the antenna height (HAAT) and power (ERP), must be used to determine the minimum separation required between proposed base stations and each of the following:

(1) Co-channel public coast stations licensed under part 80 of this chapter,

(2) The coastline of any navigable waterway,

(3) Grandfathered public safety licensees operating on 157.35 MHz or 161.85 MHz. Applicants whose exact ERP or HAAT are not reflected in the table must use the next highest figure shown.

REQUIRED SEPARATION IN KILOMETERS (MILES) OF BASE STATION FROM COASTLINES/PUBLIC COAST STATIONS

Base Station Characteristics					
HAAT	ERP (watts)				
Meters (feet)	400	300	200	100	50
15 (50)	138 (86)	135 (84)	129 (80)	121 (75)	116 (72)
30 (100)	154 (96)	151 (94)	145 (90)	137 (85)	130 (81)
61 (200)	166 (103)	167 (104)	161 (100)	153 (95)	145 (90)
122 (400)	187 (116)	177 (110)	183 (114)	169 (105)	159 (99)

(e) In the event of interference, the Commission may require, without a hearing, licensees of base stations authorized under this section that are located within 241 kilometers (150 miles) of an existing, co-channel public coast station, grandfathered co-channel public safety station or an international border to reduce radiated power, decrease antenna height, and/or install directional antennas. Mobile stations must operate only within radio range of their associated base station.

(f) Individual waiver requests to operate on a secondary, non-interference, basis will be considered in cases where the applicant's base station satisfies the requirements of paragraphs (d) (1) and (3) of this section but does not satisfy the requirements of paragraph

(d)(2) of this section. All waiver requests must be submitted in accordance with §1.931 of the chapter. Such secondary operations must cease immediately upon notification by the Commission that the station is causing interference to maritime operations.

[60 FR 35510, July 10, 1995]

Subpart L—Authorization in the Band 470–512 MHz (UHF–TV Sharing)

§90.301 Scope.

This subpart governs the authorization and use of frequencies by land mobile stations in the band 470–512 MHz on a geographically shared basis with Television Broadcast stations. Under this special sharing plan, different radio services are allocated different specific frequencies in this band depending upon the geographic urban area involved as fully detailed in the following rule sections.

§90.303 Availability of frequencies.

(a) Frequencies in the band 470–512 MHz are available for assignment in the urbanized areas listed below. The specific frequencies available to each radio service are listed in §90.311.

Frequency Availability for Land Mobile Use

Urbanized area	Geographic center		Channel	Frequencies (megahertz)
	North latitute	West longitude		
Boston, MA	42°21′24″	71°03′25″	14	470–476
			16	482–488
Chicago, IL[1]	41°52′28″	87°38′22″	14	470–476
			15	476–482
Cleveland, OH[2]	41°29′51″	81°41′50″	14	470–476
			15	476–482
Dallas/Fort Worth, TX	32°47′09″	96°47′37″	16	482–488
Detroit, MI[3]	42°19′48″	83°02′57″	15	476–482
			16	482–488
Houston, TX	29°45′26″	95°21′37″	17	488–494
Los Angeles, CA[4]	34°03′15″	118°14′28″	14	470–476
			20	506–512
Miami, FL	25°46′37″	80°11′32″	14	470–476
New York/N.E. NJ	40°45′06″	73°59′39″	14	470–476
			15	476–482
Philadelphia, PA	39°56′58″	75°09′21″	19	500–506
			20	506–512
Pittsburgh, PA	40°26′19″	80°00′00″	14	470–476
			18	494–500
San Francisco/Oakland, CA	37°46′39″	122°24′40″	16	482–488
			17	488–494
Wash., DC/MD/VA	38°53′51″	77°00′33″	17	488–494
			18	494–500

[1] In the Chicago, IL, urbanized area, channel 15 frequencies may be used for paging operations in addition to low power base/mobile usages, where applicable protection requirements for ultrahigh frequency television stations are met.
[2] Channels 14 and 15 are not available in Cleveland, OH, until further order from the Commission.
[3] Channels 15 and 16 are not available in Detroit, MI, until further order from the Commission.
[4] Channel 16 is available in Los Angeles for use by public safety users.

[43 FR 54791, Nov. 22, 1978, 44 FR 32220, June 5, 1979, as amended at 50 FR 39681, Sept. 30, 1985; 50 FR 40976, Oct. 8, 1985; 51 FR 4361, Feb. 4, 1986; 52 FR 29856, Aug. 12, 1987]

§90.305 Location of stations.

(a) The transmitter site(s) for base station(s), including mobile relay stations, shall be located not more than 80 km. (50 mi.) from the geographic center of the urbanized area listed in §90.303.

(b) Mobile units shall be operated within 48 km. (30 mi.) of their associated base station or stations. Such units may not be operated aboard aircraft in flight except as provided for in §90.315(i).

(c) Control stations must be located within the area of operation of the mobile units.

(d) Base and control stations shall be located a minimum of 1.6 km. (1 mi.) from local television stations operating on UHF TV channels separated by 2, 3, 4, 5, 7, and 8 TV channels from the

television channel in which the base station will operate.

§ 90.307 Protection criteria.

The tables and figures listed in § 90.309 shall be used to determine the proper power (ERP) and antenna height of the proposed land mobile base station and the proper power (ERP) for the associated control station (control station antenna height shall not exceed 31 m. (100 ft.) above average terrain (AAT)).

(a) Base stations operating on the frequencies available for land mobile use in any listed urbanized area and having an antenna height (AAT) less than 152 m. (500 ft.) shall afford protection to co-channel and adjacent channel television stations in accordance with the values set out in tables A and E of this subpart, except for Channel 15 in New York, NY, and Cleveland, OH, and Channel 16 in Detroit, MI, where protection will be in accordance with the values set forth in tables B and E.

(b) For base stations having antenna heights between 152–914 meters (500–3,000 ft.) above average terrain, the effective radiated power must be reduced below 1 kilowatt in accordance with the values shown in the power reduction graph in Figure A, except for Channel 15 in New York, NY, and Cleveland, OH, and Channel 16 in Detroit, MI, where the effective radiated power must be reduced in accordance with Figure B. For heights of more than 152 m. (500 ft.) above average terrain, the distance to the radio path horizon will be calculated assuming smooth earth. If the distance so determined equals or exceeds the distance to the Grade B contour of a co-channel TV station, (Grade B contour defined in § 73.683(a)) an authorization will not be granted unless it can be shown that actual terrain considerations are such as to provide the desired protection at the Grade B contour, or that the effective radiated power will be further reduced so that, assuming free space attenuation, the desired protection at the Grade B contour will be achieved.

(c) Mobile units and control stations operating on the frequencies available for land mobile use in any given urbanized area shall afford protection to co-channel and adjacent channel television stations in accordance with the values set forth in table C and paragraph (d) of this section except for Channel 15 in New York, NY, and Cleveland, OH, and Channel 16 in Detroit, MI, where protection will be in accordance with the values set forth in table D and paragraph (d) of this section.

(d) The minimum distance between a land mobile base station which has associated mobile units and a protected adjacent channel television station is 145 km (90 miles) .

(e) The television stations to be protected (co-channel, adjacent channel, IM, and IF) in any given urbanized area, in accordance with the provisions of paragraphs (a), (b), (c), and (d) of this section, are identified in the commission's publication ''TV stations to be considered in the preparation of Applications for Land Mobile Facilities in the Band 470–512 MHz.'' The publication is available at the offices of the Federal Communications Commission at Washington, DC or upon the request of interested persons.

[43 FR 54791, Nov. 22, 1978, as amended at 49 FR 36107, Sept. 14, 1984; 58 FR 44957, Aug. 25, 1993]

§ 90.309 Tables and figures.

(a) *Directions for using the tables.* (1) Using the method specified in § 73.611 or charts or maps of suitable scale, determine the distances (i) between the proposed land mobile base station and the protected cochannel television station and (ii) between the proposed land mobile base station and the protected adjacent channel television station. If the exact mileage does not appear in table A for protected cochannel television stations (or table B for Channel 15 in New York and Cleveland and channel 16 in Detroit) or table E for protected adjacent channel television stations, the next lower mileage separation figure is to be used.

(2) Entering the proper table at the mileage figure found in paragraph (a)(1) of this section, find opposite, a selection of powers that may be used for antenna heights ranging from 15 m (50 ft) to 152.5 m (500 ft) (AAT). If the exact antenna height proposed for the land mobile base station does not appear in the proper table, use the power

figure beneath the next greater antenna height.

(3) The lowest power found using the tables mentioned in paragraphs (a)(1) and (a)(2) of this section is the maximum power that may be employed by the proposed land mobile base station.

(4) In determining the average elevation of the terrain, the elevations between 3.2 km (2 mi) and 16 km (10 mi) from the antenna site are employed. Profile graphs shall be drawn for a minimum of eight radials beginning at the antenna site and extending 16 km (10 mi). The radials should be drawn starting with true north. At least one radial should be constructed in the direction of the nearest cochannel and adjacent channel UHF television stations. The profile graph for each radial shall be plotted by contour intervals of from 12.2 m (40 ft) to 30.5 m (100 ft) and, where the data permits, at least 50 points of elevation (generally uniformly spaced) should be used for each radial. For very rugged terrain 61 m (200 ft) to 122 m (400 ft) contour intervals may be used. Where the terrain is uniform or gently sloping, the smallest contour interval indicated on the topographic chart may be used. The average elevation of the 12.8 km (8-mile) distance between 3.2 km (2 mi) and 16 km (10 mi) from the antenna site should be determined from the profile graph for each radial. This may be obtained by averaging a large number of equally spaced points, by using a planimeter, or by obtaining the median elevation (that exceeded by 50 percent of the distance) in sectors and averaging those values. In the preparation of the profile graphs, the elevation or contour intervals may be taken from U.S. Geological Survey Topographic Maps, U.S. Army Corps of Engineers Maps, or Tennessee Valley Authority Maps. Maps with a scale of 1:250,000 or larger (such as 1:24,000) shall be used. Digital Terrain Data Tapes, provided by the National Cartographic Institute, U.S. Geological Survey, may be utilized in lieu of maps, but the number of data points must be equal to or exceed that special above. If such maps are not published for the area in question, the next best topographic information should be used.

(5) Applicants for base stations in the Miami, FL, urbanized area may, in lieu of calculating the height of average terrain, use 3 m (10 ft) as the average terrain height.

TABLE A—BASE STATION—COCHANNEL FREQUENCIES (50 dB PROTECTION) MAXIMUM EFFECTIVE RADIATED POWER (ERP) [1]

Distance in kilometers (miles): [2]	Antenna height in meters (feet) (AAT)									
	15 (50)	30.5 (100)	45 (150)	61 (200)	76 (250)	91.5 (300)	106 (350)	122 (400)	137 (450)	152.5 (500)
260 (162)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
257 (160)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	800
249 (155)	1,000	1,000	1,000	1,000	1,000	875	775	700	625	575
241 (150)	1,000	1,000	950	775	725	625	550	500	450	400
233 (145)	850	750	650	575	500	440	400	350	320	300
225 (140)	600	575	475	400	350	300	275	250	230	225
217 (135)	450	400	335	300	255	240	200	185	165	150
209 (130)	350	300	245	200	185	160	145	125	120	100
201 (125)	225	200	170	150	125	110	100	90	80	75
193 (120)	175	150	125	105	90	80	70	60	55	50

[1] The effective radiated power (ERP) and antenna height above average terrain (AAT) shall not exceed the values given in this table.
[2] At this distance from transmitter site of protected UHF television station.

TABLE B—BASE STATION—COCHANNEL FREQUENCIES (40 dB PROTECTION) MAXIMUM EFFECTIVE RADIATED POWER (ERP) [1]

Distance in kilometers (miles): [2]	Antenna height in meters (feet) (AAT)									
	15 (50)	30.5 (100)	45 (150)	61 (200)	76 (250)	91.5 (300)	106 (350)	122 (400)	137 (450)	152.5 (500)
209 (130)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
201 (125)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	850	750	725
193 (120)	1,000	1,000	1,000	1,000	900	750	675	600	550	500
185 (115)	1,000	1,000	800	725	600	525	475	425	375	350
177 (110)	850	700	600	500	425	375	325	300	275	225
169 (105)	600	475	400	325	275	250	225	200	175	150
161 (100)	400	325	275	225	175	150	140	125	110	100
153 (95)	275	225	175	125	110	95	80	70	60	50
145 (90)	175	125	100	75	50	.....	.....	.....	.....	.....

[1] The effective radiated power (ERP) and antenna height above average terrain (AAT) shall not exceed the values given in this table.
[2] At this distance from transmitter site of protected UHF television station.

TABLE C—MOBILE AND CONTROL STATION—DISTANCE BETWEEN ASSOCIATED BASE STATION AND PROTECTED COCHANNEL TV STATION

[50 dB protection]

Effective radiated power (watts) of mobile unit and control station	Distance	
	Kilometers	Miles
200	249	155
150	243	151
100	233	145
50	217	135
25	201	125
10	188	117
5	180	112

TABLE D—MOBILE AND CONTROL STATION—DISTANCE BETWEEN ASSOCIATED LAND MOBILE BASE STATION AND PROTECTED COCHANNEL TV STATION

[40 dB protection]

Effective radiated power (watts) of mobile unit and control station	Distance	
	Kilometers	Miles
200	209	130
150	201	125
100	193	120
50	185	115
25	177	110
10	169	105
5	161	100

TABLE E—BASE STATION ADJACENT CHANNEL FREQUENCIES MAXIMUM EFFECTIVE RADIATED POWER (ERP) [1]

Distance in kilometers (miles): [2,3]	Antenna height in meters (feet) (AAT)									
	15 (50)	30.5 (100)	45 (150)	61 (200)	76 (250)	91.5 (300)	106 (350)	122 (400)	137 (450)	152.5 (500)
108 (67)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
106 (66)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	750
104 (65)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	825	650	600
103 (64)	1,000	1,000	1,000	1,000	1,000	1,000	775	625	500	400
101 (63)	1,000	1,000	1,000	1,000	1,000	650	450	325	325	225
99 (62)	1,000	1,000	1,000	1,000	525	375	250	200	150	125
98 (61)	1,000	1,000	700	450	250	200	125	100	75	50
96 (60)	1,000	1,000	425	225	125	100	75	50		

[1] The effective radiated power (ERP) and antenna height above average terrain (AAT) shall not exceed the values given in this table.
[2] At this distance from transmitter site of protected UHF television station.
[3] The minimum distance is 145 km (90 miles) where there are mobile units associated with the base station. See sec. 90.307(d).

TABLE "F"—*Decibel Reduction/Power Equivalents*

dB reduction below 1 kW	ERP permitted (figures rounded)
1	795
2	630
3	500
4	400
5	315
6	250
7	200
8	160
9	125
10	100
11	80
12	65
13	50
14	40
15	30
16	25
17	20
18	15
19	12
20	10
21	8
22	6
23	5
24	4
25	3
26	2.5

TABLE "F"—*Decibel Reduction/Power Equivalents*—Continued

dB reduction below 1 kW	ERP permitted (figures rounded)
27	2
28	1.5
29	1.25
30	1

(b) *Directions for Using the Figures.*

(1) Determine antenna height above average terrain. (According to § 90.309(a)(4).)

(2) Locate this value on the antenna height axis.

(3) Determine the separation between the LM antenna site and the nearest protected co-channel TV station. (According to § 73.611.)

(4) Draw a vertical line to intersect the LM/TV separation curve at the distance determined in step 3 above. For distances not shown in the graph use linear interpolation.

(5) From the intersection of the LM/TV separation curve draw a horizontal line to the power reduction scale.

(6) The power reduction in dB determines the reduction below 1 kW that must be achieved.

(7) See table F for dB/power equivalents.

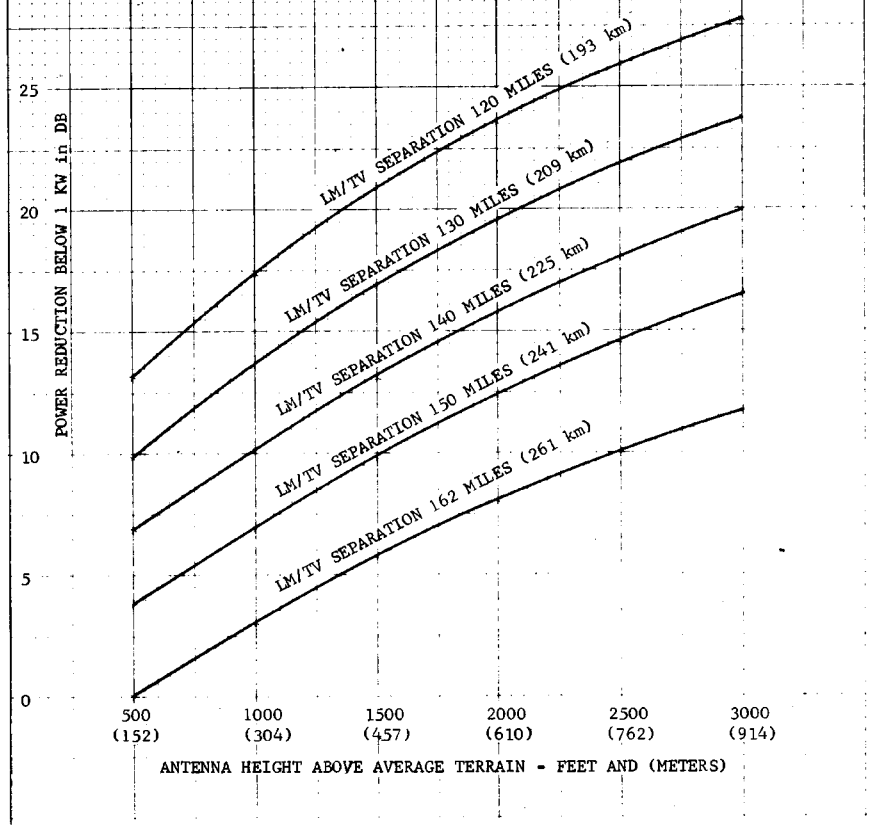
Directions for using this graph:

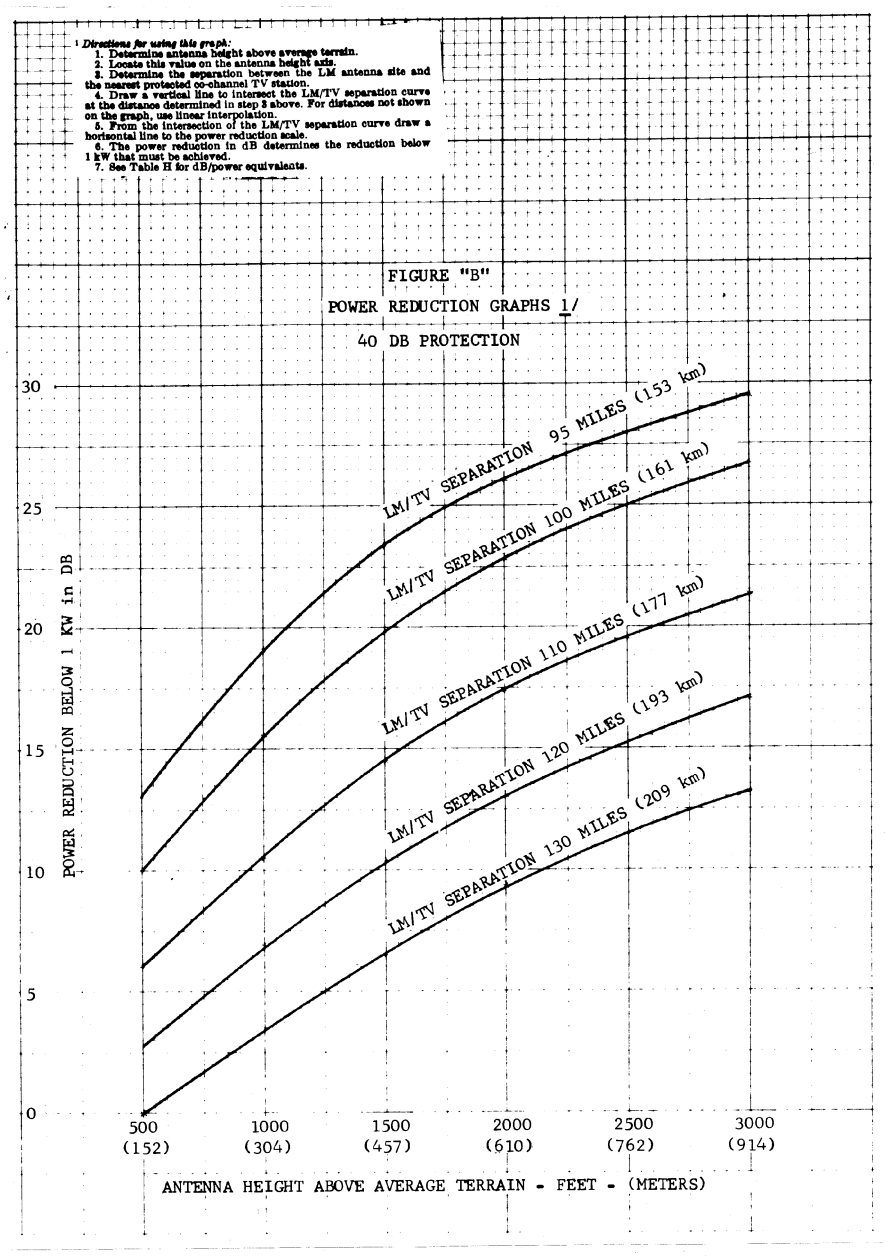
1. Determine antenna height above average terrain.
2. Locate this value on the antenna height axis.
3. Determine the separation between the LM antenna site and the nearest protected co-channel TV station.
4. Draw a vertical line to intersect the LM/TV separation curve at the distance determined in step 3 above. For distances not shown on the graph, use linear interpolation.
5. From the intersection of the LM/TV separation curve draw a horizontal line to the power reduction scale.
6. The power reduction in dB determines the reduction below 1 kW that must be achieved.
7. See Table H for dB/power equivalents.

FIGURE "A"

POWER REDUCTION GRAPHS 1/

50 DB PROTECTION





(Section 0.231(d) of the Commission's Rules and secs. 4(i) and 303 of the Communications Act, as amended)

[43 FR 54791, Nov. 22, 1978, as amended at 49 FR 36107, Sept. 14, 1984; 49 FR 49837, Dec. 17, 1984; 58 FR 44958, Aug. 25, 1993]

§90.311 Frequencies.

(a) Except as provided for in §90.315, the following frequencies in the band 470–512 MHz may be assigned to eligibles in the services as indicated below. The first and last assignable frequencies are shown. Assignable frequencies occur in increments of 6.25 kHz. The separation between base and mobile transmit frequencies is 3 MHz for two frequency operations.

Urbanized area (channel assignment)	Public safety pool: Fire, police, local government, highway maintenance, forestry conservation, and emergency medical radio services		Industrial pools: Power and telephone maintenance radio service		Industrial pools: Special industrial radio service		Industrial pools: Business radio service		Petroleum, forest products, and manufacturers radio service		Land transportation pools: Railroad, motor carrier, and automobile emergency radio service		Land transportation pools: Taxicab radio service		General access pool	
	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile
Boston																
Ch. 14	470.30632 to 471.14375.	473.30625 to 474.14375.	471.30625 to 471.39375.	474.30625 to 474.39375.	471.45625 to 471.49375.	474.45625 to 474.49375.	471.80625 to 472.06875 and 472.10625 to 472.21875 and 472.25625 to 472.26875.	474.80625 to 475.06875 and 475.10625 to 475.21875 and 475.25625 to 475.26875.	None	None	472.45625 to 472.54375 and 472.58125 to 472.69375 and 472.73125 to 472.74375 and 472.78125 to 472.79375.	475.45625 to 475.54375 and 475.58125 to 475.69375 and 475.73125 to 475.74375 and 475.78125 to 475.79375.	472.35625 to 472.44375.	475.35625 to 475.44375.	470.30625 to 472.99375.	473.30625 to 475.99375.
Ch. 16	482.30625 to 483.14375.	485.30625 to 486.14375.	None	None	483.48125 to 484.34375.	486.48125 to 487.34375.	None	None	None	None	None	None	None	None	482.30625 to 484.99375.	485.30625 to 487.99375.
Chicago																
Ch. 14	470.30625 to 471.14375.	473.30625 to 474.14375.	None	None	471.43125 to 471.64375.	474.43125 to 474.64375.	471.80625 to 472.34375 and 472.63125 to 472.79375 and 472.90625 to 472.91875 and 472.95625 to 472.96875 and 472.98125 to 472.99375.	474.80625 to 475.34375 and 475.63125 to 475.79375 and 475.90625 to 475.91875 and 475.95625 to 475.96875 and 475.98125 to 475.99375.	472.80625 to 472.81875.	475.80625 to 475.81875.	472.45625 to 472.61875 and 472.93125 to 472.94375.	475.45625 to 475.61875 and 475.93125 to 475.94375.	None	None	470.30625 to 472.99375.	473.30625 to 475.99375.
Ch. 15	None	None	None	None	None	None	None	None	None	None	None	None	None	None	476.30625 to 478.99375.	479.30625 to 481.99375.
Cleveland																
Ch. 14	None	None	None	None	None	None	None	None	None	None	None	None	None	None	470.30625 to 472.99375.	473.30625 to 475.99375.
Ch. 15	None	None	None	None	None	None	None	None	None	None	None	None	None	None	476.30625 to 478.99375.	479.30625 to 481.99375.
Detroit																
Ch. 15	None	None	None	None	None	None	None	None	None	None	None	None	None	None	476.30625 to 478.99375.	479.30625 to 481.99375.
Ch. 16	None	None	None	None	None	None	None	None	None	None	None	None	None	None	482.30625 to 484.99375.	485.30625 to 487.99375.
Los Angeles																
Ch. 14	470.05625 to 471.13125.	473.05625 to 474.14375.	471.30625 to 471.31875 and 471.40625 to 471.41875.	474.30625 to 474.31875 and 474.40625 to 474.41875.	471.43125 to 471.64375.	474.43125 to 474.64375.	471.15625 to 471.29375 and 471.65625 to 472.44375.	474.15625 to 474.29375 and 474.65625 to 475.44375.	472.83725 to 472.89375.	475.83725 to 475.89375.	472.45625 to 472.79375.	475.45625 to 475.79375.	472.98125 to 472.99375.	475.98125 to 475.99375.	470.30625 to 472.99375.	473.30625 to 475.99375.

Ch. 16	482.00625 to 484.99375.	485.00625 to 487.99375.	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Ch. 20	506.30625 to 507.26875.	509.30625 to 510.26875.	507.30625 to 507.40625.	510.30625 to 510.40625.	507.43125 to 507.64375.	510.43125 to 510.64375.	507.65625 to 508.44375 and 507.28125 to 507.29375.	510.65625 to 511.44375 and 510.28125 to 510.29375.	508.80625 to 508.89375.	511.80625 to 511.89375.	508.45625 to 508.79375.	511.45625 to 511.79375.	508.90625 to 508.91875.	511.90625 to 511.91875.	506.30625 to 508.99375.	509.30625 to 511.99375.
New York																
Ch. 14	470.30625 to 471.41875.	473.30625 to 474.41875.	472.95625 to 472.96875 and 472.98125 to 472.99375.	475.95625 to 475.96875 and 475.98125 to 475.99375.	471.43125 to 471.64375.	474.43125 to 474.64375.	471.65625 to 472.34375 and 472.75625 to 472.89375.	474.65625 to 475.34375 and 475.75625 to 475.89375.	None	None	472.45625 to 472.61875.	475.45625 to 475.61875.	472.35625 to 472.44375 and 472.63125 to 472.66875 and 472.73125 to 472.74375 and 472.68125 to 472.69375.	475.35625 to 475.44375 and 475.63125 to 475.66875 and 475.73125 to 475.74375 and 475.68125 to 475.69375.	470.30625 to 472.99375.	473.30625 to 475.99375.
Ch. 15	476.30625 to 477.40625.	479.30625 to 480.40625.	478.95625 to 478.99375.	481.95625 to 481.99375.	477.43125 to 477.64375.	480.43125 to 480.64375.	477.65625 to 478.34375 and 478.75625 to 478.89375.	480.65625 to 481.34375 and 481.75625 to 481.89375.	None	None	478.50625 to 478.69375 and 478.68125 to 478.69375.	481.50625 to 481.69375 and 481.68125 to 481.69375.	478.35625 to 478.66875.	481.35625 to 481.66875.	476.30625 to 478.99375.	479.30625 to 481.99375.

Urbanized area (channel assignment)	Public safety pool Fire, police, local government, highway maintenance, forestry conservation, and emergency medical radio services		Industrial pools						Petroleum, forest products, and manufacturers radio service		Land transportation pools				General access pool	
			Power and telephone maintenance radio service		Special industrial radio service		Business radio service				Railroad, motor carrier, and automobile emergency radio service		Taxicab radio service			
	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile
Philadelphia																
Ch. 19	500.30625 to 500.44375 and 500.55625 to 500.56875 and 500.65625 to 500.66875 and 500.68125 to 500.69375 and 500.73125 to 500.74375 and 500.78125 to 500.91875 and 500.95625 to 500.96875 and 500.98125 to 500.99375 and 501.05625 to 501.06875 and 501.10625 to 501.11875 and 501.13125 to 501.14375.	503.30625 to 503.44375 and 503.55625 to 503.56875 and 503.65625 to 503.66875 and 503.68125 to 503.69375 and 503.73125 to 503.74375 and 503.78125 to 503.91875 and 503.95625 to 503.96875 and 503.98125 to 503.99375 and 504.05625 to 504.06875 and 504.10625 to 504.11875 and 504.13125 to 504.14375.	None	None	501.43125 to 501.49375 and 501.53125 to 501.54375 and 501.60625 to 501.61875.	504.43125 to 504.49375 and 504.53125 to 504.54375 and 504.60625 to 504.61875.	501.80625 to 502.34375.	504.80625 to 505.34375.	None	None	502.45625 to 502.79375.	505.45625 to 505.79375.	None	None	500.30625 to 502.99375.	503.30625 to 505.99375.
Ch. 20	None	None	None	None	None	None	507.80625 to 508.19375 and 508.23125 to 508.34375.	510.80625 to 511.19375 and 511.23125 to 511.34375.	None	None	None	None	None	None	506.30625 to 508.99375.	509.30625 to 511.99375.
Pittsburgh																
Ch. 14	None	None	None	None	None	None	471.80625 to 471.81875.	474.80625 to 474.81875.	None	None	None	None	None	None	470.30625 to 472.99375.	473.30625 to 475.99375.
Ch. 18	None	None	None	None	None	None	None	None	None	None	None	None	None	None	494.30625 to 496.99375.	497.30625 to 499.99375.

San Francisco																
Ch. 16	482.30625 to 482.31875 and 482.33125 to 482.34375 and 482.38125 to 482.49375 and 482.53125 to 482.54375 and 482.55625 to 482.56875 and 482.60625 to 482.61875 and 482.68125 to 482.76875 and 482.80625 to 482.91875 and 482.95625 to 482.96875 and 483.00625 to 483.01875.	485.30625 to 485.31875 and 485.33125 to 485.34375 and 485.38125 to 485.49375 and 485.53125 to 485.54375 and 485.55625 to 485.56875 and 485.60625 to 485.61875 and 485.68125 to 485.76875 and 485.80625 to 485.91875 and 485.95625 to 485.96875 and 486.00625 to 486.01875.	None	None	483.43125 to 483.64375.	486.43125 to 486.64375.	483.80625 to 484.34375.	486.80625 to 487.34375.	None	None	484.45625 to 484.79375.	487.45625 to 487.79375.	None	None	482.30625 to 484.99375.	485.30625 to 487.99375.

Urbanized area (channel assignment)	Public safety pool Fire, police, local government, highway maintenance, forestry conservation, and emergency medical radio services		Industrial pools						Petroleum, forest products, and manufacturers radio service		Land transportation pools				General access pool	
			Power and telephone maintenance radio service		Special industrial radio service		Business radio service				Railroad, motor carrier, and automobile emergency radio service		Taxicab radio service			
	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile	Base and mobile	Mobile
Ch. 17	488.35625 to 488.46875 and 488.50625 to 488.51875 and 488.55625 to 488.56875 and 488.60625 to 488.69375 and 488.73125 to 488.74375 and 488.76125 to 488.77375 and 488.83125 to 488.84375 and 488.85625 to 488.86875 and 488.90625 to 488.91875 and 488.95625 to 488.96875 and 489.00625 to 489.06875 and 489.10625 to.	491.35625 to 491.46875 and 491.50625 to 491.51875 and 491.55625 to 491.56875 and 491.60625 to 491.69375 and 491.73125 to 491.74375 and 491.76125 to 491.77375 and 491.83125 to 491.84375 and 491.85625 to 491.86875 and 491.90625 to 491.91875 and 491.95625 to 491.96875 and 491.00625 to 491.06875 and 491.10625 to.	None	None	489.43125 to 489.64375.	492.43125 to 492.64375.	488.80625 to 489.33125.	491.80625 to 492.33125.	490.83125 to 490.48375 and 490.85625 to 490.86875 and 490.90625 to 490.91875 and 490.95625 to 490.96875.	493.83125 to 493.48375 and 493.85625 to 493.86875 and 493.90625 to 493.91875 and 493.95625 to 493.96875.	490.45625 to 490.56875 and 490.60625 to 490.66875 and 490.70625 to 490.71875 and 490.75625 to 490.76875.	493.45625 to 493.56875 and 493.60625 to 493.66875 and 493.70625 to 493.71875 and 493.75625 to 493.76875.	None	None	488.30625 to 490.99375.	491.30625 to 493.99375
Washington, DC																
Ch. 17	488.30625 to 488.31875.	491.30625 to 491.91875.	None	None	None	None	None	None	None	None	None	None	None	None	488.30625 to 490.99375.	491.30625 to 493.99375.
Ch. 18	494.30625 to 495.41875.	497.30625 to 498.41875.	None	None	495.58125 to 495.64375.	498.58125 to 498.64375.	495.68125 to 496.21875.	498.68125 to 499.21875.	None	None	496.45625 to 496.61875.	499.45625 to 499.61875.	496.35625 to 496.39375.	499.35625 to 499.39375.	494.30625 to 496.99375.	497.30625 to 499.99375

(1) Channel availability in the General Access Pool in any of the urbanized areas referred to in the table depends upon whether that channel is presently assigned to users in one of the service pools. If unassigned, or should a channel subsequently become unassigned, it will be treated as available in the General Access Pool.

(2) Frequencies in the General Access Pool will be made available to applicants after all channels presently assigned are substantially loaded in accordance with the standards set out in § 90.313 of this part. Channels from the General Access Pool will be assigned starting with the lowest frequency available at the time and progress towards the high end of the General Access Pool. Normally, each channel should be substantially filled before the next one will be assigned.

(3) The following frequencies will be authorized a maximum bandwidth of 6 kHz.

Channel	Frequency
14	470.30625
	475.99375
15	476.30625
	481.99375
16	482.30625
	487.99375
17	488.30625
	493.99375
18	494.30625
	499.99375
19	500.30625
	505.99375
20	506.30625
	511.99375

(b) Miami, FL, Dallas, TX, and Houston, TX urbanized areas.

Channel 14 (Miami)	Channel 16 (Dallas)	Channel 17 (Houston)
470.30625 to 475.99375	482.30625 to 487.99375	488.30625 to 493.99375

(1) Base station frequencies for the Public Safety Radio Service will be assigned serially beginning at 470.7125 MHz for Miami, 482.7125 MHz for Dallas, and at 488.7125 MHz for Houston and progressing a channel at a time upward and downward from those points.

(2) Base station frequencies for the Petroleum, Forest Products, and Manufacturers Radio Services will be assigned serially beginning at 470.30625 MHz for Miami, 482.30625 MHz for Dallas, and 488.30625 MHz for Houston and progressing upward from those points a channel at a time.

(3) Base station frequencies for the Special Industrial Radio Service will be assigned serially beginning at 471.4375 MHz for Miami, 483.4375 MHz for Dallas, and 489.4375 MHz for Houston and progressing a channel at a time upward and downward from those points.

(4) Base station frequencies for the Business Radio Service will be assigned serially beginning at 470.30625, 471.2625, and 472.3625 MHz for Miami, 483.6125 and 483.1375 MHz for Dallas, and 489.6625 MHz and 490.3625 MHz for Houston and progressing, a channel at a time from those points.

mobile station frequencies are 3 MHz higher than the corresponding base station frequencies. Normally, each channel shall be substantially filled before the next channel is assigned.

(5) Base station frequencies for the Power and Telephone Maintenance Radio Services will be assigned serially beginning at 471.2625 MHz for Miami, 483.2625 MHz for Dallas, and 489.2625 MHz for Houston and progressing a channel at a time upward and downward from those points.

(6) Base station frequencies for the Railroad, Motor Carrier, and Automobile Emergency Radio Services will be assigned serially beginning at 471.7825 MHz for Miami, 483.7825 MHz for Dallas, and 489.7825 MHz for Houston and progressing upward and downward from those points a channel at a time.

(7) Base station frequencies for the Taxicab Radio Service will be assigned serially beginning at 472.9875 MHz for Miami, 484.9875 for Dallas, and 490.9875 MHz for Houston and progressing a

channel at a time downward from those points.

[43 FR 54791, Nov. 22, 1978, as amended at 44 FR 49692, Aug. 24, 1979; 51 FR 4362, Feb. 4, 1986; 60 FR 37272, July 19, 1995]

§ 90.313 Frequency loading criteria.

(a) Except as provided for in paragraph (b), the maximum channel loading on frequencies in the 470–512 MHz band is as follows:

(1) 50 units in the Public Safety Radio Services.

(2) 70 units in the Industrial Radio Services (except business).

(3) 90 units in the Business Radio Service.

(4) 150 units in the Taxicab Radio Service, except in the New York Northeast New Jersey urbanized areas where the loading is 200 units.

(5) 70 units in the Railroad, Motor Carrier, and Automobile Emergency Radio Services except in the intra-urban passenger carrier sub-category of the Motor Carrier Radio Service where the loading is 150 units.

(b) If a licensee has exclusive use of a frequency, then the loading standards in paragraph (a) of this section, may be exceeded. If it is a shared channel, the loading standards can be exceeded upon submission of a signed statement by all those sharing the channel agreeing to the increase.

(c) A unit is defined as a mobile transmitter-receiver. Loading standards will be applied in terms of the number of units actually in use or to be placed in use within 8 months following authorization. A licensee will be required to show that an assigned frequency pair is at full capacity before it may be assigned a second or additional frequency pair. Channel capacity may be reached either by the requirements of a single licensee or by several users sharing a channel. Until a channel is loaded to capacity it will be available for assignment to other users in the same area. A frequency pair may be reassigned at distances 64 km. (40 mi.), 32 km. (20 mi.) for Channel 15, Chicago; Channel 20, Philadelphia; and Channel 17, Washington, or more from the location of base stations authorized on that pair without reference to loading at the point of original installation. Following authorization, the licensee shall notify the Commission either during or at the close of the 8 month period of the number of units in operation. In the Industrial Radio Services, if the base station facility is to be used by more than a single licensee, the frequency assigned to it will not be reassigned for use by another facility within 64 km. (40 mi.) or 32 km. (20 mi.) where applicable for a period of 12 months, *Provided*, That the facility is constructed within 90 days from the date of the first grant, meets the loading standards to at least 50 percent within 9 months, and meets all loading standards within 12 months.

[43 FR 54791, Nov. 22, 1978, as amended at 47 FR 36649, Aug. 23, 1982]

§ 90.315 Special provisions governing use of frequencies in the 476–494 MHz band (TV Channels 15, 16, 17) in the Southern Louisiana-Texas Offshore Zone.

(a) The frequency bands from 490–491 and 493–494 MHz will be available for assignment to stations governed by this part within Zone A. The boundaries of Zone A are from longitude 87°45′ on the east to longitude 94°00′ on the west, and from the 3-mile limit along the Gulf of Mexico shoreline on the north to the limit of the Outer Continental Shelf on the south. The frequency bands from 484–485 and 476–488 MHz will be available for assignment to stations governed by this part within Zone B. The boundaries of Zone B are from longitude 87°45′ on the east to longitude 95°00′ on the west and from the 3-mile limit along the Gulf of Mexico shoreline on the north to the limit of the Outer Continental Shelf on the south. The frequency bands from 478–479 and 481–481 MHz will be available for assignment to stations governed by this part within Zone C. The boundaries of Zone C are from longitude 94°00′ on the east, the 3-mile limit on the north and west, a 281 km (175 mile) radius from the reference point at Linares, N.L., Mexico on the southwest, latitude 26°00′ on the south, and the limits of the Outer Continental Shelf on the southeast. These frequencies may also be assigned to fixed stations located on shore designed to provide communications service within the zone.

(b) Offshore base/mobile, and offshore and shore fixed stations may be authorized.

(c) F2, F3, F4, F9, and A2, A3, A4, and A9 emissions may be authorized.

(d) Offshore stations shall afford cochannel protection to TV stations on Channels 15, 16 and 17. Station operating parameters shall be in accordance with the values given in table 1 of this section.

TABLE 1.—PROTECTION OF COCHANNEL TELEVISION STATIONS BY OFFSHORE STATIONS OPERATING IN THE SOUTHERN LOUISIANA-TEXAS OFFSHORE ZONE (65 dB PROTECTION); MAXIMUM EFFECTIVE RADIATED POWER

[In Watts]

Distance from transmitter to cochannel TV station kilometers (miles)	Antenna Height above sea level meters (feet)		
	30.5 (100)	45 (150)	61 (200)
338 (210)	1,000	1,000	1,000
330 (205)	1,000	900	800
322 (200)	800	710	630
314 (195)	590	520	450
306 (190)	450	400	330
298 (185)	320	280	240
290 (180)	250	210	175
281 (175)	175	150	130
274 (170)	130	110	100
265 (165)	95	80	70
257 (160)	65	55	50
249 (155)	50	40	35
241 (150)	35	30	25

NOTE: To determine the maximum permissible effective radiated power:

(1) As specified in § 73.611 determine the distance between the proposed station and the cochannel television station. If the exact distance does not appear in table 1 of this section, the next lower distance separation is to be used.

(2) Opposite this distance figure ERPs are given that may be used for antenna heights of 30.5, 45 or 61 meters (100, 150 or 200 ft) ASL. If the exact antenna height is not shown, the ERP allowed will be that shown for the next higher antenna height.

(e) Shore stations communicating point-to-point with offshore stations will be permitted at least the same ERP as the offshore station, but only in the direction of the offshore station. A directional antenna shall be used and the rearward radiated power from the antenna in a sector ±22½° from the line joining the shore antenna to the cochannel television station shall not exceed those shown in table 2 of this section.

TABLE 2.—MAXIMUM REARWARD EFFECTIVE RADIATED POWER ALLOWED FOR SHORE STATIONS; REARWARD EFFECTIVE RADIATED POWER (IN WATTS) FROM SHORE ANTENNA IN A SECTOR <±>22½° FROM THE LINE JOINING THE SHORE ANTENNA TO THE COCHANNEL TELEVISION STATION

Distance from transmitter to cochannel television station: kilometers (miles)	Antenna height above ground in meters (feet)					
	30.5 (100)	45 (150)	61 (200)	91.5 (300)	152.5 (500)	228 (750)
298 (185)	320	280	240	190	125	90
290 (180)	250	210	175	125	100	60
281 (175)	175	150	130	100	70	50
274 (170)	130	110	100	75	40	35
265 (165)	95	82	70	50	35	25
257 (160)	65	55	50	40	25	20
249 (155)	50	40	35	30	20	15
241 (150)	35	30	25	20	15	10
233 (145)	25	20	18	15	10	7
225 (140)	18	15	13	10	7	5
217 (135)	13	10	9	7	5	3
209 (130)	10	8	6	5	3	2
201 (125)	7	6	5	4	3	2
193 (120)	5	4	3	3	2	1

NOTE: As an example of the use of tables 1 and 2, assume an offshore station located 290 km (180 mi) from TV Channel 17 located in Bude, Miss. with an antenna height of 30.5 m (100 ft). Table 1 allows this station to operate with 250 W ERP. Now assume the shore station communicating with the offshore station is 48 km (30 mi) from the offshore station and 241 km (150 mi) from Bude, Miss. The shore station antenna height is 152.5 m

(500 ft) above ground. The shore station will be allowed the same ERP as the offshore station (250 W) in the direction of the offshore station. Table 2 indicates that the effective radiated power in a sector <±> 22½° from the line joining the shore antenna to Bude, Miss. can only be 15 W. Consequently, a directional antenna must be used whose minimum front-to-back ratio over this 45° sector must be at least 12.2 dB. (250 W forward power to 15 W rearward power is a power ratio of 16.6 or 12.2 dB).

(f) To provide cochannel protection to television stations, no shore station will be allowed closer than 193 km (120 miles) from the cochannel television station.

(g) To provide adjacent channel protection to television stations, no shore or offshore station shall be allowed within an 128 km (80 mile) distance of the adjacent channel television station.

(h) Mobile stations shall not operate closer to shore than 6.4 km (4 miles) beyond the three mile limit and shall not operate with an ERP in excess of 100 watts with 9.1 m (30 ft) maximum antenna height.

(i) Mobile stations installed in aircraft shall operate 11 km (7 miles) beyond the three mile limit and shall not operate with an ERP in excess of 1 watt or at heights in excess of 305 m (1000 feet) AMSL.

(j) The following frequency bands are available for assignment in all services for use in the Zones as defined in paragraph (a) of this section.

PAIRED FREQUENCIES (MHZ)

Zone	Transmit (or receive)	Receive (or transmit)
A	490.01875–490.98125	493.01875–493.98125
B	484.01875–484.98125	487.01875–487.98125
C	478.01875–478.98125	481.01875–481.98125

Only the first and last assignable frequencies are shown. Frequencies shall be assigned in pairs with 3 MHz spacing between transmit and receive frequencies. Assignable frequency pairs will occur in increments of 6.25 kHz. The following frequencies will be assigned for a maximum authorized bandwidth of 6 kHz: 478.01875, 478.98125, 484.01875, 484.98125, 490.01875, 490.98125, 481.01875, 481.98125, 487.01875, 487.98125, 493.01875, and 493.98125.

(k) Fixed stations operating point-to-point shall be assigned frequencies beginning with 490.025/493.025 MHz (Zone A), 484.025/487.025 MHz (Zone B) and 478.025–481.025 MHz (Zone C) and progressing upwards utilizing available frequencies toward the end of the band. Offshore base/mobile stations shall be assigned frequencies beginning at 490.975/493.975 MHz (Zone A), 484.975/478.975 MHz (Zone B) and 478.975/481.975 MHz (Zone C) and progressing downwards utilizing available frequencies toward the beginning of the band. All frequency assignments are subject to the conditions specified in § 90.173.

[50 FR 12027, Mar. 27, 1985; 50 FR 14389, Apr. 12, 1985, as amended at 58 FR 44959, Aug. 25, 1993; 60 FR 37277, July 19, 1995]

§ 90.317 Fixed ancillary signaling and data transmissions.

(a) Licensees of systems that have exclusive-use status in their respective geographic areas may engage in fixed ancillary signaling and data transmissions, subject to the following requirements:

(1) All such ancillary operations must be on a secondary, non-interference basis to the primary mobile operation of any other licensee.

(2) The output power at the remote site shall not exceed 30 watts.

(3) Any fixed transmitters will not count toward meeting the mobile loading requirements nor be considered in whole or in part as a justification for authorizing additional frequencies in the licensee's mobile system.

(4) Automatic means must be provided to deactivate the remote transmitter in the event the carrier remains on for a period in excess of three minutes.

(5) Operational fixed stations authorized pursuant to the provisions of this paragraph are exempt from the requirements of §§ 90.425 and 90.429.

(6) If the system is licensed on 470–512 MHz conventional frequencies, and exclusivity has been achieved through the aggregate loading of more than a single co-channel licensee, then a licensee must obtain the concurrence of other co-channel licensees prior to commencing such ancillary operations.

(b) Licensees of systems that do not have exclusive-use status in their respective geographic areas may conduct fixed ancillary signaling and data transmissions only in accordance with the provisions of §90.235 of this part.

[57 FR 34693, Aug. 6, 1992]

Subpart M—Transportation Infrastructure Radio Service

SOURCE: 60 FR 15253, Mar. 23, 1995, unless otherwise noted.

§90.350 Scope.

The Transportation Infrastructure Radio Service is for the purpose of integrating radio-based technologies into the nation's transportation infrastructure and to develop and implement the nation's intelligent transportation systems. It includes the Location and Monitoring Service (LMS). Rules as to eligibility for licensing, frequencies available, and any special requirements for services in the Transportation Infrastructure Radio Service are set forth in this subpart.

§90.351 Location and Monitoring Service.

These provisions authorize the licensing of systems in the Location and Monitoring Service (LMS). LMS systems utilize non-voice radio techniques to determine the location and status of mobile radio units. LMS licensees authorized to operate a system in the 902–928 MHz band may serve individuals, federal government agencies, and entities eligible for licensing in this part 90.

(a) Each application to license an LMS system shall include the following supplemental information:

(1) A detailed description of the manner in which the system will operate, including a map or diagram.

(2) The necessary or occupied bandwidth of emission, whichever is greater.

(3) The data transmission characteristics as follows:

(i) The vehicle location update rates;

(ii) Specific transmitter modulation techniques used;

(iii) For codes and timing scheme: A table of bit sequences and their alphanumeric or indicator equivalents, and a statement of bit rise time, bit transmission rates, bit duration, and interval between bits;

(iv) A statement of amplitude-versus-time of the interrogation and reply formats, and an example of a typical message transmission and any synchronizing pulses utilized.

(4) A plan to show the implementation schedule during the initial license term.

(b) LMS stations are exempted from the identification requirements of §90.425; however, the Commission may impose automatic station identification requirements when determined to be necessary for monitoring and enforcement purposes.

§90.353 LMS operations in the 902–928 MHz band.

LMS systems may be authorized within the 902–928 MHz band, subject to the conditions in this section. LMS licensees are required to maintain whatever records are necessary to demonstrate compliance with these provisions and must make these records available to the Commission upon request:

(a) LMS operations will not cause interference to and must tolerate interference from industrial, scientific, and medical (ISM) devices and radiolocation Government stations that operate in the 902–928 MHz band.

(b) LMS systems are authorized to transmit status and instructional messages, either voice or non-voice, so long as they are related to the location or monitoring functions of the system.

(c) LMS systems may utilize store and forward interconnection, where either transmissions from a vehicle or object being monitored are stored by the LMS provider for later transmission over the public switched network (PSN), or transmissions received by the LMS provider from the PSN are stored for later transmission to the vehicle or object being monitored. Real-

time interconnection between vehicles or objects being monitored and the PSN will only be permitted to enable emergency communications related to a vehicle or a passenger in a vehicle. Such real-time, interconnected communications may only be sent to or received from a system dispatch point or entities eligible in the Public Safety or Special Emergency Radio Services. *See* subparts B and C of this part.

(d) Multilateration LMS systems will be authorized on a primary basis within the bands 904–909.75 MHz and 921.75–927.25 MHz. Additionally, multilateration and non-multilateration systems will share the 919.75–921.75 MHz band on a co-equal basis. Licensing will be on the basis of Major Trading Area (MTA) service areas for multilateration systems, with one exclusive MTA license being issued for each of these three sub-bands. Except as provided in paragraph (f) of this section, multilateration MTA licensees may be authorized to operate on only one of the three multilateration bands within a given MTA. Additionally, MTA multilateration LMS licenses will be conditioned upon the licensee's ability to demonstrate through actual field tests that their systems do not cause unacceptable levels of interference to 47 CFR part 15 devices.

(e) Multilateration MTA-licensed systems and grandfathered AVM systems (*see* § 90.363) are authorized on a shared basis and must cooperate in the selection and use of frequencies in accordance with § 90.173(b).

(f) Multilateration MTA licensees may be authorized to operate on both the 919.75–921.75 MHz and 921.75–927.25 MHz bands within a given MTA (*see* § 90.209(b)(10)).

(g) Multilateration LMS systems whose primary operations involve the provision of vehicle location services, may provide non-vehicular location services.

(h) Non-multilateration stations are authorized to operate on a shared, non-exclusive basis in the 902–904 MHz and 909.75–921.75 MHz sub-bands. Non-multilateration systems and multilateration systems will share the 919.75–921.75 MHz band on a co-equal basis. Non-multilateration LMS systems may not provide non-vehicular location services. The maximum antenna height above ground for non-multilateration LMS systems is 15 meters.

§ 90.355 LMS operations below 512 MHz.

Applications requiring not more than 25 kHz bandwidth per frequency in the 25–50 MHz, 150–170 MHz, and 450–512 MHz bands may use either base-mobile frequencies currently assigned the applicant, or be assigned base-mobile frequencies available in the service in which eligibility has been established, provided that:

(a) For transmission between vehicles and base stations, each frequency in a single-frequency mode of operation will provide location data for approximately 200 vehicles, or both frequencies in a two-frequency mode of operation will provide location data for approximately 400 vehicles, except that for frequencies in the 450–512 MHz band that are assigned in pairs in accordance with the allocation plan for the band, the requirement is that location data be provided for approximately 200 vehicles for each frequency pair; and a showing is made that 50 percent of the vehicles will be in operation within the system by the end of the second year of the initial license term, and 70 percent will be in operation within the system by the end of the initial license term; except that if these vehicle loading standards will not be met, frequencies will be assigned only on a secondary non-interference basis to any authorized radiotelephony operation.

(b) The minimum separation between a proposed LMS station and the nearest co-channel base station of another licensee operating a voice system is 75 miles (120 km) for a single frequency mode of operation or 35 miles (56 km) for a two-frequency mode of operation. Where the minimum mileage separation cannot be achieved, agreement to the use of F1D, F2D, G1D, G2D or P0N emission must be received from all existing co-channel licensees using voice emissions within the applicable mileage limits. If there is interference with voice operations and required agreement was not received, or operation was authorized on a secondary non-interference basis, the licensee of the

LMS system is responsible for eliminating the interference.

(c) Frequencies additional to any assigned under paragraph (a) of this section will not be assigned to the same licensee at any stations located within 64 km (40 miles) of any station in which the licensee holds an interest until each of such licensee's frequencies for LMS operation is shown to accommodate not less than 90 percent of the frequency loading requirements specified in paragraph (a) of this section.

§90.357 Frequencies for LMS systems in the 902–928 MHz band.

(a) Multilateration LMS systems will be authorized on the following LMS sub-bands:

LMS Sub-band	Forward Link[1]
904.000–909.750 MHz	927.750–928.000 MHz.
919.750–921.750 MHz[2]	927.500–927.750 MHz.
921.750–927.250 MHz	927.250–927.500 MHz.

[1] Forward links for LMS systems may also be contained within the LMS sub-band. However, the maximum allowable power in these sub-bands is 30 watts ERP in accordance with §90.205(j).

[2] The frequency band 919.750–921.750 MHz is shared co-equally between multilateration and non-multilateration LMS systems.

(b) Non-multilateration LMS systems will be authorized on the following frequency bands:

LMS Sub-band[1]

902.000–904.000 MHz
909.750–921.750 MHz

[1] Applicants for non-multilateration LMS systems should request only the minimum amount of bandwidth necessary to meet their operational needs.

[60 FR 15253, Mar. 23, 1995, as amended at 60 FR 37277, July 19, 1995]

§90.359 Field strength limits for MTA-licensed LMS systems.

MTA-licensed multilateration systems shall limit the field strength of signals transmitted from their base stations to 47 dBuV/m at their MTA boundary.

§90.361 Interference from part 15 and Amateur operations.

Operations authorized under parts 15 and 97 of this chapter may not cause harmful interference to LMS systems in the 902–928 MHz band. These operations will not be considered to be causing harmful interference to a multilateration LMS system operating in one of the three MTA sub-bands (*see* §90.357(a)) if they operate in accordance with the provisions of parts 15 or 97 of this chapter and at least one of the following conditions are met:

(a) It is a field disturbance sensor operating under §15.245 of this chapter and it is not operating in the 904–909.750 or 919.750–928.000 MHz sub-bands; or

(b) It does not employ an outdoor antenna; or

(c) If it does employ an outdoor antenna, then if:

(1) The directional gain of the antenna does not exceed 6 dBi, or if the directional gain of the antenna exceeds 6 dBi, it reduces its transmitter output power below 1 watt by the proportional amount that the directional gain of the antenna exceeds 6 dBi; and

(2) Either:

(i) The antenna is 5 meters or less in height above ground; or

(ii) The antenna is more than 5 meters in height above ground but less than or equal to 15 meters in height above ground and either:

(A) Adjusts its transmitter output power below 1 watt by 20 log (h/5) dB, where h is the height above ground of the antenna in meters; or

(B) Is providing the final link for communications of entities eligible under subpart B or C of this part 90.

§90.363 Grandfathering provisions for existing AVM licensees.

(a) These provisions authorize grandfathered operation by automatic vehicle monitoring (AVM) systems licensed on or before February 3, 1995. To attain grandfathered status for their stations, existing multilateration AVM licensees must file, on or before May 22, 1995, applications to modify their station licenses to comply with the band plan shown in §90.357(a). These applications to modify must identify the multilateration sub-band or sub-bands in which the applicants intend to operate their LMS system stations, once their applications to modify have been authorized. The application to modify a license to comply with the band plan shown in §90.357(a) may also include a modification to specify an alternate site, so long as the alternate site is 2

kilometers or less from the site specified in the original license.

(b) When existing multilateration AVM licensees file applications to modify, as specified in paragraph (a) of this section, they *must* certify that either:

(1) The stations that compose their AVM system were constructed and placed in operation in accordance with § 90.155(e) on or before February 3, 1995; or

(2) The stations were not constructed and placed in operation in accordance with § 90.155(e) on or before February 3, 1995.

(c) Multilateration AVM systems that were constructed and placed in operation on or before February 3, 1995 will be given until April 1, 1998 to convert to the spectrum identified in their LMS system license. Such licensees may continue to operate their systems during this period. Licensees of multilateration AVM constructed and operational systems that do not file applications to modify on or before May 22, 1995, will be permitted to continue operations under the provisions of former § 90.239 until April 1, 1998 or the end of their original license term, whichever occurs first, at which time such licenses will cancel automatically and will not be renewed.

(d) Multilateration AVM licensees for stations that *were not* constructed and placed in operation on or before February 3, 1995 must construct their LMS systems and place them in operation on the spectrum identified in their LMS system license on or before September 1, 1996, or their licenses will cancel automatically (see Section 90.155 (e)). Also, these licenses will cancel automatically on July 1, 1996 unless timely modification applications are filed on or before this date (see paragraph (a) of this section).

(e) Non-multilateration systems licensed in spectrum other than the 902.00–904.00 and 909.75–921.75 MHz bands must modify their licenses by April 1, 1998 to specify operation solely in the bands provided in § 90.357(b) for non-multilateration systems and to operate their systems consistently with the provisions of § 90.353.

[60 FR 15253, Mar. 23, 1995, as amended at 61 FR 18986, Apr. 30, 1996]

Subpart N—Operating Requirements

§ 90.401 Scope.

The subpart prescribes general operating requirements for stations licensed under this part. This includes station operating procedures, points of communication, permissible communications, methods of station identification, control requirements, and station record keeping requirements.

§ 90.403 General operating requirements.

(a) Licensees of radio stations in the private land mobile radio services shall be directly responsible for the proper operation and use of each transmitter for which they are licensed. In this connection, licensees shall exercise such direction and control as is necessary to assure that all authorized facilities are employed:

(1) Only for permissible purposes;

(2) Only in a permissible manner; and

(3) Only by persons with authority to use and operate such equipment.

(b) In carrying out their responsibilities under § 90.403(a), licensees shall be bound by the provisions of the Communications Act of 1934, as amended, and by the rules and regulations of the Commission governing the radio service in which their facilities are licensed; and licensees may not, through written or oral agreements or otherwise, relieve themselves of any duty or obligation imposed upon them, by law, as licensees.

(c) Except for stations that have been granted exclusive channels under this part and that are classified as commercial mobile radio service providers pursuant to part 20 of this chapter, each licensee must restrict all transmissions to the minimum practical transmission time and must employ an efficient operating procedure designed to maximize the utilization of the spectrum.

(d) Communications involving the imminent safety-of-life or property are to be afforded priority by all licensees.

(e) Licensees shall take reasonable precautions to avoid causing harmful interference. This includes monitoring the transmitting frequency for communications in progress and such other

measures as may be necessary to minimize the potential for causing interference.

(f) Stations licensed in this part shall not continuously radiate an unmodulated carrier except where required for tests as permitted in §90.405, except where specifically permitted by this part, where specifically authorized in the station authorization, or on an as needed basis in the Radiolocation Radio Service.

(g) The radiations of the transmitter shall be suspended immediately upon detection or notification of a deviation from the technical requirements of the station authorization and until such deviation is corrected. For transmissions concerning the imminent safety-of-life or property, the transmissions shall be suspended as soon as the emergency is terminated.

[43 FR 54791, Nov. 22, 1978; 44 FR 32220, June 5, 1979, as amended at 59 FR 59965, Nov. 21, 1994]

§90.405 Permissible communications.

(a) Stations licensed under this part may transmit only the following types of communication:

(1) Any communication related directly to the imminent safety-of-life or property;

(2) Communications directly related and necessary to those activities which make the licensee eligible for the station license held under this part. In addition, when communication service is provided under the cooperative sharing provisions of §90.179, the licensee providing such service may transmit communications related to the activities for which the parties receiving the service would be eligible to be licensed.

(3) Communications for testing purposes required for proper station and system maintenance. However, each licensee shall keep such tests to a minimum and shall employ every measure to avoid harmful interference.

(b) The provisions contained in paragraph (a) of this section do not apply where a single base station licensee has been authorized to use a channel above 470 MHz on an exclusive basis, or to stations licensed under this part that are classified as CMRS providers under part 20 of this chapter.

[50 FR 6182, Feb. 14, 1985, as amended at 59 FR 59965, Nov. 21, 1994]

§90.407 Emergency communications.

The licensee of any station authorized under this part may, during a period of emergency in which the normal communication facilities are disrupted as a result of hurricane, flood, earthquake or similar disaster, utilize such station for emergency communications in a manner other than that specified in the station authorization or in the rules and regulations governing the operation of such stations. The Commission may at any time order the discontinuance of such special use of the authorized facilities.

[49 FR 36376, Sept. 17, 1984]

§90.411 Civil defense communications.

The licensee of any station authorized under this part may, on a voluntary basis, transmit communications necessary for the implementation of civil defense activities assigned such station by local civil defense authorities during an actual or simulated emergency, including drills and tests. The Commission may at any time order the discontinuance of such special use of the authorized facilities.

[49 FR 36376, Sept. 17, 1984]

§90.415 Prohibited uses.

Stations licensed under this part shall not:

(a) Transmit program material of any kind for use in connection with broadcasting; or

(b) Render a communications common carrier service, except for stations in the Special Emergency Radio Service providing communications standby facilities under §90.49, operational fixed stations licensed in the Railroad Radio Service handling public telegraph messages as agents of telegraph common carriers in those instances where such public telegraph service cannot be provided through other railroad facilities, and stations licensed under this part in the SMR, private

carrier paging, Business Radio, or 220–222 MHz services.

[43 FR 54791, Nov. 22, 1978, as amended at 59 FR 59965, Nov. 21, 1994]

§ 90.417 Interstation communication.

(a) Any station licensed under this part may communicate with any other station without restriction as to type, service, or licensee when the communications involved relate directly to the imminent safety-of-life or property.

(b) Any station licensed under this part may communicate with any other station licensed under this part, with U.S. Government stations, and with foreign stations, in connection with mutual activities, provided that where the communication involves foreign stations prior approval of the Commission must be obtained, and such communication must be permitted by the government that authorizes the foreign station. Communications by Police Radio Service stations with foreign stations will be approved only to be conducted in accordance with article 5 of the Inter-American Radio Agreement, Washington, DC, 1949, the provisions of which are set forth in § 90.19(c).

§ 90.419 Points of communication.

Normally, operations licensed under this part are intended to provide intrastation mobile communications. For example, a base station is intended to communicate with its associated mobile stations and mobile stations are intended to communicate between associated mobile stations and associated base stations of the licensee. Accordingly, operations between base stations at fixed locations are permitted only in the following situations:

(a) Base stations licensed under the Public Safety and Special Emergency Radio Services that operate on frequencies below 450 MHz, may communicate on a secondary basis with other base stations, operational fixed stations, or fixed receivers authorized in these services.

(b) Base stations licensed on any frequency in the Industrial and Land Transportation Radio Services and on base station frequencies above 450 MHz in the Public Safety and Special Emergency Services may communicate on a secondary basis with other base stations, operational fixed stations, or fixed receivers authorized in these services only when:

(1) The messages to be transmitted are of immediate importance to mobile stations; or

(2) Wireline communications facilities between such points are inoperative, economically impracticable, or unavailable from communications common carrier sources. Temporary unavailability due to a busy wireline circuit is not considered to be within the provisions of this paragraph.

(c) Operational fixed stations may communicate with units of associated mobile stations only on a secondary basis.

(d) Operational fixed stations licensed in the Industrial and Land Transportation Radio Services may communicate on a secondary basis with associated base stations licensed in these services when:

(1) The messages to be transmitted are of immediate importance to mobile stations; or

(2) Wireline communications facilities between such points are inoperative, economically impracticable, or unavailable from communications common carrier sources. Temporary unavailability due to a busy wireline circuit is not considered to be within the provisions of this paragraph.

(e) Travelers' Information Stations are authorized to transmit certain information to members of the traveling public (see § 90.242).

(f) CMRS Licensees in the SMR categories of Part 90, Subpart S, CMRS providers authorized in the 220 MHz service of Part 90, Subpart T, CMRS paging operations as defined by Part 90, Subpart P and for-profit interconnected business radio services with eligibility defined by Section 90.75 are permitted to utilize their assigned spectrum for fixed services on a co-primary basis with their mobile operations.

[61 FR 45356, Aug. 29, 1996]

EFFECTIVE DATE NOTE: At 61 FR 45356, Aug. 29, 1996, § 90.419 was revised, effective Oct. 28, 1996. For the convenience of the user, the superseded text is set forth as follows:

§90.419 Points of communication.

Normally, operations licensed under this part are intended to provide intrastation mobile communications. For example, a base station is intended to communicate with its associated mobile stations and mobile stations are intended to communicate between associated mobile stations and associated base stations of the licensee. Accordingly, operations between base stations at fixed locations are permitted only in the following situations:

(a) Base stations licensed under subpart T of this part and those in the Public Safety and Special Emergency Radio Services that operate on frequencies below 450 MHz, may communicate on a secondary basis with other base stations, operational fixed stations, or fixed receivers authorized in these services.

(b) Base stations licensed on any frequency in the Industrial and Land Transportation Radio Services and on base station frequencies above 450 MHz in the Public Safety and Special Emergency Services may communicate on a secondary basis with other base stations, operational fixed stations, or fixed receivers authorized in these services only when:

(1) The messages to be transmitted are of immediate importance to mobile stations; or

(2) Wireline communications facilities between such points are inoperative, economically impracticable, or unavailable from communications common carrier sources. Temporary unavailability due to a busy wireline circuit is not considered to be within the provisions of this paragraph.

(c) Operational fixed stations may communicate with units of associated mobile stations only on a secondary basis.

(d) Operational fixed stations licensed in the Industrial and Land Transportation Radio Services may communicate on a secondary basis with associated base stations licensed in these services when:

(1) The messages to be transmitted are of immediate importance to mobile stations; or

(2) Wireline communications facilities between such points are inoperative, economically impracticable, or unavailable from communications common carrier sources. Temporary unavailability due to a busy wireline circuit is not considered to be within the provisions of this paragraph.

(e) Travelers' Information Stations are authorized to transmit certain information to members of the traveling public (see §90.242).

[43 FR 54791, Nov. 22, 1978, as amended at 54 FR 38681, Sept. 20, 1989; 56 FR 19603, Apr. 29, 1991]

§90.421 Operation of mobile units in vehicles not under the control of the licensee.

Mobile station transmitters may be installed in vehicles operated by persons other than the licensee as provided in the following paragraphs when necessary for the licensee to meet his requirements in connection with the activities for which he is licensed. The number of units so installed, together with units installed in vehicles operated by the licensee, must not exceed the number of mobile units authorized to the licensee. When an insufficient number of units is licensed to cover such additional units, the license must be modified to add a sufficient number of mobile units. The licensee is responsible for taking any necessary precaution to effectively eliminate the possibility of unauthorized operation of transmitters when not under the control of the licensee.

(a) Mobile units licensed in the Local Government Radio Service may be installed in any vehicle which in an emergency would require cooperation and coordination with the licensee, and in any vehicle used in the performance, under contract, of official activities of the licensee. This includes ambulances, emergency units of public utilities, lifeguard units, and vehicles of contractors or other persons or agencies performing for the licensee under contract one or more of its local government functions. This provision does not permit the installation of radio units in non-emergency vehicles not performing governmental functions under contract but with which the licensee might wish to communicate.

(b) Mobile units licensed in the Police Radio Services may be installed in any vehicle which in an emergency would require cooperation and coordination with the activities of the licensee. This includes emergency units of public utilities, lifeguard emergency units, ambulances, fire department vehicles and rural school buses.

(c) Mobile units licensed in the Fire Radio Service may be installed in emergency vehicles which may be alerted during a fire emergency. This includes emergency units of public utilities and water departments.

(d) Mobile units licensed in the Highway Maintenance Radio Service may be installed in vehicles of contractors or other persons having a direct responsibility for official highway activities.

(e) Mobile units licensed in the Forestry-Conservation Radio Services may be installed in vehicles of forestry cooperators, and persons having a direct responsibility in the prevention, detection, and suppression of forest fires.

(f) Mobile units licensed in the medical services category of the Special Emergency Radio Service may be installed in a vehicle or be hand-carried for use by any person with whom cooperation or coordination is required for medical services activities.

(g) Mobile units licensed in the Industrial Radio Services may be installed in vehicles of persons furnishing under contract to the licensee and for the duration of the contract, a facility or service directly related to the activities of the licensee.

(h) Mobile units licensed to an electric utility in the Power Radio Service on frequencies designated for use by an interconnected utility system may be installed in any vehicle operated by an organization or association comprised of interconnected electric utilities forming interconnections, power pools or groups.

(i) Mobile units authorized in the Automobile Emergency Radio Service may be installed in the vehicles of persons furnishing a private emergency road service to its members pursuant to a contract with the association.

(j) Mobile units licensed to an eligible in the Railroad Radio Service may be installed in vehicles operated by organizations providing, under contract, facilities or service in connection with railroad operation or maintenance including pickup, delivery, or transfer between stations of property shipped, continued in, or destined for shipment by railroad common carrier. Parties to the contract must comply with the provisions of § 90.179.

(k) Mobile units licensed in the Emergency Medical Radio Service may be installed in a vehicle or be hand-carried for use by any person with whom cooperation or coordination is required for medical services activities.

(l) In addition to the above, frequencies assigned to licensees in the Private Land Mobile Radio Services may be installed in the facilities of those who assist the licensee in emergencies and with whom the licensee must communicate in situations involving imminent safety to life or property.

[43 FR 54791, Nov. 22, 1978, as amended at 44 FR 50603, Aug. 29, 1979; 47 FR 19539, May 6, 1982; 47 FR 42751, Sept. 29, 1982; 61 FR 6576, Feb. 21, 1996]

§ 90.423 Operation on board aircraft.

(a) Except as provided in paragraphs (b), (c), and (d) of this section, and except as may be provided in other sections of this part with respect to operation on specific frequencies, mobile stations first authorized after September 14, 1973, under this part may be operated aboard aircraft for air-to-mobile, air-to-base, air-to-air and air-to-ship communications subject to the following:

(1) Operations are limited to aircraft that are regularly flown at altitudes below 1.6 km (1 mi) above the earth's surface;

(2) Transmitters are to operate with an output power not to exceed ten watts;

(3) Operations are secondary to land-based systems;

(4) Such other conditions, including additonal reductions of altitude and power limitations, as may be required to minimize the interference potential to land-based systems.

(b) Exceptions to the altitude and power limitations set forth in paragraph (a) of this section may be authorized upon a showing of unusual operational requirements which justify departure from those standards, provided that the interference potential to regular land-based operations would not be increased.

(c) Mobile operations aboard aircraft in the services governed by this part, under licenses in effect September 14, 1973, may be continued without regard to provisions of paragraph (a) of this section, as follows:

(1) Operations may be continued only for the balance of the term of such licenses if aircraft involved are regularly

flown at altitudes greater than 1.6 km (1 mi) above the earth's surface.

(2) Operations may be continued for one additional renewal license term if the aircraft involved are regularly flown at altitudes below 1.6 km (1 mi) above the earth's surface.

(d) Operation of radiolocation mobile stations may be authorized without regard to limitations and conditions set forth in paragraphs (a), (b), and (c) of this section.

[43 FR 54791, Nov. 22, 1978, as amended at 58 FR 44960, Aug. 25, 1993]

§90.425 Station identification.

Stations licensed under this part shall transmit identification in accordance with the following provisions:

(a) *Identification procedure.* Except as provided for in paragraph (d) of this section, each station or system shall be identified by the transmission of the assigned call sign during each transmission or exchange of transmissions, or once each 15 minutes (30 minutes in the Public Safety and Special Emergency Radio Services) during periods of continuous operation. The call sign shall be transmitted by voice in the English language or by International Morse Code in accordance with paragraph (b) of this section. If the station is employing either analog or digital voice scrambling, or non-voice emission, transmission of the required identification shall be in the unscrambled mode using A3E, F3E or G3E emission, or International Morse, with all encoding disabled. Permissible alternative identification procedures are as follows:

(1) A mobile relay station call sign may be used to identify the associated control and mobile stations, except in the Public Safety and Special Emergency Radio Services where the stations operate on frequencies below 450 MHz. Alternatively, a base station (including a mobile relay station) which is controlled by radio may be identified by the transmission of the call sign of the station at which communications originate.

(2) One or more fixed relay stations may be identified by the transmission of the call signs of the stations at which the communications originate.

(3) When a mobile station transmits on a different frequency than its associated base station, the assigned call sign of either the mobile station or the base station may be transmitted. Further, a single mobile unit in the licensee's authorized geographic area of operation may transmit station identification on behalf of any other operating mobile units in the fleet.

(4) *Use of an identifier other than the assigned call sign.* (i) In the Public Safety and Special Emergency Radio Services, mobile units licensed to a governmental entity and which operate on frequencies above 30 MHz may use an indentifier which contains, at a minimum, the name of the licensee if the licensee maintains at the station a list of the special identifier(s) to be used by the mobile units.

(ii) In the Land Transportation Radio Services, licensees may request the Commission's local Engineer-in-Charge to approve the use of special mobile unit identifiers in lieu of the assigned call sign. Such requests, however, will not be granted where it appears that harmful interference to international operations may be caused by stations below 50 MHz, or by stations operating in areas within 80 km (50 miles) of an international boundary, or where it appears that the proposed method of identification will not adequately distinguish the mobile units of the applicant from the mobile units of other licensees in the area.

(iii) In the Railroad Radio Service, stations may be identified by the name of the railroad and the train number, caboose number, engine number, or the name of the fixed wayside station. If none of these forms are practicable, any similar name or number may be designated by the railroad concerned for use by its employees in the identification of fixed points or mobile units; *Provided,* That, a list of such identifiers is maintained by the railroad. An abbreviated name or the initials of the railroad may be used where such are in general usage. In those areas where it is shown that no difficulty would be encountered in identifying the transmission of a particular station (as, for example, where stations of one licensee are located in a yard isolated from other radio installations), approval

may be given to a request from the licensee for permission to omit the station identification.

(5) *Use of identifiers in addition to assigned call signs.* Nothing in this section shall be construed as prohibiting the transmission of station or unit identifiers which may be necessary or desirable for system operation, *Provided,* That, they are transmitted in addition to the assigned station call sign or other permissible form of identification.

(b) *Use of automatic Morse code identification equipment.* Automatically activated equipment may be used to transmit station identification in International Morse Code pursuant to the following conditions:

(1) The signal output of the automatic identification equipment shall be connected to the transmitter at the microphone input or any other manufacturer-provided signal input terminal and shall be adjusted to produce 40 percent ± 10 percent of the maximum permissible modulation or deviation level. This adjustment shall be performed when all other modulating signals are absent.

(2) The Morse code transmission rate shall be maintained between 20 and 25 words per minute.

(3) The frequency of the keyed tone comprising the identification signal shall be 1200 ± 800 Hz. A licensee may be required to change the frequency in order to prevent interference to the operations of another co-channel licensee.

(4) Should activation of automatic Morse code identification equipment interrupt the communications of another co-channel licensee, the Commission may require the use of equipment which will delay automatic station identification until such co-channel communications are completed.

(c) *Special provisions for identification in the Radiolocation Service.* (1) Stations in the Radiolocation Service are not required to identify except upon specific instruction from the Commission or as required by paragraph (c)(2) of this section.

(2) Stations in the Radiolocation Service operating on frequencies above 3400 kHz that employ spread spectrum techniques shall transmit a two-letter manufacturer's designator, authorized by the Commission on the station authorization, at the beginning and ending of each transmission and once every 15 minutes during periods of continuing operation. The designator shall be transmitted in International Morse Code at a speed not exceeding 25 words per minute, and the spread spectrum mode of operation shall be maintained while the designator is being transmitted. The identifying signal shall be clearly receivable in the demodulated audio of a narrow-band FM receiver.

(d) *General exemptions.* A station need not transmit identification if:

(1) It is a mobile station operating on the transmitting frequency of the associated base station.

(2) It is a mobile station in the Police or Fire Radio Services using F1E or G1E emission.

(3) It is transmitting for telemetering purposes or for the activation of devices which are employed solely as a means of attracting attention, or for remote control purposes, or which is retransmitting by self-actuating means, a radio signal received from another radio station or stations.

(4) It is any type of radiopositioning or radar station authorized in a service other than the Radiolocation Service.

(5) It is used solely for automatic vehicle monitoring or location.

(6) It is a paging station authorized in accordance with the provisions of § 90.38 (a).

(7) It is a mobile station employing non-voice emissions and the associated base station identifies on behalf of the mobile unit(s).

(8) It is a base or mobile station in the 220–222 MHz band authorized to operate on a nationwide basis in accordance with subpart T of this part.

(9) It is a wireless microphone station operating in accordance with the provisions of § 90.265(b).

(e) Special provisions for stations licensed under this part that are classified as CMRS providers under part 20 of this chapter.

(1) Station identification will not be required for 929–930 MHz nationwide paging licensees and MTA-based SMR licensees. All other CMRS stations will be required to comply with the station

identification requirements of paragraphs (a) through (d) of this section.

(2) CMRS stations subject to a station identification requirement will be permitted to use a single call sign for commonly owned facilities that are operated as part of a single system. The call sign must be transmitted each hour within five minutes of the hour, or upon completion of the first transmission after the hour.

(3) CMRS stations granted exclusive channels may transmit their call signs digitally. The station licensee must provide the Commission with information sufficient to decode the digital transmission to ascertain the transmitted call sign.

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §90.425, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§90.427 Precautions against unauthorized operation.

(a) Each transmitter shall be so installed and protected that it is not accessible to or capable of operation by persons other than those duly authorized by and under the control of the licensee. Provisions of this part authorizing certain unlicensed persons to operate stations, or authorizing unattended operation of stations in certain circumstances, shall not be construed to change or diminish in any respect the responsibility of station licensees to maintain control over the stations licensed to them (including all transmitter units thereof), or for the proper functioning and operation of those stations and transmitter units in accordance with the terms of the licenses of those stations.

(b) Except for frequencies used in accordance with §90.417, no person shall program into a transmitter frequencies for which the licensee using the transmitter is not authorized.

[43 FR 54791, Nov. 22, 1978, as amended at 52 FR 47570, Dec. 15, 1987]

§90.429 Control point and dispatch point requirements.

(a) *Control point required.* Unless permitted to be operated on an unattended basis, each station shall be provided with a control point;

(b) A control point is an operating position:

(1) Which must be under the control and supervision of the licensee;

(2) Where a person immediately responsible for the operation of the transmitter is stationed;

(3) Where the monitoring facilities required by this part are installed.

(c) *Control point location.* The location of the control point will be specified in the station license and will be assumed to be the same as that of the transmitting equipment unless an application for a different location has been approved by the Commission.

(d) *Control point facilities required.* At each control point, the following facilities shall be installed:

(1) A carrier-operated device which will provide continuous visual indication when the transmitter is radiating, or, a pilot lamp or meter which will provide continuous visual indication when the transmitter circuits have been placed in a condition to produce radiation. The provisions of this subparagraph shall not apply to hand-carried transmitters or transmitters installed on motorcycles. The control point for a transmitter utilized to activate another radio station may employ a single pilot lamp or meter as an indication of the activation of local and remote transmitters.

(2) Facilities which will permit the person responsible for the operation of the transmitter either to disconnect the dispatch point circuits from the transmitter or to render the transmitter inoperative from any dispatch point under his supervision; and

(3) Facilities which will permit the person responsible for the operation of the transmitter to turn the transmitter carrier on and off at will.

(e) *Dispatch point.* A dispatch point is any position from which messages may be transmitted under the supervision of the person at a control point who is responsible for the operation of the transmitter. Dispatch points may be installed without authorization from the Commission.

[43 FR 54791, Nov. 22, 1978; 44 FR 67118, Nov. 23, 1979, as amended at 48 FR 29517, June 27, 1983]

§ 90.431 Unattended operation.

No person is required to be in attendance at a station when transmitting during normal rendition of service and when either:

(a) Transmitting for telemetering purposes; or,

(b) Retransmitting by self-actuating means a radio signal received from another radio station or stations.

§ 90.433 Operator requirements.

(a) No operator license or permit is required for the operation, maintenance, or repair of stations licensed under this part.

(b) Any person, with the consent or authorization of the licensee, may employ stations in this service for the purpose of telecommunications.

(c) The station licensee shall be responsible for the proper operation of the station at all times and is expected to provide observations, servicing and maintenance as often as may be necessary to ensure proper operation. All adjustments or tests during or coincident with the installation, servicing, or maintenance of the station should be performed by or under the immediate supervision and responsibility of a person certified as technically qualified to perform transmitter installation, operation, maintenance, and repair duties in the private land mobile services and fixed services by an organization or committee representative of users in those services.

(d) The provisions of paragraph (b) of this section shall not be construed to change or diminish in any respect the responsibility of station licensees to have and to maintain control over the stations licensed to them (including all transmitter units thereof), or for the proper functioning and operation of those stations (including all transmitter units thereof), in accordance with the terms of the licenses of those stations.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, 47 U.S.C. 154(i) and 303(r), and sec. 553 of the Administrative Procedures Act, 5 U.S.C. 553)

[49 FR 20672, May 16, 1984]

§ 90.437 Posting station licenses.

(a) The current original authorization for each station shall be retained as a permanent part of the station records but need not be posted.

(b) Entities authorized under this part must make available either a clearly legible photocopy of the authorization for each base or fixed station at a fixed location at every control point of the station or an address or location where the current authorization may be found.

(c) Entities operating under a temporary permit authorized in accordance with § 90.159 shall post an executed copy of the Form 572 at every control point of the system or an address or location where the current executed copy may be found.

(d) An applicant operating under a temporary permit authorized in accordance with § 90.657 must retain an executed copy of FCC Form 572 as a permanent part of the station records.

[43 FR 54791, Nov. 22, 1978, as amended at 45 FR 59884, Sept. 11, 1980; 47 FR 41045, Sept. 16, 1982; 47 FR 51883, Nov. 18, 1982; 54 FR 4030, Jan. 27, 1989; 59 FR 59965, Nov. 21, 1994]

§ 90.439 Inspection of stations.

All stations and records of stations in these services shall be made available for inspection at any reasonable time and any time while the station is in operation upon reasonable request of an authorized representative of the Commission.

§ 90.441 Inspection and maintenance of antenna structure marking and associated control equipment.

The owner of each antenna structure required to be painted and/or illuminated under the provisions of Section 303(q) of the Communications Act of 1934, as amended, shall operate and maintain the antenna structure painting and lighting in accordance with part 17 of this chapter. In the event of default by the owner, each licensee or permittee shall be individually responsible for conforming to the requirements pertaining to antenna structure painting and lighting.

[61 FR 4369, Feb. 6, 1996]

§90.443 Content of station records.

Each licensee of a station in these services shall maintain records in accordance with the following:

(a) For all stations, the results and dates of the transmitting measurements required by §90.215 of this part and the name of the person or persons making the measurements.

(b) For all stations, the dates and pertinent details of any maintenance performed on station equipment, and the name and address of the service technician who did the work. If all maintenance is performed by the same technician or service company, the name and address need be entered only once in the station records.

(c) For private land stations that are interconnected with the public switched telephone network, the licensee must maintain a detailed description of how interconnection is accomplished. When telephone service costs are shared, at least one licensee participating in the cost sharing arrangement must maintain cost sharing records. A report of the cost distribution must be placed in the licensee's station records and made available to participants in the sharing and the Commission upon request. See §90.477.

(d) For shared land stations, the records required by §90.179.

[43 FR 54791, Nov. 22, 1978, as amended at 48 FR 26621, June 9, 1983; 48 FR 29518, June 27, 1983; 50 FR 39681, Sept. 30, 1985; 50 FR 40976, Oct. 8, 1985; 61 FR 4369, Feb. 6, 1996]

§90.445 Form of station records.

(a) Station records shall be kept in an orderly manner, and in such detail that the data required are readily available. Key letters or abbreviations may be used if proper meaning or explanation is set forth in the record.

(b) Each entry in the records of each station shall be signed by a person qualified to do so, having actual knowledge of the facts to be recorded.

(c) No record or portion thereof shall be erased, obliterated, or wilfully destroyed within the required retention period. Any necessary correction may be made only by the person originating the entry, who shall strike out the erroneous portion, initial the correction made, and indicate the date of correction.

§90.447 Retention of station records.

Records required by this part shall be retained by the licensee for at least one year.

§90.449 Answers to official communications and notices of violation.

(a) Licensees are required to respond to official communications with reasonable dispatch and according to the tenor of the communication. Failure to do so may be considered by the Commission to reflect adversely on a person's qualifications to hold Commission authorizations and may also create liabilities for other sanctions.

(b) Any licensee receiving official notice of a violation of the terms of the Communications Act of 1934, as amended, any legislative act or treaty to which the United States is a party, or the rules and regulations of the Commission, shall, within ten (10) days from such receipt or such other period as may be specified by the Commission, send a written answer to the office of the Commission originating the original notice. If an answer cannot be sent, or an acknowledgement made, within such period, acknowledgement and answer shall be made at the earliest practicable date with a satisfactory explanation of the delay. The answer to each notice shall be complete in itself and shall not be abbreviated by reference to other communications or answers to other notices. The reply shall set forth the steps taken to prevent a recurrence of improper operation.

[59 FR 59965, Nov. 21, 1994]

Subpart O—Transmitter Control

§90.460 Scope.

This subpart sets forth the provisions relating to permissible methods of transmitter control and interconnection (see the definition in §90.7) of radio systems authorized under this part. The rules become effective for new systems on October 17, 1978. Licensees of existing systems shall bring their facilities into compliance with the provisions of this subpart by January 1, 1984.

[44 FR 67124, Nov. 23, 1979]

§ 90.461 Direct and remote control of transmitters.

(a) *In general.* Radio transmitters may be operated and controlled directly (as when the operating position for the transmitter and the transmitter being operated are at the same location), or remotely (as when the transmitter being operated and the position from which it is being operated are at different locations).

(b) *Control of transmitters at remote locations.* Radio transmitters at remote locations may be operated and controlled through the use of wire line or radio links; or through dial-up circuits, as provided in paragraph (c) of this section. Such control links or circuits may be either those of the licensee or they may be provided by common carriers authorized by law to furnish such service.

(c) *Dial-up circuits.* Dial-up circuits may be provided by wire line telephone companies under appropriate tariffs, and they may be used by licensees for purposes of transmitter control, provided:

(1) The dial-up circuits serve only to link licensed transmitter control points and the transmitters being controlled.

(2) The dial-up circuits are so designed that the transmitters being controlled cannot be operated from any fixed position other than the licensed control points for those transmitters.

(3) Equipment used to provide the transmitter/dial-up-circuit interface is designed to preclude associated mobile units of the licensee from reaching any point(s) served by the wire line telephone facilities other than the control point(s) of the station(s) controlled.

(4) Any direct electrical connection to the telephone network shall comply with applicable tariffs and with part 68 of the Commission's Rules (See § 90.5(j)).

(5) Interconnection, within the meaning of §§ 90.7 and 90.477 through 90.483, may not take place at a control point which connects to its associated transmitter(s) through dial-up circuits; nor may such dial-up transmitter control circuits be used in conjunction with (or shared by) interconnection equipment.

[43 FR 54791, Nov. 22, 1978, as amended at 44 FR 67124, Nov. 23, 1979; 60 FR 50123, Sept. 28, 1995]

§ 90.463 Transmitter control points.

(a) A control operator is required to be stationed at the operating position of a transmitter control point. A control operator is any person designated by the licensee to exercise supervision and control over the operation and use of the licensee's facilities. The control operator may be the licensee; or an employee of the licensee; or the agent of the licensee, appointed by the licensee to act as the control operator; or a third-party contractor, engaged by the licensee to serve as the control operator: *Provided, however,* In no case, through appointment or designation of any person to serve as control operator, may the licensee delegate any of the duties and responsibilities the licensee may have in his capacity as licensee.

(b) Each station or licensed system of communication shall normally have a control point, or control points, at which the control operator or operators are stationed and at or from which the licensee may exercise supervision and control over the authorized facilities, as required by the provisions of § 90.461. *Provided, however,* Control point requirements may vary from one system to another, depending upon the nature of the radio operation; the way and by whom the facilities are employed; and other factors, as set out in other rule sections under this subpart.

(c) A transmitter control point may be located at a fixed position in a system of communication at or from which the control operator exercises supervision and control over the operation and use of the licensed facilities. Each fixed transmitter control point shall have equipment and facilities to permit the control operator:

(1) To determine when the transmitter or transmitters controlled are either radiating ''RF'' energy, or when the transmitter circuits have been placed in a condition to produce such radiation. This may be accomplished either through the use of a carrier operated device which provides a visual

indication when the transmitter(s) are radiating or a pilot lamp or meter which provides a visual indication when the transmitter circuits have been placed in a condition to produce radiation. Further, where a local transmitter is used to activate a remote transmitter or transmitters in the licensee's system of communication, a single pilot lamp or meter may be employed to indicate the activation of both the local and the remote transmitter(s).

(2) To turn the carrier of the transmitter on and off at will, or to close the system down completely, when circumstances warrant such action.

(d) The licensee's transmitting facilities may be operated from dispatch points, the fixed control point shall have equipment to permit the control operator to either disconnect the dispatch point circuits from the transmitter(s) or to render the transmitter(s) inoperative from any dispatch point being supervised.

(e) Where the system is interconnected with public communication facilities, as provided at §§90.477 through 90.483, and where those rules so require, the fixed control point shall be equipped to permit the control operator:

(1) To monitor co-channel facilities of other licensees sharing an assigned channel or channels with the licensee in the licensee's area of operation; and,

(2) To terminate any transmission(s) or communication(s) between points in the public communications system and the private communications system.

(f) In urban areas, the location of fixed transmitter control points will be specified, ''same as transmitter,'' unless the control point is at a street address which is different from that of the transmitter(s) controlled. In rural areas, the location of fixed control points will be specified, ''same as transmitter,'' unless the control point is more than 152.5 m (500 ft) from the transmitter(s) controlled. In the latter case, the approximate location of the control point will be specified in distance and direction from the transmitter(s) controlled in terms of distance and geographical quadrant, respectively. It would be assumed that the location of a fixed control point is the same as the location of the transmitter(s) controlled, unless the applicant includes a request for a different location described in appropriate terms as indicated herein.

(g) [Reserved]

(h) Mobile transmitters shall be assumed to be under the immediate control of the mobile operator; provided, however, overall supervision and control of the operation and use of a communication system may be the responsibility of a fixed control point operator. In general, mobile transmitters shall be equipped to permit the operator to determine when they are radiating ''RF'' energy or when the transmitter circuits have been placed in a condition to produce such radiation. This may be accomplished either through the use of a carrier operated device or of a pilot lamp or meter which will provide a visual indication when the transmitter is radiating or has been placed in a condition to produce radiation provided, however, that hand-carried or pack-carried transmitters and transmitters installed on motorcycles need not be so equipped.

[43 FR 54791, Nov. 22, 1978; 44 FR 32220, June 5, 1979; 44 FR 34134, June 14, 1979, as amended at 44 FR 67125, Nov. 23, 1979; 48 FR 29517, June 27, 1983; 54 FR 39740, Sept. 28, 1989; 58 FR 44960, Aug. 25, 1993]

§90.465 Control of systems of communication.

(a) Depending on design considerations, control of a system of communication may be exercised in varying ways. In single frequency simplex, base/mobile operations, control may be exercised by the control operator at the fixed control point. In mobile relay systems, where there is an associated control point or control station, control may be exercised by the operator at the control point or control station. In mobile-only systems, control may be exercised by the mobile operator. In communication systems involving multiple base stations or fixed relays control of the system may result from a combination of factors and considerations, including control by a fixed control point operator at some point within the system of communication or control by the mobile station operator of the licensee.

(b) In internal systems, as defined at § 90.7 control may be maintained by conforming the system to the requirements of §§ 90.471 through 90.475.

(c) In interconnected systems, as defined at § 90.7 control may be maintained by conforming operation and system design to that permitted at §§ 90.477 through 90.483.

[43 FR 54791, Nov. 22, 1978, as amended at 54 FR 39740, Sept. 28, 1989]

§ 90.467 Dispatch points.

Dispatch points meeting the requirements of this section need not be specifically authorized; provided, however, that the licensee of any radio station operated from a dispatch point or points shall assume full responsibility for the use and operation of the authorized facilities in compliance with all applicable provisions of law or rule and shall comply with the policy:

(a) A dispatch point may be linked to the transmitter(s) being operated by private or leased wire line of fixed radio circuits, provided the requirements of § 90.463 are met.

(b) No telephone position in the public, switched, telephone network will be treated as a dispatch point within the meaning or intent of this section.

(c) Operation of transmitting facilities from dispatch points is permitted only when the control operator at a fixed control point in the system is on duty and at no other time.

§ 90.469 Unattended operation.

(a) Subject to the provisions of §§ 90.243, 90.245, and 90.247, mobile relay, fixed relay, and mobile repeater stations are authorized for unattended operation; and the transmitter control point requirements set out at §§ 90.463 through 90.465 shall not apply.

(b) Self-activated transmitters may be authorized for unattended operation where they are activated by either electrical or mechanical devices, provided the licensee adopts reasonable means to guard against malfunctions and harmful interference to other users.

INTERNAL TRANSMITTER CONTROL SYSTEMS

§ 90.471 Points of operation in internal transmitter control systems.

The transmitting facilities of the licensee may be operated from fixed positions located on premises controlled by the licensee. The fixed position may be part of a private telephone exchange or it may be any position in a closed or limited access communications facility intended to be used by employees of the licensee for internal communications and transmitter control purposes. Operating positions in internal transmitter control systems are not synonymous with dispatch points (See § 90.467) nor with telephone positions which are part of the public, switched telephone network; and the scheme of regulation is to be considered and treated as being different. See §§ 90.485 through 90.489.

[44 FR 67125, Nov. 23, 1979]

§ 90.473 Operation of internal transmitter control systems through licensed fixed control points.

An internal transmitter control system may be operated under the control and supervision of a control operator stationed at a fixed control point in the system. In such a case, the control point must be equipped to permit the control operator to monitor all traffic to and from fixed positions and mobile stations or paging units of the licensee; and the system shall be so designed to permit the control operator to either disconnect any operating position in the internal system from the transmitter control circuit or to close the system down entirely at will.

[44 FR 67125, Nov. 23, 1979]

§ 90.475 Operation of internal transmitter control systems in specially equipped systems.

(a) An internal transmitter control system need not be designed to meet the requirements of § 90.473 if it meets the following requirements:

(1) All operating positions must be located on premises controlled by the licensee.

(2) An internal transmitter control system may be used in conjunction

with other approved methods of transmitter control and interconnection so long as the internal transmitter control system, itself, is neither accessed from telephone positions in the public switched telephone network, nor used dial-up circuits in the public switched telephone network. Licensees with complex communications systems involving fixed systems whose base stations are controlled by such systems may automatically access these base stations through the microwave or operational fixed systems from positions in the PSTN, so long as the base stations and mobile units meet the requirements of §90.483 and if a separate circuit is provided for each mode of transmitter operation (*i.e.*, conventional, dial-up or internal).

(3) The system must be designed so that upon completion of a transmission, the base station transmitter(s) will close down automatically within 3 seconds.

(4) To guard against malfunctions, the system must also be designed so that the base station(s) will be deactivated by an automatic timing device when a modulated signal is not transmitted for a period of three (3) consecutive minutes.

(5) The system must include automatic monitoring equipment, installed at the base station transmitter site(s), which will prevent the activation of the system when signals of other co-channel stations are present.

[43 FR 54791, Nov. 22, 1978, as amended at 44 FR 67125, Nov. 23, 1979; 47 FR 17521, Apr. 23, 1982]

INTERCONNECTED SYSTEMS

§90.476 Interconnection of fixed stations and certain mobile stations.

(a) Fixed stations and mobile stations used to provide the functions of fixed stations pursuant to the provisions of paragraphs (c)(4) and (c)(36) of §§90.75 and 90.267 are not subject to the interconnection provisions of §§90.477 and 90.483 and may be interconnected with the facilities of common carriers.

(b) Mobile stations used to provide the functions of base and mobile relay stations pursuant to the provisions of paragraphs (c)(4) and (c)(36) of §§90.75 and 90.267 are not subject to the provisions of paragraph (d)(3) of §90.477 and may be interconnected with the facilities of common carriers subject to the provisions of paragraphs (d)(1), (d)(2) and (e) of §§90.477 and 90.483.

(c) The provisions of this section do not apply to commercial mobile radio service providers, as defined in part 20 of this chapter.

[50 FR 15152, Apr. 17, 1985, as amended at 59 FR 59965, Nov. 21, 1994]

§90.477 Interconnected systems.

(a) Applicants for new land stations to be interconnected with the public switched telephone network must indicate on their applications (class of station code) that their stations will be interconnected. Licensees of land stations that are not interconnected may interconnect their stations with the public switched telephone network only after modifying their license. See §90.135. In all cases a detailed description of how interconnection is accomplished must be maintained by licensees as part of their station records. See §90.433.

(b) In the frequency ranges 806–824 MHz, 851–869 MHz, 896–901 MHz, and 935–940 MHz, interconnection with the public switched telephone network is authorized under the following conditions:

(1) Interconnected operation is on a secondary basis to dispatch operation. This restriction will not apply to trunked systems or on any channel assigned exclusively to one licensee.

(2) Interconnection may be accomplished at any location through a separate or shared interconnection device. When land stations subject to this part are multiple licensed or shared by authorized users, arrangements for telephone service must be made with a duly authorized carrier by users, licensees, or their authorized agents on a non-profit cost sharing basis. When telephone service costs are shared, at least one licensee participating in the cost sharing arrangement must maintain cost sharing records and the costs must be distributed at least once a year. Licensees, users, or their authorized agents may also make joint use arrangements with a duly authorized carrier and arrange that each licensee or

user pay the carrier directly for the licensee's or user's share of the joint use of the shared telephone service. A report of the cost distribution must be placed in the licensee's station records and made available to participants in the sharing and the Commission upon request. In all cases, arrangements with the duly authorized carrier must disclose the number of licensees and users and the nature of the use.

(c) Interconnection of facilities in the Radiolocation Service (subpart F) will not be permitted.

(d) In the frequency ranges below 800 MHz, interconnection with the public switched telephone network is authorized under the following conditions:

(1) Interconnected operation is on a secondary basis to dispatch operation. This restriction will not apply to trunked systems or on any channel assigned exclusively to one licensee.

(2) Interconnection may be accomplished at any location through a separate or shared interconnection device. When land stations subject to this part are multiple licensed or shared by authorized users, arrangements for telephone service must be made with a duly authorized carrier by users, licensees, or their authorized agents on a non-profit cost sharing basis. When telephone service costs are shared, at least one licensee participating in the cost sharing arrangement must maintain cost sharing records and the costs must be distributed at least once a year. Licensees, users, or their authorized agents may also make joint use arrangements with a duly authorized carrier and arrange that each licensee or user pay the carrier directly for the licensee's or user's share of the joint use of the shared telephone service. A report of the cost distribution must be placed in the licensee's station records and made available to participants in the sharing and the Commission upon request. In all cases, arrangements with the duly authorized carrier must disclose the number of licensees and users and the nature of the use.

(3) In the Special Emergency, Business, Special Industrial, Automobile, and Taxicab Radio Services, interconnection will be permitted only where the base station site or sites of proposed stations are located 120 km (75 mi) or more from the designated centers of the urbanized areas listed below. If licensees seek to interconnect in these five services within 120 km (75 miles) of the 25 cities they must obtain the consent of all co-channel licensees located both within 120 km (75 miles) of the center of the city; and within 120 km (75 miles) of the interconnected base station transmitter. The consensual agreements among the co-channel licensees must specifically state the terms agreed upon and a statement must be submitted to the Commission indicating that all co-channel licensees have consented to the use of interconnection. If a licensee has agreed to the use of interconnection on the channel, but later decides against the use of interconnection, the licensee may request that the co-channel licensees reconsider the use of interconnection. If the licensee is unable to reach an agreement with co-channel licensees, the licensee may request that the Commission consider the matter and assign it to another channel. If a new licensee is assigned to a frequency where all the co-channel licensees have agreed to the use of interconnection and the new licensee does not agree, the new licensee may request that the co-channel licensees reconsider the use of interconnection. If the new licensee can not reach an agreement with co-channel licensees it may request that the Commission reassign it to another channel.

Urbanized area	North lattitude	West longitude
New York, NY-northeastern NJ	40°45′06″	73°59′39″
Los Angeles-Long Beach, CA	34°03′15″	118°14′28″
Chicago, IL	41°52′28″	87°38′22″
Philadelphia, PA-New Jersey	39°56′58″	75°09′21″
Detroit, MI	42°19′48″	83°02′57″
San Francisco-Oakland, CA	37°46′39″	122°24′40″
Boston, MA	42°21′24″	71°03′25″
Washington, DC-Maryland-Virginia	38°53′51″	77°00′33″
Cleveland, OH	41°29′51″	81°41′50″
St. Louis, MO-Illinois	38°37′45″	90°12′22″
Pittsburgh, PA	40°26′19″	80°00′00″
Minneapolis-St. Paul, MN	44°58′57″	93°15′43″
Houston, TX	29°45′26″	95°21′37″
Baltimore, MD	39°17′26″	76°36′45″
Dallas, TX	32°47′09″	96°47′37″
Milwaukee, WI	43°02′19″	87°54′15″
Seattle-Everett, WA	47°36′32″	122°20′12″
Miami, FL	25°46′37″	80°11′32″
San Diego, CA	32°42′53″	117°09′21″
Atlanta, GA	33°45′10″	84°23′37″
Cincinnati, OH-Kentucky	39°06′07″	84°30′35″
Kansas City, MO-Kansas	39°04′56″	94°35′20″
Buffalo, NY	42°52′52″	78°52′21″
Denver, CO	39°44′58″	104°59′22″

Urbanized area	North lattitude	West longitude
San Jose, CA	37°20′16″	121°53′24″

(e) Additional frequencies shall not be assigned to enable any licensee to employ a preferred interconnection capability.

(f) Paging systems operating on frequencies in the bands below 800 MHz are not subject to the interconnection provisions of §90.477(d)(3).

[47 FR 17520, Apr. 23, 1982, as amended at 48 FR 29518, June 27, 1983; 50 FR 15152, Apr. 17, 1985; 51 FR 14998, Apr. 22, 1986; 51 FR 37401, Oct. 22, 1986; 52 FR 15501, Apr. 29, 1987; 52 FR 29856, Aug. 12, 1987; 53 FR 1025, Jan. 15, 1988; 58 FR 44961, Aug. 25, 1993; 61 FR 6576, Feb. 21, 1996]

§90.483 Permissible methods and requirements of interconnecting private and public systems of communications.

Interconnection may be accomplished by commercial mobile service providers licensed under this part by any technically feasible means. Interconnection may be accomplished by private mobile service providers either manually or automatically under the supervision and control of a transmitter control operator at a fixed position in the authorized system of communications or it may be accomplished under the supervision and control of mobile operators, and is subject to the following provisions:

(a) Where a system is interconnected manually at a fixed control point, the control point operator must maintain the capability to turn the carrier of the transmitter off or to de-activate the system completely when circumstances warrant such action.

(b) When the system is interconnected automatically it may be supervised at the control point or in mobile units.

(1) For control point supervision, the following is required:

(i) The control point operator must maintain the capability to turn the carrier of the transmitter off or to de-activate the system completely when circumstances warrant such action.

(ii) When a frequency is shared by more than one system, automatic monitoring equipment must be installed at the base station to prevent activation of the transmitter when signals of co-channel stations are present and activation would interfere with communications in progress. Licensees may operate without the monitoring equipment if they have obtained the consent of all co-channel licensees located within a 120 km (75 mile) radius of the interconnected base station transmitter. A statement must be submitted to the Commission indicating that all co-channel licensees have consented to operate without the monitoring equipment. If a licensee has agreed that the use of monitoring equipment is not necessary, but later decides that the monitoring equipment is necessary, the licensee may request that the co-channel licensees reconsider the use of monitoring equipment. If the licensee cannot reach an agreement with co-channel licensees, the licensee may request that the Commission consider the matter and assign it to another channel. If a new licensee is assigned to a frequency where all the co-channel licensees have agreed that the use of monitoring equipment is not necessary, and the new licensee does not agree, the new licensee may request the co-channel licensees to reconsider the use of monitoring equipment. If the new licensee cannot reach an agreement with co-channel licensees, it should request a new channel from the Commission. Systems on frequencies above 800 MHz are exempt from this requirement.

(2) For mobile unit supervision, the following is required:

(i) When a frequency is shared by more than one system, automatic monitoring equipment must be installed at each base station to prevent its activation when signals of other co-channel stations are present and activation would interfere with communications in progress. Licensees may operate without this equipment if they have obtained the consent of all co-channel licensees located within a 120 km (75 mile) radius of the interconnected base station transmitter. A statement must be submitted to the Commission indicating that all co-channel licensees have consented to operate without the monitoring equipment. If a licensee has agreed that the use of monitoring equipment is not necessary, but later decides that the monitoring equipment

is necessary, the licensee may request that the co-channel licensees reconsider the use of monitoring equipment. If the licensee cannot reach an agreement with co-channel licensees, the licensee may request that the Commission consider the matter and assign it to another channel. If a new licensee is assigned to a frequency where all the co-channel licensees have agreed that the use of monitoring equipment is not necessary, and the new licensee does not agree, the new licensee may request the co-channel licensees to reconsider the use of monitoring equipment. If the new licensee cannot reach an agreement with co-channel licensees, it should request a new channel from the Commission. Systems above 800 MHz are exempt from this requirement.

(ii) Initial access from points within the public switched telephone network must be limited to transmission of a 3-second tone, after which time the transmitter shall close down. No additional signals may be transmitted until acknowledgement from a mobile station of the licensee is received. Licensees are exempt from this requirement if they have obtained the consent of all co-channel licensees located within a 120 km (75 mile) radius of the interconnected base station transmitter. However, licensees may choose to set their own time limitations. A statement must be submitted to the Commission indicating that all co-channel licensees have consented to operate without the monitoring equipment. If a licensee has agreed that the use of monitoring equipment is not necessary, but later decides that the monitoring equipment is necessary, the licensee may request that the co-channel licensees reconsider the use of monitoring equipment. If the licensee cannot reach an agreement with co-channel licensees, the licensee may request that the Commission consider the matter and assign it to another channel. If a new licensee is assigned to a frequency where all the co-channel licensees have agreed that the use of monitoring equipment is not necessary, and the new licensee does not agree, the new licensee may request the co-channel licensees to reconsider the use of monitoring equipment. If the new licensee cannot reach an agreement with co-channel licensees, it should request a new channel from the Commission. Systems above 800 MHz are exempt from this requirement.

(c) In single frequency systems, equipment must be installed at the base station which will limit any single transmission from within the public switched telephone network to 30 seconds duration and which in turn will activate the base station receiver to monitor the frequency for a period of not less than three (3) seconds. The mobile station must be capable of terminating the communications during the three (3) seconds. Licensees are exempt from this requirement if they have obtained the consent of all co-channel licensees located within a 120 km (75 mile) radius of the interconnected base station transmitter. However, licensees may choose to set their own time limitations. A statement must be submitted to the Commission indicating that all co-channel licensees have consented to operate without the monitoring equipment. If a licensee has agreed that the use of monitoring equipment is not necessary, but later decides that the monitoring equipment is necessary, the licensee may request that the co-channel licensees reconsider the use of monitoring equipment. If the licensee cannot reach an agreement with co-channel licensees, the licensee may request that the Commission consider the matter and assign it another channel. If a new licensee is assigned to a frequency where all the co-channel licensees have agreed that the use of monitoring equipment. If the new licensee cannot reach an agreement with co-channel licensees, it should request a new channel from the Commission.

(d) A timer must be installed at the base station transmitter which limits communications to three (3) minutes. After three (3) minutes, the system must close down, with all circuits between the base station and the public switch telephone network disconnected. This provision does not apply to systems licensed in the Police, Fire, Local Government, Emergency Medical, Special Emergency, Power, Petroleum and Railroad Radio Services, or above 800 MHz. All systems must be equipped with a timer that closes down

the transmitter within three minutes of the last transmission. Licensees may operate without these requirements if they have obtained the consent of all co-channel licensees located within a 120 km (75 mile) radius of the interconnected base station transmitter. However, licensees may choose to set their own time limitations. A statement must be submitted to the Commission indicating that all co-channel licensees have consented to operate without the monitoring equipment. If a licensee has agreed that the use of monitoring equipment is not necessary, but later decides that the monitoring equipment is necessary, the licensee may request that the co-channel licensees reconsider the use of monitoring equipment. If the licensee cannot reach an agreement with co-channel licensees, the licensee may request that the Commission consider the matter and assign it to another channel. If a new licensee is assigned to a frequency where all the co-channel licensees have agreed that the use of monitoring equipment is not necessary, and the new licensee does not agree, the new licensee may request the co-channel licensees to reconsider the use of monitoring equipment. If the new licensee cannot reach an agreement with co-channel licensees, it should request a new channel from the Commission.

[47 FR 17520, Apr. 23, 1982, as amended at 48 FR 29518, June 27, 1983; 50 FR 15153, Apr. 17, 1985; 58 FR 44961, Aug. 25, 1993; 59 FR 59966, Nov. 21, 1994; 61 FR 6576, Feb. 21, 1996]

Subpart P—Paging Operations

§90.490 One-way paging operations in the private services.

(a) Subject to specific prohibition or restriction by rule provisions governing the radio service in which a licensee's radio system is authorized, paging operations are permitted:

(1) Where the signals and messages are transmitted by a control operator of the licensee stationed at a licensed control point in the licensee's system of communication.

(2) Where the signals and messages are transmitted from an operating position within an internal system of communication which meets the tests of §§90.471 through 90.475.

(3) Where the signals and messages are transmitted from a dispatch point within the licensee's system of communication, as defined as §90.7.

(b) Systems employing dial-up circuits (§90.461(c)) may be used in one-way paging operations, but only where the paging signals are transmitted as provided at paragraph (a)(1) of this section.

(c) Paging may be initiated directly from telephone positions in the public switched telephone network. When land stations are multiple licensed or otherwise shared by authorized users, arrangements for the telephone service must be made with a duly authorized carrier by users, licensees, or their authorized agents on a non-profit, cost-shared basis. When telephone service costs are shared, at least one licensee participating in the cost sharing arrangements must maintain cost sharing records and the costs must be distributed at least once a year. Licensees, users, or their authorized agents may also make joint use arrangements with a duly authorized carrier and arrange that each licensee or user pay the carrier directly for the licensee's or user's share of the joint use of the shared telephone service. A report of the cost distribution must be placed in the licensee's station records and made available to participants in the sharing arrangement and the Commission upon request. In all cases, arrangements with the duly authorized carrier must disclose the number of licensees and users and the nature of the use.

[47 FR 39509, Sept. 8, 1982, as amended at 48 FR 56231, Dec. 20, 1983; 52 FR 15501, Apr. 29, 1987]

§90.492 One way paging operations in the 806–824/851–869 MHz and 896–901/935–940 MHz bands.

Paging operations are permitted in these bands only in accordance with §§90.645(e) and (f).

[54 FR 4030, Jan. 27, 1989]

§90.494 One-way paging operations in the 929–930 MHz band.

(a) The following frequencies are available to all eligible part 90 users for one-way paging systems on an exclusive basis as provided under §90.495:

929.0125, 929.1125, 929.1375, 929.1875, 929.2125, 929.2375, 929.2875, 929.3125, 929.3375, 929.3625, 929.3875, 929.4125, 929.4375, 929.4625, 929.4875, 929.5125, 929.5375, 929.5625, 929.5875, 929.6125, 929.6375, 929.6625, 929.6875, 929.7125, 929.7375, 929.7625, 929.7875, 929.8125, 929.8375, 929.8625, 929.8875, 929.9125, 929.9375, 929.9625, 929.9875

(b) The following frequencies are available to all eligible part 90 users for one-way paging systems on a shared basis only and will not be assigned for the exclusive use of any licensee.

929.0375, 929.0625, 929.0875, 929.1625, 929.2625

(c) All frequencies listed in this section may be used to provide one-way paging communications to persons eligible for licensing under subpart B, C, D, or E of this part, representatives of Federal Government agencies, individuals, and foreign governments and their representatives. The provisions of § 90.173(b) apply to all frequencies listed in this section.

(d) Licensees on these frequencies may utilize any type of paging operation desired (tone only, tone-voice, digital, tactile, optical readout, etc.).

(e) There shall be no minimum or maximum loading standards for these frequencies.

(f) Except as provided in paragraph (g) of this section, the effective radiated power and antenna height for base stations providing one-way paging service in the frequency band 929–930 MHz must not exceed 1 kilowatt (30 dBw) and 304 meters (1000 feet) above average terrain (AAT), or the equivalent thereof determined from the following table:

Antenna height (AAT) [meters/(feet)]	Effective radiated power (ERP) (watts)
Above 1357 (4500)	65
Above 1205 to 1357 (4000 to 4500)	70
Above 1056 to 1205 (3500 to 4000)	75
Above 904 to 1056 (3000 to 3500)	100
Above 762 to 904 (2500 to 3000)	140
Above 609 to 762 (2000 to 2500)	200
Above 457 to 609 (1500 to 2000)	350
Above 304 to 457 (1000 to 1500)	600

(g) Stations operating as part of regional or local systems under § 90.495(a)(1) or (a)(2) may also operate sites within their existing service area at a maximum effective radiated power of 3500 watts, provided that such an increase in power does not expand the licensee's service-area contour, and the requirements of § 90.495(b)(2) are met as to any co-channel system that has pre-existing exclusivity rights.

[58 FR 62291, Nov. 26, 1993, as amended at 59 FR 59966, Nov. 21, 1994; 61 FR 8483, Mar. 5, 1996]

§ 90.495 Channel exclusivity for local, regional, and national paging systems.

(a)(1) Applicants for commercial or non-commercial private paging stations in the 929–930 MHz band are eligible for channel exclusivity based on the minimum separation standards provided in this section. To qualify for exclusivity, applicants must construct and operate a local, regional, or nationwide paging system that conforms to the following criteria:

(i) A local system must consist of at least six contiguous transmitters, except in the New York, Los Angeles, and Chicago markets, as defined in § 90.741, where 18 contiguous transmitters are required. For purposes of this section, transmitters will be considered contiguous if:

(A) Each transmitter is located within 25 miles (40 kilometers) of at least one other transmitter in the system;

(B) The combined areas defined by a 12.5 mile radius around each transmitter form a single contiguous area; and

(C) No transmitter is co-located with any other transmitter being counted as part of a local system for purposes of this section.

(ii) Transmitters will be considered co-located for purposes of this section if they are situated on a common antenna, building, antenna farm, or similar facility.

(2) A regional system must consist of 70 or more transmitters, not necessarily contiguous as defined in paragraph (a)(1)(i) of this section, located in no more than twelve adjacent states in the continental United States. In each of the top thirty markets listed in § 90.741, no transmitter may be counted as part of a regional system under this paragraph unless it would also qualify

as part of a local system under paragraph (a)(1)(i) of this section.

(3) A nationwide system must consist of 300 or more transmitters in the continental United States, Alaska, Hawaii, and Puerto Rico, and must provide service to at least 50 markets listed in § 90.741, including 25 of the top 50 markets and two markets in each of the following regions:

(i) Region 1—Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont.

(ii) Region 2—Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, Virginia, West Virginia.

(iii) Region 3—Illinois, Indiana, Ohio, Michigan, Wisconsin.

(iv) Region 4—Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee.

(v) Region 5—Arkansas, Kansas, Missouri, Oklahoma, Texas.

(vi) Region 6—Arizona, Colorado, Idaho, Iowa, Minnesota, Montana, Nebraska, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming.

(vii) Region 7—California, Nevada.

(4) No transmitter may be counted as part of a local, regional, or nationwide system under this section unless it is capable of at least 100 watts output power, has simulcast capability, and is to be operated as part of the paging system for which channel exclusivity is sought. Transmitters that are part of a single paging system need not be licensed to a single entity to comply with this requirement.

(5) Frequency-agile transmitters may be counted no more than once for purposes of this section. A licensee using frequency-agile transmitters may qualify for exclusivity on a second frequency by constructing twice the number of transmitters required to obtain exclusivity on a single frequency, provided that all other requirements of this section are met.

(6) The provisions of this section apply solely to the frequencies listed in § 90.494(a).

(b) If a paging licensee qualifies for exclusivity under paragraph (a) of this section, no co-channel authorization may be granted to another applicant except in compliance with the separation requirements set forth in this paragraph.

(1) The following table of heights and powers is used to classify all 929–930 MHz paging stations:

Average antenna height above average terrain [meters/(feet)]	Station Class					
1206–1526 (4001–5000)	G	G	F	E	F	F
862–1205 (2826–4000)	H	G	G	F	F	F
610–861 (2001–2825)	K	H	H	G	F	F
427–609 (1401–2000)	L	K	H	G	G	G
304–426 (1001–1400)	L	L	K	H	G	G
177–303 (581–1000)	L	L	L	L	K	H
0–176 (0–580)	L	L	L	L	L	L
Effective radiated power (watts).	125	250	500	1000	1860	3500

(2) The minimum distance between each co-channel station and each transmitter in a system qualified for local or regional exclusivity under paragraph (a) of this section is determined by the following table:

MINIMUM SEPARATION BETWEEN CO-CHANNEL STATIONS

[kilometers/(miles)]

Station Class:				
L	112 (70)			
K	120 (75)	125 (78)		
H	128 (80)	133 (83)	138 (86)	
G	163 (101)	168 (104)	173 (107)	187 (116)

MINIMUM SEPARATION BETWEEN CO-CHANNEL STATIONS—Continued

[kilometers/(miles)]

F	223 (139)	227 (142)	233 (145)	247 (154)	275 (171)
Station class	L	K	H	G	F

(3) No co-channel authorization will be granted in the continental United States, Alaska, Hawaii, or Puerto Rico on any frequency assigned to a nationwide paging system as defined in paragraph (a)(3) of this section.

(4) The separation standards set forth in this section do not apply to the placement of co-channel stations that have been authorized on or prior to October 14, 1993 or that are subsequently authorized based on applications filed with the Commission on or prior to October 14, 1993.

(c) A proposed paging system that meets the criteria for channel exclusivity under paragraph (a) of this section will be granted exclusivity under this section at the time of initial licensing. Such exclusivity will expire unless the proposed system (or a sufficient portion of the system to qualify for exclusivity) is constructed and operating within eight months of the licensing date. If exclusivity expires for failure to construct a qualified system:

(1) The licensee may operate constructed stations, but such operation will be secondary to that of any licensee who qualifies for exclusivity under this section; and

(2) The licensee may not apply for any new station authorization in the previously proposed service area for one year from the expiration of exclusivity.

(d) Applications for channel exclusivity may request no more than one frequency in each location to be served. No applicant or affiliate of an applicant may apply for an additional frequency in an area that is the subject of the applicant's prior application unless the system proposed in the prior application has been constructed, is operating, and meets the criteria set forth in paragraph (a) of this section.

(e) Paging licensees may obtain channel exclusivity for stations that have been authorized on or prior to October 14, 1993, or for stations that are subsequently authorized based on applications filed with the Commission on or prior to October 14, 1993, by showing that such stations constitute part of a paging system that meets the criteria set forth in paragraph (a) of this section.

(f) Applications for stations will be deemed mutually exclusive if they are filed on the same day for the same frequency and if the grant of both applications would violate the separation standards set forth in paragraph (b) of this section. Where a 929–930 MHz licensee applies to add a station or stations to a system that has previously qualified for exclusivity under paragraph (a) of this section, applicants who are seeking to construct new systems in the same area and whose applications are mutually exclusive with the licensee's application will be deemed ineligible and such applications will be dismissed as unacceptable for filing.

[58 FR 62292, Nov. 26, 1993]

§ 90.496 Extended implementation schedule.

For applications filed with the Commission after October 14, 1993, a period of up to three years may be authorized for construction and commencement of operations if the proposed system to be constructed qualifies for channel exclusivity under § 90.495(a), is comprised of more than 30 transmitters, and the applicant submits justification for an extended implementation period.

(a) The justification must include reasons for requiring an extended construction period and a proposed construction schedule (with milestones). The applicant must also provide a construction cost estimate and must certify that within 30 days of the grant of its application, it will either place a sum equal to the estimate in an escrow account or obtain a performance bond

payable in that amount. An applicant who proposes to establish an escrow fund or obtain a bond equal to $20,000 for each proposed transmitter and who otherwise meets our slow-growth criteria will be presumed to qualify for an extension. An applicant whose request is based on a cost estimate lower than $20,000 per transmitter will not receive this presumption and must submit an itemized statement demonstrating that the reduced estimate is reasonable.

(b) A licensee who elects to place funds in escrow as provided in paragraph (a) of this section must provide the Commission with the name of the financial institution that holds the escrow account and the account number. A licensee who elects to post a performance bond as provided in paragraph (a) of this section must use a surety company deemed acceptable within the meaning of 31 U.S.C. 9304 *et seq.* (see, e.g., Department of the Treasury Fiscal Service, Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and As Acceptable Reinsuring Companies, 57 FR 29356 (1992)), and the bond must name the United States Treasury as beneficiary in the event of the licensee's default. The licensee must provide the Commission with a copy of the performance bond, including all details and conditions.

(c) As construction of the system proceeds, the licensee may draw from the escrow account or reduce the bond amount to reflect costs incurred, except that the amount of any reduction amount may not exceed the originally estimated construction cost of that portion of the system, even if the actual cost was higher. The amount of the reduction is subject to review and modification by the Commission. If the licensee fails to construct all or part of the proposed system within the extended construction period, the escrow balance or the outstanding principal on the bond will be paid to the United States Treasury.

(d) If an extended construction schedule is authorized under this section, channel exclusivity under §90.495 will be extended for the duration of the construction period.

(e) Authorizations under this section are conditioned upon the licensee's compliance with the submitted extended implementation schedule. Failure to meet the schedule will result in loss or authorizations for facilities not constructed and loss of exclusivity as provided in §90.495(c).

[58 FR 62293, Nov. 26, 1993]

Subpart Q—Developmental Operation

§90.501 Scope.

This subpart contains the procedures and requirements for the filing of applications for developmental licenses. It includes special requirements related to developmental operation, restrictions on operations, and special reports required when the development operation is to seek operational data or techniques directed toward the extension of that service.

§90.503 Eligibility.

Those persons who are eligible to operate stations in services under this part on a regular basis are also eligible to obtain an authorization for developmental operation in those particular radio services.

§90.505 Showing required.

(a) Except as provided in paragraph (b) of this section, each application for developmental operation shall be accompanied by a showing that:

(1) The applicant has an organized plan of development leading to a specific objective;

(2) The actual transmission by radio is essential to proceed beyond the present stage of the program;

(3) The program has reasonable promise of substantial contribution to the expansion or extension of the radio art, or is investigating new unexplored concepts in radio transmission and communications;

(4) The program will be conducted by qualified personnel;

(5) The applicant is legally and financially qualified, and possesses adequate technical facilities to conduct the proposed program; and

(6) The public interest, convenience, and necessity will be served by the proposed operation.

(b) The provisions of paragraph (a) of this section do not apply when an application is made for developmental operation solely for the reason that the frequency requested is restricted to such developmental use.

§ 90.507 Limitations on use.

Stations used for developmental operation shall conform to all technical and operating requirements of subparts I and N of this part, unless specifically exempted in the instrument of authorization.

§ 90.509 Frequencies available for assignment.

Stations engaged in developmental operation may be authorized to use a frequency or frequencies available in the service in which they propose to operate. The number of channels assigned will depend upon the specific requirements of the developmental program and the number of frequencies available in the particular geographical area where the station is to operate.

§ 90.511 Interference.

The operation of any station engaged in developmental work shall not cause harmful interference to the operation of stations regularly licensed under any part of the Commission's rules.

§ 90.513 Special provisions.

(a) The developmental program as described by the application for authorization shall be followed unless the Commission shall otherwise direct.

(b) Where some phases of the developmental program are not covered by the general rules in this chapter and the rules in this part, the Commission may specify additional requirements or conditions as deemed necessary in the public interest, convenience, or necessity.

(c) The Commission may, from time to time, require a station engaged in developmental work to conduct special tests which are reasonable and desirable to the authorized developmental program.

§ 90.515 Change or cancellation of authorization without hearing.

Every application for authority to engage in developmental operation shall be accompanied by a statement signed by the applicant in which it is agreed that any authorization issued pursuant thereto will be accepted with the express understanding of the applicant that it is subject to change in any of its terms or to cancellation in its entirety at any time, upon reasonable notice but without a hearing, if, in the opinion of the Commission, circumstances should so require.

§ 90.517 Report of operation.

A report on the results of a developmental program shall be filed with and made a part of each application for renewal of authorization. In cases where no renewal is requested, such report shall be filed within 60 days of the expiration of such authorization. Matters which the applicant does not wish to disclose publicly may be so labeled; they will be used solely for the Commission's information, and will not be publicly disclosed without permission of the applicant. The report shall include comprehensive and detailed information on:

(a) The final objective.

(b) Results of operation to date.

(c) Analysis of the results obtained.

(d) Copies of any published reports.

(e) Need for continuation of the program.

(f) Number of hours of operation on each frequency.

This report is not required if the sole reason for the developmental authorization is that the frequency of operation is restricted to developmental use only.

Subpart R—Frequency List [Reserved]

Subpart S—Regulations Governing Licensing and Use of Frequencies in the 806–824, 851–869, 896–901, and 935–940 MHz Bands

§90.601 Scope.

This subpart sets out the regulations governing the licensing and operations of all systems operating in the 806–824/851–869 MHz and 896–901/935–940 MHz bands. It includes eligibility requirements, application procedures, operational, and technical standards for stations licensing in these bands. The rules in this subpart are to be read in conjunction with the applicable requirements contained elsewhere in this part; however, in case of conflict, the provisions of this subpart shall govern with respect to licensing and operation in these frequency bands.

[56 FR 41469, Aug. 21, 1991]

APPLICATION FOR AUTHORIZATIONS

§90.603 Eligibility.

The following persons are eligible for licensing in the 806–824 MHz, 851–869 MHz, 896–901 MHz, and 935–940 MHz Bands.

(a) Any person eligible for licensing under subparts B, C, D, or E of this part.

(b) Any person proposing to provide communications service to any person eligible for licensing under subparts B, C, D, or E of this part on a not-for-profit, cost-shared basis.

(c) Any person eligible under this part and proposing to provide on a commercial basis base station and ancillary facilities as a Specialized Mobile Radio Service System operator, for the use of individuals, federal government agencies and persons eligible for licensing under subparts B, C, D, or E of this part.

[47 FR 41032, Sept. 16, 1982, as amended at 53 FR 1025, Jan. 15, 1988; 60 FR 15495, Mar. 24, 1995]

§90.605 Forms to be used.

Applications for conventional and trunked radio facilities must be prepared on FCC Forms 574 and 574A and must be submitted or filed in accordance with §90.127.

[51 FR 14999, Apr. 22, 1986]

§90.607 Supplemental information to be furnished by applicants for facilities under this subpart.

(a) Where the applicant is a person proposing to provide service to eligibles under this part on a commercial basis, the applicant must supply:

(1) A statement of the planned mode of operation.

(2) A statement certifying that no person not eligible to use the proposed facility for the purposes for which it is to be authorized will be offered or provided service through the licensee's base station facility.

(b) Except for applicants for SMR licenses, all applicants for conventional radio systems must:

(1) Furnish a list of all radio systems licensed to them or proposed by them within 64 km. (40 mi.) from the location of the base station transmitter site of the facility for which they have applied.

(2) Specify the number of mobile units to be placed in operation upon grant of the authorization and the number of such units that will be placed in operation within 8 months of the date of grant.

(c) Except for applicants for SMR licenses, all applicants for trunked systems must:

(1) Furnish a list of all radio systems licensed to them within 64 km (40 mi.) from the location of the base station transmitter site of the facility for which they have applied;

(2) Specify the number of vehicular and portable mobile units and control stations to be placed in operation within the term of the license.

(d) Each applicant shall furnish a functional system diagram illustrating the inter-relationship of all stations being applied for, together with technical details including antenna height (AAT), effective radiated power (ERP), the proposed area of coverage, and the signalling methods to be employed.

(e) Except for applicants requesting frequencies in the SMRS category listed in §§ 90.617(d) and 90.619, all applicants for frequencies governed by this subpart must comply with the frequency coordination requirements of § 90.175(b).

[47 FR 41032, Sept. 16, 1982, as amended at 49 FR 36377, Sept. 17, 1984; 51 FR 14999, Apr. 22, 1986; 59 FR 59966, Nov. 21, 1994]

§ 90.609 Special limitations on amendment of applications for assignment or transfer of authorizations for radio systems above 800 MHz.

(a) No application for a conventional or trunked radio system may be amended so as to substitute a new entity except in the following circumstances:

(1) The amendment does not involve a substantial change in the ownership or control of the applicant; or

(2) The changes in the ownership or control of the applicant are involuntary due to the original applicant's insolvency, bankruptcy, incapacity, or death.

(b) A license to operate a conventional or trunked radio system may not be assigned or transferred prior to the completion of construction of the facility. However, the Commission may give its consent to the assignment or transfer of control of such a license prior to the completion of construction where:

(1) The assignment or transfer does not involve a substantial change in ownership or control of the authorized radio facilities; or,

(2) The assignment or transfer is involuntary due to the licensee's insolvency, bankruptcy, incapacity, or death.

(c) Licensees of constructed systems in any category other than Spectrum Block D frequencies in the 800 MHz SMR service (formerly General Category) are permitted to make partial assignments of an authorized grant to an applicant proposing to create a new system or to an existing licensee that has loaded its system to 70 mobiles per channel and is expanding that system. An applicant authorized to expand an existing system or to create a new system with frequencies from any category other than Spectrum Block D frequencies in the 800 MHz SMR service obtained through partial assignment will receive the assignor's existing license expiration date and loading deadline for the frequencies that are assigned. A licensee that makes a partial assignment of a station's frequencies will not be authorized to obtain additional frequencies for that station for a period of one year from the date of the partial assignment.

(d) A constructed system originally licensed in the General Category that is authorized to operate in the conventional mode may be combined with an existing SMR system above 800 MHz authorized to operate in the trunked mode by assignment of an authorized grant of the General Category station to the SMR station.

[47 FR 41032, Sep. 16, 1982, as amended at 55 FR 28029, July 9, 1990; 58 FR 44962, Aug. 25, 1993; 61 FR 6155, Feb. 16, 1996; 61 FR 32710, June 25, 1996]

POLICIES GOVERNING THE PROCESSING OF APPLICATIONS AND THE SELECTION AND ASSIGNMENT OF FREQUENCIES FOR USE IN THE 806–824 MHZ, 851–869 MHZ, 896–901 MHZ, AND 935–940 MHZ BANDS

§ 90.611 Processing of applications.

Applications for facilities to operate on the frequencies governed by this subpart will be processed as follows:

(a) All applications will first be considered to determine whether they are substantially complete and acceptable for filing. If so, except as otherwise specifically provided for in this subpart, they will be assigned a file number and put in pending status. If not, they will be returned to the applicant.

(b) All applications in pending status will be processed in the order in which they are received, determined by the date on which the application was received by the Commission in its Gettysburg, PA office, or the address set forth at § 0.401(b) for applications requiring the fees established in part 1, subpart G of this chapter.

(c) Each application will be reviewed to determine whether it can be granted. Applicants must specify the intended frequency (or frequencies) of operation.

(d) [Reserved]

(e) An application which is dismissed will lose its place in the processing line.

(f) If an application is returned for correction and resubmitted and received by the Commission within 30 days from the date on which it was returned to the applicant, it will retain its place in the processing line. If it is not received within 30 days it will lose its place in the processing line.

[47 FR 41032, Sept. 16, 1982, as amended at 49 FR 36377, Sept. 17, 1984; 53 FR 12156, Apr. 13, 1988; 54 FR 4030, Jan. 27, 1989; 55 FR 28030, July 9, 1990; 56 FR 65859, Dec. 19, 1991; 61 FR 6155, Feb. 16, 1996]

§ 90.613 Frequencies available.

The following table indicates the channel designations of frequencies available for assignment to eligible applicants under this subpart. Frequencies shall be assigned in pairs, with mobile and control station transmitting frequencies taken from the 806–824 MHz band with corresponding base station frequencies being 45 MHz higher and taken from the 851–869 MHz band, or with mobile and control station frequencies taken from the 896–901 MHz band with corresponding base station frequencies being 39 MHz higher and taken from the 935–940 MHz band. Only the base station transmitting frequency of each pair is listed in the table.

TABLE OF 806–821/851–866 MHZ CHANNEL DESIGNATIONS

Channel No.	Base frequency (MHz)
1	851.0125
2	.0375
3	.0625
4	.0875
5	.1125
6	.1375
7	.1625
8	.1875
9	.2125
10	.2375
11	.2625
12	.2875
13	.3125
14	.3375
15	.3625
16	.3875
17	.4125
18	.4375
19	.4625
20	.4875
21	.5125
22	.5375

TABLE OF 806–821/851–866 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
23	.5625
24	.5875
25	.6125
26	.6375
27	.6625
28	.6875
29	.7125
30	.7375
31	.7625
32	.7875
33	.8125
34	.8375
35	.8625
36	.8875
37	.9125
38	.9375
39	.9625
40	.9875
41	852.0125
42	.0375
43	.0625
44	.0875
45	.1125
46	.1375
47	.1625
48	.1875
49	.2125
50	.2375
51	.2625
52	.2875
53	.3125
54	.3375
55	.3625
56	.3875
57	.4125
58	.4375
59	.4625
60	.4875
61	.5125
62	.5375
63	.5625
64	.5875
65	.6125
66	.6375
67	.6625
68	.6875
69	.7125
70	.7375
71	.7625
72	.7875
73	.8125
74	.8375
75	.8625
76	.8875
77	.9125
78	.9375
79	.9625
80	.9875
81	853.0125
82	.0375
83	.0625
84	.0875
85	.1125
86	.1375
87	.1625
88	.1875
89	.2125
90	.2375
91	.2625

TABLE OF 806–821/851–866 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
92	.2875
93	.3125
94	.3375
95	.3625
96	.3875
97	.4125
98	.4375
99	.4625
100	.4875
101	.5125
102	.5375
103	.5625
104	.5875
105	.6125
106	.6375
107	.6625
108	.6875
109	.7125
110	.7375
111	.7625
112	.7875
113	.8125
114	.8375
115	.8625
116	.8875
117	.9125
118	.9375
119	.9625
120	.9875
121	854.0125
122	.0375
123	.0625
124	.0875
125	.1125
126	.1375
127	.1625
128	.1875
129	.2125
130	.2375
131	.2625
132	.2875
133	.3125
134	.3375
135	.3625
136	.3875
137	.4125
138	.4375
139	.4625
140	.4875
141	.5125
142	.5375
143	.5625
144	.5875
145	.6125
146	.6375
147	.6625
148	.6875
149	.7125
150	.7375
151	.7625
152	.7875
153	.8125
154	.8375
155	.8625
156	.8875
157	.9125
158	.9375
159	.9625
160	.9875

TABLE OF 806–821/851–866 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
161	855.0125
162	.0375
163	.0625
164	.0875
165	.1125
166	.1375
167	.1625
168	.1875
169	.2125
170	.2375
171	.2625
172	.2875
173	.3125
174	.3375
175	.3625
176	.3875
177	.4125
178	.4375
179	.4625
180	.4875
181	.5125
182	.5375
183	.5625
184	.5875
185	.6125
186	.6375
187	.6625
188	.6875
189	.7125
190	.7375
191	.7625
192	.7875
193	.8125
194	.8375
195	.8625
196	.8875
197	.9125
198	.9375
199	.9625
200	.9875
201	856.0125
202	.0375
203	.0625
204	.0875
205	.1125
206	.1375
207	.1625
208	.1875
209	.2125
210	.2375
211	.2625
212	.2875
213	.3125
214	.3375
215	.3625
216	.3875
217	.4125
218	.4375
219	.4625
220	.4875
221	.5125
222	.5375
223	.5625
224	.5875
225	.6125
226	.6375
227	.6625
228	.6875
229	.7125

TABLE OF 806–821/851–866 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
230	.7375
231	.7625
232	.7875
233	.8125
234	.8375
235	.8625
236	.8875
237	.9125
238	.9375
239	.9625
240	.9875
241	857.0125
242	.0375
243	.0625
244	.0875
245	.1125
246	.1375
247	.1625
248	.1875
249	.2125
250	.2375
251	.2625
252	.2875
253	.3125
254	.3375
255	.3625
256	.3875
257	.4125
258	.4375
259	.4625
260	.4875
261	.5125
262	.5375
263	.5625
264	.5875
265	.6125
266	.6375
267	.6625
268	.6875
269	.7125
270	.7375
271	.7625
272	.7875
273	.8125
274	.8375
275	.8625
276	.8875
277	.9125
278	.9375
279	.9625
280	.9875
281	858.0125
282	.0375
283	.0625
284	.0875
285	.1125
286	.1375
287	.1625
288	.1875
289	.2125
290	.2375
291	.2625
292	.2875
293	.3125
294	.3375
295	.3625
296	.3875
297	.4125
298	.4375

TABLE OF 806–821/851–866 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
299	.4625
300	.4875
301	.5125
302	.5375
303	.5625
304	.5875
305	.6125
306	.6375
307	.6625
308	.6875
309	.7125
310	.7375
311	.7625
312	.7875
313	.8125
314	.8375
315	.8625
316	.8875
317	.9125
318	.9375
319	.9625
320	.9875
321	859.0125
322	.0375
323	.0625
324	.0875
325	.1125
326	.1375
327	.1625
328	.1875
329	.2125
330	.2375
331	.2625
332	.2875
333	.3125
334	.3375
335	.3625
336	.3875
337	.4125
338	.4375
339	.4625
340	.4875
341	.5125
342	.5375
343	.5625
344	.5875
345	.6125
346	.6375
347	.6625
348	.6875
349	.7125
350	.7375
351	.7625
352	.7875
353	.8125
354	.8375
355	.8625
356	.8875
357	.9125
358	.9375
359	.9625
360	.9875
361	860.0125
362	.0375
363	.0625
364	.0875
365	.1125
366	.1375
367	.1625

TABLE OF 806–821/851–866 MHz CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
368	.1875
369	.2125
370	.2375
371	.2625
372	.2875
373	.3125
374	.8375
375	.3625
376	.3875
377	.4125
378	.4375
379	.4625
380	.4875
381	.5125
382	.5375
383	.5625
384	.5875
385	.6125
386	.6375
387	.6625
388	.6875
389	.7125
390	.7375
391	.7625
392	.7875
393	.8125
394	.8375
395	.8625
396	.8875
397	.9125
398	.9375
399	.9625
400	.9875
401	861.0125
402	.0375
403	.0625
404	.0875
405	.1125
406	.1375
407	.1625
408	.1875
409	.2125
410	.2375
411	.2625
412	.2875
413	.3125
414	.3375
415	.3625
416	.3875
417	.4125
418	.4375
419	.4625
420	.4875
421	.5125
422	.5375
423	.5625
424	.5875
425	.6125
426	.6375
427	.6625
428	.6875
429	.7125
430	.7375
431	.7625
432	.7875
433	.8125
434	.8375
435	.8625
436	.8875

TABLE OF 806–821/851–866 MHz CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
437	.9125
438	.9375
439	.9625
440	.9875
441	862.0125
442	.0375
443	.0625
444	.0875
445	.1125
446	.1375
447	.1625
448	.1875
449	.2125
450	.2375
451	.2625
452	.2875
453	.3125
454	.3375
455	.3625
456	.3875
457	.4125
458	.4375
459	.4625
460	.4875
461	.5125
462	.5375
463	.5625
464	.5875
465	.6125
466	.6375
467	.6625
468	.6875
469	.7125
470	.7375
471	.7625
472	.7875
473	.8125
474	.8375
475	.8625
476	.8875
477	.9125
478	.9375
479	.9625
480	.9875
481	863.0125
482	.0375
483	.0625
484	.0875
485	.1125
486	.1375
487	.1625
488	.1875
489	.2125
490	.2375
491	.2625
492	.2875
493	.3125
494	.3375
495	.3625
496	.3875
497	.4125
498	.4375
499	.4625
500	.4875
501	.5125
502	.5375
503	.5625
504	.5875
505	.6125

TABLE OF 806–821/851–866 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
506	.6375
507	.6625
508	.6875
509	.7125
510	.7375
511	.7625
512	.7875
513	.8125
514	.8375
515	.8625
516	.8875
517	.9125
518	.9375
519	.9625
520	.9875
521	864.0125
522	.0375
523	.0625
524	.0875
525	.1125
526	.1375
527	.1625
528	.1875
529	.2125
530	.2375
531	.2625
532	.2875
533	.3125
534	.3375
535	.3625
536	.3875
537	.4125
538	.4375
539	.4625
540	.4875
541	.5125
542	.5375
543	.5625
544	.5875
545	.6125
546	.6375
547	.6625
548	.6875
549	.7125
550	.7375
551	.7625
552	.7875
553	.8125
554	.8375
555	.8625
556	.8875
557	.9125
558	.9375
559	.9625
560	.9875
561	865.0125
562	.0375
563	.0625
564	.0875
565	.1125
566	.1375
567	.1625
568	.1875
569	.2125
570	.2375
571	.2625
572	.2875
573	.3125
574	.3375

TABLE OF 806–821/851–866 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
575	.3625
576	.3875
577	.4125
578	.4375
579	.4625
580	.4875
581	.5125
582	.5375
583	.5625
584	.5875
585	.6125
586	.6375
587	.6625
588	.6875
589	.7125
590	.7375
591	.7625
592	.7875
593	.8125
594	.8375
595	.8625
596	.8875
597	.9125
598	.9375
599	.9625
600	865.9875
601	866.0125
602	.0375
603	.0500
604	.0625
605	.0750
606	.0875
607	.1000
608	.1125
609	.1250
610	.1375
611	.1500
612	.1625
613	.1750
614	.1875
615	.2000
616	.2125
617	.2250
618	.2375
619	.2500
620	.2625
621	.2750
622	.2875
623	.3000
624	.3125
625	.3250
626	.3375
627	.3500
628	.3625
629	.3750
630	.3875
631	.4000
632	.4125
633	.4250
634	.4375
635	.4500
636	.4625
637	.4750
638	.4875
639	.5125
640	.5375
641	.5500
642	.5625
643	.5750

TABLE OF 806–821/851–866 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
644	.5875
645	.6000
646	.6125
647	.6250
648	.6375
649	.6500
650	.6625
651	.6750
652	.6875
653	.7000
654	.7125
655	.7250
656	.7375
657	.7500
658	.7625
659	.7750
660	.7875
661	.8000
662	.8125
663	.8250
664	.8375
665	.8500
666	.8625
667	.8750
668	.8875
669	.9000
670	.9125
671	.9250
672	.9375
673	.9500
674	.9625
675	.9750
676	.9875
677	867.0125
678	.0375
679	.0500
680	.0625
681	.0750
682	.0875
683	.1000
684	.1125
685	.1250
686	.1375
687	.1500
688	.1625
689	.1750
690	.1875
691	.2000
692	.2125
693	.2250
694	.2375
695	.2500
696	.2625
697	.2750
698	.2875
699	.3000
700	.3125
701	.3250
702	.3375
703	.3500
704	.3625
705	.3750
706	.3875
707	.4000
708	.4125
709	.4250
710	.4375
711	.4500
712	.4625

TABLE OF 806–821/851–866 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
713	.4750
714	.4875
715	.5125
716	.5375
717	.5500
718	.5625
719	.5750
720	.5875
721	.6000
722	.6125
723	.6250
724	.6375
725	.6500
726	.6625
727	.6750
728	.6875
729	.7000
730	.7125
731	.7250
732	.7375
733	.7500
734	.7625
735	.7750
736	.7875
737	.8000
738	.8125
739	.8250
740	.8375
741	.8500
742	.8625
743	.8750
744	.8875
745	.9000
746	.9125
747	.9250
748	.9375
749	.9500
750	.9625
751	.9750
752	.9875
753	868.0125
754	.0375
755	.0500
756	.0625
757	.0750
758	.0875
759	.1000
760	.1125
761	.1250
762	.1375
763	.1500
764	.1625
765	.1750
766	.1875
767	.2000
768	.2125
769	.2250
770	.2375
771	.2500
772	.2625
773	.2750
774	.2875
775	.3000
776	.3125
777	.3250
778	.3375
779	.3500
780	.3625
781	.3750

TABLE OF 806–821/851–866 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
782	.3875
783	.4000
784	.4125
785	.4250
786	.4375
787	.4500
788	.4625
789	.4750
790	.4875
791	.5000
792	.5125
793	.5250
794	.5375
795	.5500
796	.5625
797	.5750
798	.5875
799	.6000
800	.6125
801	.6250
802	.6375
803	.6500
804	.6625
805	.6750
806	.6875
807	.7000
808	.7125
809	.7250
810	.7375
811	.7500
812	.7625
813	.7750
814	.7875
815	.8000
816	.8125
817	.8250
818	.8375
819	.8500
820	.8625
821	.8750
822	.8875
823	.9000
824	.9125
825	.9250
826	.9375
827	.9500
828	.9625
829	.9750
830	.9875

TABLE OF 896–901/935–940 MHZ CHANNEL DESIGNATIONS

Channel No.	Base frequency (MHz)
1	935.0125
2	.0250
3	.0375
4	.0500
5	.0625
6	.0750
7	.0875
8	.1000
9	.1125
10	.1250
11	.1375

TABLE OF 896–901/935–940 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
12	.1500
13	.1625
14	.1750
15	.1875
16	.2000
17	.2125
18	.2250
19	.2375
20	.2500
21	.2625
22	.2750
23	.2875
24	.3000
25	.3125
26	.3250
27	.3375
28	.3500
29	.3625
30	.3750
31	.3875
32	.4000
33	.4125
34	.4250
35	.4375
36	.4500
37	.4625
38	.4750
39	.4875
40	.5000
41	.5125
42	.5250
43	.5375
44	.5500
45	.5625
46	.5750
47	.5875
48	.6000
49	.6125
50	.6250
51	.6375
52	.6500
53	.6625
54	.6750
55	.6875
56	.7000
57	.7125
58	.7250
59	.7375
60	.7500
61	.7625
62	.7750
63	.7875
64	.8000
65	.8125
66	.8250
67	.8375
68	.8500
69	.8625
70	.8750
71	.8875
72	.9000
73	.9125
74	.9250
75	.9375
76	.9500
77	.9625
78	.9750
79	.9875
80	936.0000

TABLE OF 896–901/935–940 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
81	.0125
82	.0250
83	.0375
84	.0500
85	.0625
86	.0750
87	.0875
88	.1000
89	.1125
90	.1250
91	.1375
92	.1500
93	.1625
94	.1750
95	.1875
96	.2000
97	.2125
98	.2250
99	.2375
100	.2500
101	.2625
102	.2750
103	.2875
104	.3000
105	.3125
106	.3250
107	.3375
108	.3500
109	.3625
110	.3750
111	.3875
112	.4000
113	.4125
114	.4250
115	.4375
116	.4500
117	.4625
118	.4750
119	.4875
120	.5000
121	.5125
122	.5250
123	.5375
124	.5500
125	.5625
126	.5750
127	.5875
128	.6000
129	.6125
130	.6250
131	.6375
132	.6500
133	.6625
134	.6750
135	.6875
136	.7000
137	.7125
138	.7250
139	.7375
140	.7500
141	.7625
142	.7750
143	.7875
144	.8000
145	.8125
146	.8250
147	.8375
148	.8500
149	.8625

TABLE OF 896–901/935–940 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
150	.8750
151	.8875
152	.9000
153	.9125
154	.9250
155	.9375
156	.9500
157	.9625
158	.9750
159	.9875
160	937.0000
161	.0125
162	.0250
163	.0375
164	.0500
165	.0625
166	.0750
167	.0875
168	.1000
169	.1125
170	.1250
171	.1375
172	.1500
173	.1625
174	.1750
175	.1875
176	.2000
177	.2125
178	.2250
179	.2375
180	.2500
181	.2625
182	.2750
183	.2875
184	.3000
185	.3125
186	.3250
187	.3375
188	.3500
189	.3625
190	.3750
191	.3875
192	.4000
193	.4125
194	.4250
195	.4375
196	.4500
197	.4625
198	.4750
199	.4875
200	.5000
201	.5125
202	.5250
203	.5375
204	.5500
205	.5625
206	.5750
207	.5875
208	.6000
209	.6125
210	.6250
211	.6375
212	.6500
213	.6625
214	.6750
215	.6875
216	.7000
217	.7125
218	.7250

TABLE OF 896–901/935–940 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
219	.7375
220	.7500
221	.7625
222	.7750
223	.7875
224	.8000
225	.8125
226	.8250
227	.8375
228	.8500
229	.8625
230	.8750
231	.8875
232	.9000
233	.9125
234	.9250
235	.9375
236	.9500
237	.9625
238	.9750
239	.9875
240	938.0000
241	.0125
242	.0250
243	.0375
244	.0500
245	.0625
246	.0750
247	.0875
248	.1000
249	.1125
250	.1250
251	.1375
252	.1500
253	.1625
254	.1750
255	.1875
256	.2000
257	.2125
258	.2250
259	.2375
260	.2500
261	.2625
262	.2750
263	.2875
264	.3000
265	.3125
266	.3250
267	.3375
268	.3500
269	.3625
270	.3750
271	.3875
272	.4000
273	.4125
274	.4250
275	.4375
276	.4500
277	.4625
278	.4750
279	.4875
280	.5000
281	.5125
282	.5250
283	.5375
284	.5500
285	.5625
286	.5750
287	.5875

TABLE OF 896–901/935–940 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
288	.6000
289	.6125
290	.6250
291	.6375
292	.6500
293	.6625
294	.6750
295	.6875
296	.7000
297	.7125
298	.7250
299	.7375
300	.7500
301	.7625
302	.7750
303	.7875
304	.8000
305	.8125
306	.8250
307	.8375
308	.8500
309	.8625
310	.8750
311	.8875
312	.9000
313	.9125
314	.9250
315	.9375
316	.9500
317	.9625
318	.9750
319	.9875
320	939.0000
321	.0125
322	.0250
323	.0375
324	.0500
325	.0625
326	.0750
327	.0875
328	.1000
329	.1125
330	.1250
331	.1375
332	.1500
333	.1625
334	.1750
335	.1875
336	.2000
337	.2125
338	.2250
339	.2375
340	.2500
341	.2625
342	.2750
343	.2875
344	.3000
345	.3125
346	.3250
347	.3375
348	.3500
349	.3625
350	.3750
351	.3875
352	.4000
353	.4125
354	.4250
355	.4375
356	.4500

TABLE OF 896–901/935–940 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
357	.4625
358	.4750
359	.4875
360	.5000
361	.5125
362	.5250
363	.5375
364	.5500
365	.5625
366	.5750
367	.5875
368	.6000
369	.6125
370	.6250
371	.6375
372	.6500
373	.6625
374	.6750
375	.6875
376	.7000
377	.7125
378	.7250
379	.7375
380	.7500
381	.7625
382	.7750
383	.7875
384	.8000
385	.8125
386	.8250
387	.8375
388	.8500
389	.8625
390	.8750
391	.8875
392	.9000
393	.9125
394	.9250
395	.9375
396	.9500
397	.9625
398	.9750
399	.9875

[47 FR 41032, Sept. 16, 1982, as amended at 48 FR 51928, Nov. 15, 1983; 51 FR 37402, Oct. 22, 1986; 52 FR 29856, Aug. 12, 1987; 53 FR 1025, Jan. 15, 1988; 54 FR 38681, Sept. 20, 1989; 54 FR 39740, Sept. 28, 1989]

§ 90.615 Frequencies available in Spectrum Block D in the 800 MHz SMR service (formerly General Category).

(a) Except as indicated in § 90.619, as of March 18, 1996, frequencies in the 800 MHz Spectrum Block D (Channels 1–150) previously designated as General Category channels are re-allocated for use exclusively by the SMR service for either trunked or conventional operations. The frequencies are available to SMR licensees in areas farther than 110 km (68.4 miles) from the U.S./Mexico border and farther than 140 km (87 miles) from the U.S./Canada border.

(b) Non-SMR stations that were authorized to transmit on these frequencies prior to March 18, 1996 and have remained so authorized continuously since that time may continue to operate in accordance with their current authorizations. Such authorizations may be renewed unchanged or with minor modifications as described in § 90.693.

[61 FR 6156, Feb. 16, 1996]

§ 90.617 Frequencies in the 809.750–824/854.750–869 MHz, and 896–901/935–940 MHz bands available for trunked or conventional system use in non-border areas.

(a) The channels listed in Table 1 and paragraph (a)(1) of this section for the Public Safety Category are available to applicants eligible in the Public Safety and Special Emergency Radio Services. These frequencies are available in areas farther than 110 km (68.4 miles) from the U.S./Mexican border, and 140 km (87 miles) from the U.S./Canadian border. Specialized Mobile Radio Systems will not be authorized in this category. These channels are available for intercategory sharing as indicated in § 90.621(g).

PUBLIC SAFETY CATEGORY

TABLE 1—806–821/851–866 MHZ BAND CHANNELS (70 CHANNELS)

Group No.	Channel Nos.
209	209–249–289–329–369
210	210–250–290–330–370
211	211–251–291–331–371
218	218–258–298–338–378
219	219–259–299–339–379
220	220–260–300–340–380
229	229–269–309–349–389
230	230–270–310–350–390
231	231–271–311–351–391
238	238–278–318–358–398
239	239–279–319–359–399
240	240–280–320–360–400
Single channels	159, 169, 179, 189, 199, 160, 170, 180, 190, 200

(1) Channels numbers 601–830 are also available to eligible applicants in the Public Safety Category in areas farther than 110 km (68.4 miles) from the U.S./Mexican border, and 140 km (87 miles) from the U.S./Candian border. The assignment of these channels will be done in accordance with the policies defined

in the *Report and Order* of Gen. Docket No. 87–112 (See §§ 90.16 and 90.34). The following channels are available only for mutual aid purposes as defined in Gen. Docket No. 87–112: channels 601, 639, 677, 715, 753.

(b) The channels listed in Table 2A are available to eligible applicants in the Industrial/Land Transportation Category (consisting of the Power, Petroleum, Forest Products, Film and Video Production, Relay Press, Special Industrial, Manufacturers, Telephone Maintenance, Motor Carrier, Railroad, Taxicab and Automobile Emergency Radio Services). These frequencies are available in areas farther than 110 km (68.4 miles) from the U.S./Mexico border and farther than 140 km (87.0 miles) from the U.S./Canada border. Specialized Mobile Radio (SMR) systems will not be authorized on these frequencies. These channels are available for inter-category sharing as indicated in § 90.621(g).

TABLE 2A—INDUSTRIAL/LAND TRANSPORTATION CATEGORY 806–821/851–866 MHZ BAND CHANNELS (50 CHANNELS):

Group No.	Channel Nos.
212	212–252–292–332–372
213	213–253–293–333–373
214	214–254–294–334–374
215	215–255–295–335–375
216	216–256–296–336–376
217	217–257–297–337–377
Single channels	155, 165, 175, 185, 195, 156, 166, 176, 186, 196, 157, 167, 177, 187, 197, 158, 168, 178, 188, 198

TABLE 2B—INDUSTRIAL/LAND TRANSPORTATION CATEGORY 896–901/935–940 MHZ BAND CHANNELS (99 CHANNELS):

For multichannel systems channels may be grouped vertically or horizontally as they appear in the table.

Channel Nos.

31–32–33–34–35
36–37–38–39–40
71–72–73–74–75
76–77–78–79–80
111–112–113–114–115
116–117–118–119–120
151–152–153–154–155
156–157–158–159–160
191–192–193–194–195
196–197–198–199–200
231–232–233–234–235
236–237–238–239–240
271–272–273–274–275
276–277–278–279–280
311–312–313–314–315
316–317–318–319–320
351–352–353–354–355
356–357–358–359–360
391–392–393–394–395
396–397–398–399.

(c) The channels listed in Table 3A are available to eligible applicants in the Business Radio Category. This category does not include Specialized Mobile Radio Systems as defined in § 90.7. These frequencies are available in areas farther than 110 km (68.4 miles) from the U.S./Mexico border and farther than 140 km (87.0 miles) from the U.S./Canada border. Specialized Mobile Radio Systems will not be authorized on these frequencies. These channels are available for inter-category sharing as indicated in § 90.621(g).

TABLE 3A—BUSINESS CATEGORY 806–821/851–866 MHZ BAND CHANNELS (50 CHANNELS):

Group No.	Channel Nos.
232	232–272–312–352–392
233	233–273–313–353–393
234	234–274–314–354–394
235	235–275–315–355–395
236	236–276–316–356–396
237	237–277–317–357–397
Single channels	151, 161, 171, 181, 191, 152, 162, 172, 182, 192, 153, 163, 173, 183, 193, 154, 164, 174, 184, 194

TABLE 3B—BUSINESS CATEGORY 896–901/935–940 MHZ BAND CHANNELS (100 CHANNELS):

For multichannel systems, channels may be grouped vertically or horizontally as they appear in the table.

11–12–13–14–15
16–17–18–19–20
51–52–53–54–55
56–57–58–59–60
91–92–93–94–95
96–97–98–99–100
131–132–133–134–135
136–137–138–139–140
171–172–173–174–175
176–177–178–179–180
211–212–213–214–215
216–217–218–219–220
251–252–253–254–255
256–257–258–259–260
291–292–293–294–295
296–297–298–299–300
331–332–333–334–335

336–337–338–339–340
371–372–373–374–375
376–377–378–379–380.

(d) The channels listed in Tables 4A and 4B are available only to eligibles in the SMR category which consists of Specialized Mobile Radio (SMR) stations and eligible end users. The frequencies listed in Table 4A are available to SMR eligibles desiring to be authorized for EA-based service areas in accordance with § 90.681. SMR licensees licensed on Channels 401–600 on or before March 18, 1996 may continue to utilize these frequencies within their existing service areas, subject to the mandatory relocation provisions of § 90.699. Systems licensed on the channels listed in Table 4A as Spectrum Block D or E Channels will be licensed on a site-specific basis. This paragraph deals with the assignment of frequencies only in areas farther than 110 km (68.4 miles) from the U.S./Mexico border and farther than 140 km (87) miles from the U.S./Canada border. See § 90.619 for the assignment of SMR frequencies in these border areas. For stations located within 113 km (70 miles) of Chicago, channels 401–600 will be assigned in blocks as outlined in Table 4C.

TABLE 4A.—SMR CATEGORY 806–821/851–866 MHZ BAND CHANNELS

Spectrum block	Channel No.
EA-Based SMR Category Systems (200 channels):	
A	401–420.
B	421–480.
C	481–600.
SMR Category (230 channels):	
D	1–150.
E	201–208, 221–228, 241–248, 261–268, 281–288, 301–308, 321–328, 341–348, 361–368, 381–388.

TABLE 4B—SMR CATEGORY 896–901/935–940 MHz Band-Channels (200 CHANNELS)

Block	Channel Nos.
A	1–2–3–4–5–6–7–8–9–10
B	21–22–23–24–25–26–27–28–29–30
C	41–42–43–44–45–46–47–48–49–50
D	61–62–63–64–65–66–67–68–69–70
E	81–82–83–84–85–86–87–88–89–90
F	101–102–103–104–105–106–107–108–109–110
G	121–122–123–124–125–126–127–128–129–130

TABLE 4B—SMR CATEGORY 896–901/935–940 MHz Band-Channels (200 CHANNELS)—Continued

Block	Channel Nos.
H	141–142–143–144–145–146–147–148–149–150
I	161–162–163–164–165–166–167–168–169–170
J	181–182–183–184–185–186–187–188–189–190
K	201–202–203–204–205–206–207–208–209–210
L	221–222–223–224–225–226–227–228–229–230
M	241–242–243–244–245–246–247–248–249–250
N	261–262–263–264–265–266–267–268–269–270
O	281–282–283–284–285–286–287–288–289–290
P	301–302–303–304–305–306–307–308–309–310
Q	321–322–323–324–325–326–327–328–329–330
R	341–342–343–344–345–346–347–348–349–350
S	361–362–363–364–365–366–367–368–369–370
T	381–382–383–384–385–386–387–388–389–390

TABLE 4C–SMR CATEGORY—CHICAGO PLAN [2, 3]

Group No.	Channel Nos.
401 [1]	401 through 410
411	411–447–483–519–555
412	412–448–484–520–556
413	413–449–485–521–557
414	414–450–486–522–558
415	415–451–487–523–559
416	416–452–488–524–560
417	417–453–489–525–561
418	418–454–490–526–562
419	419–455–491–527–563
420	420–456–492–528–564
421	421–457–493–529–565
422	422–458–494–530–566
423	423–459–495–531–567
424	424–460–496–532–568
425	425–461–497–533–569
426	426–462–498–534–570
427	427–463–499–535–571
428	428–464–500–536–572
429	429–465–501–537–573
430	430–466–502–538–574
431	431–467–503–539–575
432	432–468–504–540–576
433	433–469–505–541–577
434	434–470–506–542–578
435	435–471–507–543–579
436	436–472–508–544–580
437	437–473–509–545–581
438	438–474–510–546–582
439	439–475–511–547–583
440	440–476–512–548–584
441	441–477–513–549–585
442	442–478–514–550–586
443	443–479–515–551–587
444	444–480–516–552–588
445	445–481–517–553–589
446	446–482–518–554–590
591	591–592–593–594–595

TABLE 4C–SMR CATEGORY—CHICAGO PLAN [2, 3]—Continued

Group No.	Channel Nos.
596	596–597–598–599–600

[1] Reserved for contiguous assignments or as a frequency pool for assignments to systems with odd number of chanels.
[2] These frequencies will be authorized only in the area encompassed by a 113 km (70 mile) radius centered at 41°52′28″ N. 87°38′22″ W.
[3] All stations located beyond the 113 km (70 mile) distance authorized on or before August 16, 1982 to use these frequencies may continue to do so. Stations beyond the 113 km (70 mile) distance authorized after August 16, 1982, shall employ frequencies listed in table 4A subject to the provisions of §90.621 (b) or (c) as applicable.

[47 FR 41032, Sept. 16, 1982, as amended at 47 FR 51883, Nov. 18, 1982; 51 FR 37404, Oct. 22, 1986; 52 FR 3662, Feb. 5, 1987; 52 FR 29856, Aug. 12, 1987; 53 FR 1026, Jan. 15, 1988; 53 FR 12156, Apr. 13, 1988; 54 FR 38682, Sept. 20, 1989; 58 FR 31476, June 3, 1993; 58 FR 44962, Aug. 25, 1993; 60 FR 21990, May 4, 1995; 60 FR 48918, Sept. 21, 1995; 61 FR 6156, Feb. 16, 1996; 61 FR 6576, Feb. 21, 1996]

§90.619 Frequencies available for use in the U.S./Mexico and U.S./Canada border areas.

(a) U.S./Mexico border area. The channels listed in tables 1A, 2A, 3A and 4A are offset 12.5 kHz lower in frequency than those specified in the 806–821/851–866 MHz table in §90.613. The Channel 201 base frequency will be 856.000 MHz, followed by Channel 202 at 856.025 MHz and proceeding with uniform 25 kHz channeling to Channel 400 at 860.975 MHz. Mobile station frequencies will be 45 MHz lower in frequency. These channels are available for assignment for conventional or trunked systems only in areas 110 kilometers (68.4 miles) or less from the U.S./Mexico border. Stations located on Mt. Lemmon, serving the Tucson, AZ area, will only be authorized offset frequencies. The channels listed in tables 2B, 3B, and 4B correspond to those specified in the 896–901/935–940 MHz table in §90.613 and are not offset. Mobile station frequencies will be 39 MHz lower in frequency. The frequencies listed in tables 2B, 3B, and 4B are not available for licensing in the U.S./Mexico border area until June 11, 1993.

(1) Table 1A lists the channels in the 806–821/851–866 MHz band Public Safety Category that are available for assignment to applicants eligible in the Public Safety and Special Emergency Radio Services. Specialized Mobile Radio Systems (SMRS) will not be authorized in this category. These channels are available for intercategory sharing as indicated in §90.621(g).

TABLE 1—UNITED STATES/MEXICO BORDER AREA, PUBLIC SAFETY CATEGORY-806–821/851–866 MHz Band (85 CHANNELS)

Offset group No.	Offset channel Nos.
201[1]	241–281–321–361
202	202–242–282–322–362
203	203–243–283–323–363
204	204–244–284–324–364
205	205–245–285–325–365
206	206–246–286–326–366
207	207–247–287–327–367
208	208–248–288–328–368
209	209–249–289–329–369
210	210–250–290–330–370
211	211–251–291–331–371
401	401–441–481–521–561
403	403–443–483–523–563
405	405–445–485–525–565
407	407–447–487–527–567
409	409–449–489–529–569
411	411–451–491–531–571

[1] Offset Group 201 is available for conventional system use only. Offset Channel 201 is not available for use in the U.S./Mexico border area.

(2) Certain channels in the 821–824/866–869 MHz band are also available to eligible applicants in the Public Safety Category in areas within 110 kilometers (68.4 miles) of the U.S./Mexico border. These channels will be assigned according to the policies defined in the Report and Order of Gen. Docket No. 87–112 (See §§90.16 and 90.34). The following channels are available only for mutual aid purposes as defined in Gen. Docket No. 87–112: channels 601, 639, 677, 715, and 753. Certain channels in the 896–901/935–940 MHz band are also available in areas within 110 kilometers (68.4 miles) of the U.S./Mexico border. The specific channels that are available for licensing in the bands 821–824/866–869 and 896–901/935–940 MHz within 110 kilometers (68.4 miles) of the Mexico border are listed in tables 1B, 2B, 3B, and 4B and are subject to Effective Radiated Power (ERP) and Antenna Height limitations as indicated in table 1C. In addition, all channels designated for use within Mexico in the 821–824/866–869 MHz and 896–901/935–940 MHz bands are available for assignment to U.S. stations within 110 kilometers (68.4 miles) of the Mexico border if the maximum power flux density (pfd) of the station's transmitted signal

at any point at or beyond the border does not exceed −107 dB(W/m²). The spreading loss must be calculated using the free space formula taking into account any antenna discrimination in the direction of the border. Authorizations for stations using channels allotted to Mexico on a primary basis will be secondary to Mexican operations and conditioned to require that licensees take immediate action to eliminate any harmful interference resulting from the station's transmitted signal exceeding −107 dB(W/m²).

TABLE 1B—UNITED STATES/MEXICO BORDER AREA, PUBLIC SAFETY CATEGORY 821–824/866–869 MHZ BAND (107 CHANNELS)

Channel	Base frequency	Mobile frequency	Country
601	866.0125	821.0125	Both countries.
	866.0250	821.0250	Not available.
602	866.0375	821.0375	U.S.
603	866.0500	821.0500	U.S.
604	866.0625	821.0625	U.S.
605	866.0750	821.0750	U.S.
606	866.0875	821.0875	U.S.
607	866.1000	821.1000	U.S.
608	866.1125	821.1125	U.S.
609	866.1250	821.1250	U.S.
610	866.1375	821.1375	U.S.
611	866.1500	821.1500	Guard channel.
612	866.1625	821.1625	Mexico.
613	866.1750	821.1750	Mexico.
614	866.1875	821.1875	Mexico.
615	866.2000	821.2000	Mexico.
616	866.2125	821.2125	Mexico.
617	866.2250	821.2250	Mexico.
618	866.2375	821.2375	Mexico.
619	866.2500	821.2500	Mexico.
620	866.2625	821.2625	Mexico.
621	866.2750	821.2750	Mexico.
622	866.2875	821.2875	Mexico.
623	866.3000	821.3000	Mexico.
624	866.3125	821.3125	Mexico.
625	866.3250	821.3250	Mexico.
626	866.3375	821.3375	Mexico.
627	866.3500	821.3500	Mexico.
628	866.3625	821.3625	Mexico.
629	866.3750	821.3750	Guard channel.
630	866.3875	821.3875	U.S.
631	866.4000	821.4000	U.S.
632	866.4125	821.4125	U.S.
633	866.4250	821.4250	U.S.
634	866.4375	821.4375	U.S.
635	866.4500	821.4500	U.S.
636	866.4625	821.4625	U.S.
637	866.4750	821.4750	U.S.
638	866.4875	821.4875	U.S.
	866.5000	821.5000	Not available.
639	866.5125	821.5125	Both countries.
	866.5250	821.5250	Not available.
640	866.5375	821.5375	U.S.
641	866.5500	821.5500	U.S.
642	866.5625	821.5625	U.S.
643	866.5750	821.5750	U.S.
644	866.5875	821.5875	U.S.
645	866.6000	821.6000	U.S.
646	866.6125	821.6125	U.S.
647	866.6250	821.6250	U.S.

TABLE 1B—UNITED STATES/MEXICO BORDER AREA, PUBLIC SAFETY CATEGORY 821–824/866–869 MHZ BAND (107 CHANNELS)—Continued

Channel	Base frequency	Mobile frequency	Country
648	866.6375	821.6375	U.S.
649	866.6500	821.6500	Guard channel.
650	866.6625	821.6625	Mexico.
651	866.6750	821.6750	Mexico.
652	866.6875	821.6875	Mexico.
653	866.7000	821.7000	Mexico.
654	866.7125	821.7125	Mexico.
655	866.7250	821.7250	Mexico.
656	866.7375	821.7375	Mexico.
657	866.7500	821.7500	Mexico.
658	866.7625	821.7625	Mexico.
659	866.7750	821.7750	Mexico.
660	866.7875	821.7875	Mexico.
661	866.8000	821.8000	Mexico.
662	866.8125	821.8125	Mexico.
663	866.8250	821.8250	Mexico.
664	866.8375	821.8375	Mexico.
665	866.8500	821.8500	Mexico.
666	866.8625	821.8625	Mexico.
667	866.8750	821.8750	Guard channel.
668	866.8875	821.8875	U.S.
669	866.9000	821.9000	U.S.
670	866.9125	821.9125	U.S.
671	866.9250	821.9250	U.S.
672	866.9375	821.9375	U.S.
673	866.9500	821.9500	U.S.
674	866.9625	821.9625	U.S.
675	866.9750	821.9750	U.S.
676	866.9875	821.9875	U.S.
	867.0000	822.0000	Not available.
677	867.0125	822.0125	Both countries.
	867.0250	822.0250	Not available.
678	867.0375	822.0375	U.S.
679	867.0500	822.0500	U.S.
680	867.0625	822.0625	U.S.
681	867.0750	822.0750	U.S.
682	867.0875	822.0875	U.S.
683	867.1000	822.1000	U.S.
684	867.1125	822.1125	U.S.
685	867.1250	822.1250	U.S.
686	867.1375	822.1375	U.S.
687	867.1500	822.1500	Guard channel.
688	867.1625	822.1625	Mexico.
689	867.1750	822.1750	Mexico.
690	867.1875	822.1875	Mexico.
691	867.2000	822.2000	Mexico.
692	867.2125	822.2125	Mexico.
693	867.2250	822.2250	Mexico.
694	867.2375	822.2375	Mexico.
695	867.2500	822.2500	Mexico.
696	867.2625	822.2625	Mexico.
697	867.2750	822.2750	Mexico.
698	867.2875	822.2875	Mexico.
699	867.3000	822.3000	Mexico.
700	867.3125	822.3125	Mexico.
701	867.3250	822.3250	Mexico.
702	867.3375	822.3375	Mexico.
703	867.3500	822.3500	Mexico.
704	867.3625	822.3625	Mexico.
705	867.3750	822.3750	Guard channel.
706	867.3875	822.3875	U.S.
707	867.4000	822.4000	U.S.
708	867.4125	822.4125	U.S.
709	867.4250	822.4250	U.S.
710	867.4375	822.4375	U.S.
711	867.4500	822.4500	U.S.
712	867.4625	822.4625	U.S.

TABLE 1B—UNITED STATES/MEXICO BORDER AREA, PUBLIC SAFETY CATEGORY 821–824/866–869 MHZ BAND (107 CHANNELS)—Continued

Channel	Base frequency	Mobile frequency	Country
713	867.4750	822.4750	U.S.
714	867.4875	822.4875	U.S.
	867.5000	822.5000	Not available.
715	867.5125	822.5125	Both countries.
	867.5250	822.5250	Not available.
716	867.5375	822.5375	U.S.
717	867.5500	822.5500	U.S.
718	867.5625	822.5625	U.S.
719	867.5750	822.5750	U.S.
720	867.5875	822.5875	U.S.
721	867.6000	822.6000	U.S.
722	867.6125	822.6125	U.S.
723	867.6250	822.6250	U.S.
724	867.6375	822.6375	U.S.
725	867.6500	822.6500	Guard channel.
726	867.6625	822.6625	Mexico.
727	867.6750	822.6750	Mexico.
728	867.6875	822.6875	Mexico.
729	867.7000	822.7000	Mexico.
730	867.7125	822.7125	Mexico.
731	867.7250	822.7250	Mexico.
732	867.7375	822.7375	Mexico.
733	867.7500	822.7500	Mexico.
734	867.7625	822.7625	Mexico.
735	867.7750	822.7750	Mexico.
736	867.7875	822.7875	Mexico.
737	867.8000	822.8000	Mexico.
738	867.8125	822.8125	Mexico.
739	867.8250	822.8250	Mexico.
740	867.8375	822.8375	Mexico.
741	867.8500	822.8500	Mexico.
742	867.8625	822.8625	Guard channel.
743	867.8750	822.8750	U.S.
744	867.8875	822.8875	U.S.
745	867.9000	822.9000	U.S.
746	867.9125	822.9125	U.S.
747	867.9250	822.9250	U.S.
748	867.9375	822.9375	U.S.
749	867.9500	822.9500	U.S.
750	867.9625	822.9625	U.S.
751	867.9750	822.9750	U.S.
752	867.9875	822.9875	U.S.
	868.0000	823.0000	Not available.
753	868.0125	823.0125	Both countries.
	868.0250	823.0250	Not available.
754	868.0375	823.0375	U.S.
755	868.0500	823.0500	U.S.
756	868.0625	823.0625	U.S.
757	868.0750	823.0750	U.S.
758	868.0875	823.0875	U.S.
759	868.1000	823.1000	U.S.
760	868.1125	823.1125	U.S.
761	868.1250	823.1250	U.S.
762	868.1375	823.1375	U.S.
763	868.1500	823.1500	Guard channel.
764	868.1625	823.1625	Mexico.
765	868.1750	823.1750	Mexico.
766	868.1875	823.1875	Mexico.
767	868.2000	823.2000	Mexico.
768	868.2125	823.2125	Mexico.
769	868.2250	823.2250	Mexico.
770	868.2375	823.2375	Mexico.
771	868.2500	823.2500	Mexico.
772	868.2625	823.2625	Mexico.
773	868.2750	823.2750	Mexico.
774	868.2875	823.2875	Mexico.
775	868.3000	823.3000	Mexico.

TABLE 1B—UNITED STATES/MEXICO BORDER AREA, PUBLIC SAFETY CATEGORY 821–824/866–869 MHZ BAND (107 CHANNELS)—Continued

Channel	Base frequency	Mobile frequency	Country
776	868.3125	823.3125	Mexico.
777	868.3250	823.3250	Mexico.
778	868.3375	823.3375	Mexico.
779	868.3500	823.3500	Mexico.
780	868.3625	823.3625	Guard channel.
781	868.3750	823.3750	U.S.
782	868.3875	823.3875	U.S.
783	868.4000	823.4000	U.S.
784	868.4125	823.4125	U.S.
785	868.4250	823.4250	U.S.
786	868.4375	823.4375	U.S.
787	868.4500	823.4500	U.S.
788	868.4625	823.4625	U.S.
789	868.4750	823.4750	U.S.
790	868.4875	823.4875	U.S.
791	868.5000	823.5000	U.S.
792	868.5125	823.5125	U.S.
793	868.5250	823.5250	U.S.
794	868.5375	823.5375	U.S.
795	868.5500	823.5500	U.S.
796	868.5625	823.5625	U.S.
797	868.5750	823.5750	U.S.
798	868.5875	823.5875	U.S.
799	868.6000	823.6000	U.S.
800	868.6125	823.6125	Guard channel.
801	868.6250	823.6250	Mexico.
802	868.6375	823.6375	Mexico.
803	868.6500	823.6500	Mexico.
804	868.6625	823.6625	Mexico.
805	868.6750	823.6750	Mexico.
806	868.6875	823.6875	Mexico.
807	868.7000	823.7000	Mexico.
808	868.7125	823.7125	Mexico.
809	868.7250	823.7250	Mexico.
810	868.7375	823.7375	Mexico.
811	868.7500	823.7500	Mexico.
812	868.7625	823.7625	Mexico.
813	868.7750	823.7750	Mexico.
814	868.7875	823.7875	Mexico.
815	868.8000	823.8000	Mexico.
816	868.8125	823.8125	Mexico.
817	868.8250	823.8250	Mexico.
818	868.8375	823.8375	Mexico.
819	868.8500	823.8500	Mexico.
820	868.8625	823.8625	Mexico.
821	868.8750	823.8750	Mexico.
822	868.8875	823.8875	Mexico.
823	868.9000	823.9000	Mexico.
824	868.9125	823.9125	Guard channel.
825	868.9250	823.9250	U.S.
826	868.9375	823.9375	U.S.
827	868.9500	823.9500	U.S.
828	868.9625	823.9625	U.S.
829	868.9750	823.9750	U.S.
830	868.9875	823.9875	U.S.

TABLE 1C—LIMITS OF EFFECTIVE RADIATED POWER (ERP) CORRESPONDING TO ANTENNA HEIGHTS OF BASE STATIONS IN THE 821–824/866–869 MHZ AND 896–901/935–940 MHZ BANDS WITHIN 110 KILOMETERS (68.4 MILES) OF THE MEXICAN BORDER

Antenna height above mean sea level		ERP
Meters	Feet	Watts (maximum)
0–503	0–1650	500
504–609	1651–2000	350
610–762	2001–2500	200
763–914	2501–3000	140
915–1066	3001–3500	100
1067–1219	3501–4000	75
1220–1371	4001–4500	70
1372–1523	4501–5000	65
Above 1523	Above 5000	5

(3) Tables 2A and 2B list the channels that are available for assignment to eligible applicants in the Industrial/Land Transportation Category (consisting of the Power, Petroleum, Forest Products, Video Production, Relay Press, Special Industrial, Manufacturers, Telephone Maintenance, Motor Carrier, Railroad, Taxicab and Automobile Emergency Radio Services). New applications for Specialized Mobile Radio systems will not be accepted for these channels after March 18, 1996.

TABLE 2A—UNITED STATES/MEXICO BORDER AREA, INDUSTRIAL/LAND TRANSPORTATION CATEGORY 806–821/851–866 MHZ BAND (60 CHANNELS):

Offset group No.	Offset channel Nos.
212	212–252–292–332–372
213	213–253–293–333–373
214	214–254–294–334–374
215	215–255–295–335–375
216	216–256–296–336–376
217	217–257–297–337–377
218	218–258–298–338–378
219	219–259–299–339–379
413	413–453–493–533–573
415	415–455–495–535–575
417	417–457–497–537–577
419	419–459–499–539–579

TABLE 2B—UNITED STATES/MEXICO BORDER AREA, INDUSTRIAL/LAND TRANSPORTATION CATEGORY 896–901/935–940 MHZ BAND (99 CHANNELS):

For multichannel systems, channels may be grouped vertically or horizontally as they appear in the table. Channels numbered above 200 may be used only subject to the power flux density limits stated in paragraph (a)(2) of this section:

Channel Nos.

31–32–33–34–35
36–37–38–39–40
71–72–73–74–75
76–77–78–79–80
111–112–113–114–115
116–117–118–119–120
151–152–153–154–155
156–157–158–159–160
191–192–193–194–195
196–197–198–199–200
231–232–233–234–235
236–237–238–239–240
271–272–273–274–275
276–277–278–279–280
311–312–313–314–315
316–317–318–319–320
351–352–353–354–355
356–357–358–359–360
391–392–393–394–395
396–397–398–399

(4) Tables 3A and 3B list the channels that are available for assignment to eligible applicants in the Business Radio Category. This category does not include Specialized Mobile Radio Systems as defined in § 90.603(c). These channels are available for inter-category sharing as indicated in § 90.621(g).

TABLE 3A—UNITED STATES/MEXICO BORDER AREA, BUSINESS CATEGORY 806–821/851–866 MHZ BANDS (60 CHANNELS)

Offset group No.	Offset channel Nos.
220	220–260–300–340–380
221	221–261–301–341–381
222	222–262–302–342–382
223	223–263–303–343–383
224	224–264–304–344–384
225	225–265–305–345–385
226	226–266–306–346–386
227	227–267–307–347–387
421	421–461–501–541–581
423	423–463–503–543–583
425	425–465–505–545–585
427	427–467–507–547–587

TABLE 3B—UNITED STATES/MEXICO BORDER AREA, BUSINESS CATEGORY 896–901/935–940 MHZ BAND (100 CHANNELS):

For multichannel systems, channels may be grouped vertically or horizontally as they appear in the table. Channels numbered above 200 may be used only subject to the power flux

density limits stated in paragraph (a)(2) of this section.

Channel Nos.

11–12–13–14–15
16–17–18–19–20
51–52–53–54–55
56–57–58–59–60
91–92–93–94–95
96–97–98–99–100
131–132–133–134–135
136–137–138–139–140
171–172–173–174–175
176–177–178–179–180
211–212–213–214–215
216–217–218–219–220
251–252–253–254–255
256–257–258–259–260
291–292–293–294–295
296–297–298–299–300
331–332–333–334–335
336–337–338–339–340
371–372–373–374–375
376–377–378–379–380

(5) Tables 4A and 4B list the channels that are available for assignment for the SMR Category (consisting of Specialized Mobile Radio systems as defined in § 90.7). These channels are not available for inter-category sharing.

TABLE 4A.—UNITED STATES-MEXICO BORDER AREA, SMR CATEGORY 806–821/851–866 MHZ BAND (95 CHANNELS)

Spectrum block	Offset channel No.
EA-Based SMR Category (30 Channels):	
A	None.
B	429, 431, 433, 435, 437,439, 469, 471, 473, 475, 477, 479.
C	509, 511, 513, 515, 517, 519, 549, 551, 553, 555, 557, 559, 589, 591, 593, 595, 597, 599.
SMR Category (65 Channels):	
D	None.
E	None.
Other	228–240, 268–280, 308–320, 348–360, 388–400.

TABLE 4B—UNITED STATES-MEXICO BORDER AREA, SMR CATEGORY 896–901/935–940 MHZ BAND (200 CHANNELS)

Block	Channel Nos.

Channels numbered above 200 may be used only subject to the power flux density limits at or beyond the Mexican border stated in paragraph (a)(2) of this section.

A	1–2–3–4–5–6–7–8–9–10

TABLE 4B—UNITED STATES-MEXICO BORDER AREA, SMR CATEGORY 896–901/935–940 MHZ BAND (200 CHANNELS)—Continued

Block	Channel Nos.
B	21–22–23–24–25–26–27–28–29–30
C	41–42–43–44–45–46–47–48–49–50
D	61–62–63–64–65–66–67–68–69–70
E	81–82–83–84–85–86–87–88–89–90
F	101–102–103–014–105–106–107–108–109–110
G	121–122–123–124–125–126–127–128–129–130
H	141–142–143–144–145–146–147–148–149–150
I	161–162–163–164–165–166–167–168–169–170
J	181–182–183–184–185–186–187–188–189–190
K	201–202–203–204–205–206–207–208–209–210
L	221–222–223–224–225–226–227–228–229–230
M	241–242–243–244–245–246–247–248–249–250
N	261–262–263–264–265–266–267–268–269–270
O	281–282–283–284–285–286–287–288–289–290
P	301–302–303–304–305–306–307–308–309–310
Q	321–322–323–324–325–326–327–328–329–330
R	341–342–343–344–345–346–347–348–349–350
S	361–362–363–364–635–366–367–368–369–370
T	381–382–383–384–385–386–387–388–389–390

(b) *U.S./Canada border area.* The following criteria shall govern the assignment of frequency pairs (channels) in the 806–821/851–866 and 896–901/935–940 MHz bands for stations located in the U.S./Canada border area. These channels are available for assignment for conventional or trunked systems in accordance with all applicable sections of this subpart. They are available for intercategory sharing as indicated in § 90.621(g). Specific provisions for use of the 821–824/866–869 MHz bands in the U.S./Canada border area are contained in paragraph (c) of this section, and provisions for use of the 896–901/935–940 MHz bands in the U.S./Canada border are contained in paragraph (d) of this section.

(1) The U.S./Canada border area is divided into eight geographical regions with U.S. channel allocations shown in table 5.

TABLE 5—GEOGRAPHICAL REGIONS

Region	Location (longitude)	U.S. channel allocation
1	66° W–71° W (0–100 km from border)	300
2	71° W–81° W (0–100 km from border)	180
3	81° W–85° W (0–100 km from border)	420
4	85° W–121° –30′ W (0–100 km from border).	300
5	121°–30′ W 127° W(0–140 km from border).	300
6	127° W–143° W (0–100 km from border).	300
7	66° W–121° –30′ W (100–140 km from border).	600
8	127° W–143° W (100–140 km from border).	600

(2) Station authorizations in Regions 1–4 and Regions 6–8 will be subject to Effective Radiated Power (ERP) and Effective Antenna Height (EAH) limitations as indicated in table 6. Stations in Region 5 will be subject to the ERP and antenna height above mean sea level limitations in table 8. Effective Radiated Power (ERP) is defined as the product of the power supplied to the antenna and its gain relative to a half-wave dipole in a given direction. Effective Antenna Height is calculated by subtracting the Assumed Average Terrain Elevation (AATE) given in table 7 from the antenna height above mean sea level.

TABLE 6—LIMITS OF EFFECTIVE RADIATED POWER (ERP) CORRESPONDING TO EFFECTIVE ANTENNA HEIGHTS (EAH) OF BASE STATIONS IN REGIONS 1, 2, 3, 4, 6, 7, 8

Feet	Meters	Watts (maximum)
0–500	0–152	500
501–1000	153–305	125
1001–1500	306–457	40
1501–2000	458–609	20
2001–2500	610–762	10
2501–3000	763–914	10
3001–3500	915–1066	6
3501–4000	1067–1219	5
Above 4000	Above 1219	5

Table 7. Values of Assumed Average Terrain Elevation (AATE) Along the U.S./Canada Border

Longitude (Ø) (°West)	Latitude (θ) (°North)	Assumed Average Terrain Elevation	
		Feet	Meters
65 ≤ Ø < 69	θ < 45	0	0
"	45 ≤ θ < 46	300	91
"	θ ≥ 46	1000	305
69 ≤ Ø < 73	all	2000	609
73 ≤ Ø < 74	"	500	152
74 ≤ Ø < 78	"	250	76
78 ≤ Ø < 80	θ < 43	250	76
"	θ ≥ 43	500	152
80 ≤ Ø < 90	all	600	183
90 ≤ Ø < 98	"	1000	305
98 ≤ Ø < 102	"	1500	457
102 ≤ Ø < 108	"	2500	762
108 ≤ Ø < 111	"	3500	1066
111 ≤ Ø < 113	"	4000	1219
113 ≤ Ø < 114	"	5000	1524
114 ≤ Ø < 121.5	"	3000	914
121.5 ≤ Ø < 127	"	0	0
↑	54 ≤ θ < 56	0	0
	56 ≤ θ < 58	500	152
Ø ≥ 127	58 ≤ θ < 60	0	0
(Alaska - British	60 ≤ θ < 62	4000	1219
Columbia/Yukon	62 ≤ θ < 64	1600	488
Territory Border)	64 ≤ θ < 66	1000	305
	66 ≤ θ < 68	750	228
	68 ≤ θ < 69.5	1500	457
↓	θ ≥ 69.5	0	0

TABLE 8—LIMITS OF EFFECTIVE RADIATED POWER (ERP) CORRESPONDING TO ANTENNA HEIGHTS ABOVE MEAN SEA LEVEL OF BASE STATIONS IN REGION 5

Antenna height above mean sea level		ERP watts (maximum)
Feet	Meters	
0 to 1,650	0 to 503	500
1,651 to 2,000	504 to 609	350
2,001 to 2,500	610 to 762	200
2,501 to 3,000	763 to 914	140
3,001 to 3,500	915 to 1,066	100
3,501 to 4,000	1,067 to 219	75
4,001 to 4,500	1,220 to 1,371	70
4,501 to 5,000	1,372 to 1,523	65
Above 5,000	Above 1,523	5

(3) The following frequency bands are available in each Region with the exception of those listed in § 90.619(b)(5).

Region(s)	Frequency bands (MHz)
1, 4, 5, 6	806.00–809.75/851.00–854.75 and 817.25–821.00/862.25–866.00.
2	806.00–808.25/851.00–853.25 and 818.75–821.00/863.75–866.00.
3	806.00–811.25/851.00–856.25 and 815.75–821.00/860.75–866.00.
7, 8	806.00–821.00/851.00–866.00.

(4) Coordination with Canada will be required:

(i) For frequencies in the 808.2625–809.7375/853.2625–854.7375 MHz and 817.2625–818.7375/862.2625–863.7375 MHz bands, for stations to be located in the geographical area in Region 1 enclosed by the United States border, the meridian 71° W and the line beginning at the intersection of 44°25′N, 71° W, then running by great circle arc to the intersection of 45° N, 70° W, then North along meridian 70° W to the intersection of 45°45′N, then running West along 45°45′N to the intersection of the United States—Canada border.

(ii) For frequencies in the 808.2625–811.2375/853.2625–856.2375 MHz and 815.7625–818.7375/860.7625–863.7375 MHz bands, for stations to be located in the geographical area in Region 3 enclosed by the meridian 81° W longitude, the arc of a circle of 100 km radius centered at the intersection of 81° W longitude and the northern shore of Lake Erie and drawn clockwise from the southerly intersection with 81° W longitude to intersect the United States-Canada border, and the United States-Canada border.

(5) Applicants requesting authorizations in the frequency bands in the geographical areas listed below shall submit documentation indicating compliance with the following protection criteria to the indicated Canadian television station. Protection to Canadian television assignments and allotments is based on the field strength of an interfering mobile radio signal at the TV station's calculated Grade B contour (64 dBu) not exceeding the TV field strength by more than 20 dB (i.e., 84 dBu). The field strength of the TV assignment or allotment is calculated using the R6602 [F(50,50)] propagation curves and any land mobile base station interfering signal is calculated using the R6602 [F(50,10)] propagation curves at a receiving effective antenna height of 9.1 meters (30 feet). Where the calculated field strength of the TV assignment or allotment exceeds the Grade B contour value of 64 dBu at the Canada/U.S.A. border, the land mobile radio signal may not exceed the actual calculated TV field strength at the border by more than 20 dB.

Frequency bands (MHz)	Areas
852–853.25 MHz (Cornwall—TV Channel 63).	Area bounded by a line joining, clockwise, the following coordinates: starting at point 45°00′00″ N. Lat., 74°38′00″ W. Long., moving east along the Canada/USA border to point 44°59′30″ N. Lat., 74°05′00″ W. Long., moving south west to point 44°56′30″ N. Lat., 74°08′00″ W. Long. moving west to point 45°00′00″ N. Lat., 74°38′00″ W. Long. The second area is bounded by a line joining, clockwise, the following coordinates: 44°50′30″ N. Lat., 75°17′30″ W. Long., moving east along the Canada/USA border to point 44°55′30″ N. Lat., 75°05′00″ W. Long., moving south to point 44°55′00″ N. Lat., 75°05′00″ W. Long., moving south west to point 44°53′00″ N. Lat., 75°06′30″ W. Long., moving south west to point 44°48′30″ N. Lat., 75°14′30″ W. Long., and moving north west to point 44°50′30″ N. Lat., 75°17′30″ W. Long.
852–854.75 MHz (Vancouver—TV Channel 63).	Area bounded by a line joining, clockwise, the following coordinates: starting at point 49°00′00″ N. Lat., 122°45′30″ W. Long., moving east along the Canada/USA border to point 49°00′00″ N. Lat., 122°05′00″ W. Long., moving south west to point 48°57′30″ N. Lat., 122°09′00″ W. Long., moving west to point 48°59′00″ N. Lat., 122°44′30″ W. Long., and moving north to point 49°00′00″ N. Lat., 122°45′30″ W. Long.

(6) [Reserved]

(7) Frequencies in Regions 1–8 are designated in accordance with the following:

(i) As shown in § 90.613, mobile and control station transmitting frequencies will commence with Channel No. 1 at 806.0125 MHz, followed by Channel No. 2 at 806.0375 MHz and proceed with uniform 25 kHz spacing to the band end, with Channel No. 600 at 820.9875 MHz. Corresponding base station frequencies, separated by 45 MHz from the mobile control frequencies, will commence with Channel No. 1 at 851.0125 MHz and end with Channel No. 600 at 865.9875 MHz.

(ii) Channels will be arranged into 5-channel groups. Because of the distribution and differing number of channels available for United States use in Regions 1–8, channel spacing between channels in a 5-channel group vary as follows:

Region	Number of 5-channel groups	Spacing between channels in a 5-channel group (Channels)
1, 4, 5, 6	60	30
2	36	18
3	[1] 80	40
7, 8	120	40

[1] Region 3 also has ten (10) contiguous channels in each of the two allocated sub-bands.

(iii) The Public Safety Category consists of the Public Safety and the Special Emergency Radio Services. The Industrial/Land Transportation Category consists of the Power, Petroleum, Forest Products, Film and Video Production, Relay Press, Special Industrial,

Manufacturers, Telephone Maintenance, Motor Carrier, Railroad, Taxicab, and Automobile Emergency Radio Services. The Business Radio Category consists of the Business Radio Service. Specialized Mobile Radio Systems (SMRS) will not be authorized in any of the above mentioned categories, but only in the SMRS Category to those applicants eligible under § 90.603(c).

(8) Tables 9, 10, 11, and 12 list the channels available in Regions 1, 4, 5, and 6 for the categories of users indicated. Frequencies are given in § 90.613.

TABLE 9—PUBLIC SAFETY CATEGORY—85 CHANNELS

[Regions 1, 4, 5, 6]

Group No.	Channel No.
1	1–31–61–91–121
2	2–32–62–92–122
3	3–33–63–93–123
4	4–34–64–94–124
5	5–35–65–95–125
6	6–36–66–96–126
7	7–37–67–97–127
8	8–38–68–98–128
9	9–39–69–99–129
10	10–40–70–100–130
11	11–41–71–101–131
12	12–42–72–102–132
13	13–43–73–103–133
14	14–44–74–104–134
15	15–45–75–105–135
16	16–46–76–106–136
17	17–47–77–107–137

TABLE 10—INDUSTRIAL/LAND TRANSPORTATION CATEGORY—60 CHANNELS

[Regions 1, 4, 5, 6]

Group No.	Channel No.
18	18–48–78–108–138
19	19–49–79–109–139
20	20–50–80–110–140
21	21–51–81–111–141
22	22–52–82–112–142
23	23–53–83–113–143
24	24–54–84–114–144
25	25–55–85–115–145
26	26–56–86–116–146
27	27–57–87–117–147
28	28–58–88–118–148
29	29–59–89–119–149

TABLE 11—BUSINESS CATEGORY—60 CHANNELS

[Regions 1, 4, 5, 6]

Group No.	Channel No.
451	451–481–511–541–571
452	452–482–512–542–572
453	453–483–513–543–573
454	454–484–514–544–574
455	455–485–515–545–575

TABLE 11—BUSINESS CATEGORY—60 CHANNELS—Continued

[Regions 1, 4, 5, 6]

Group No.	Channel No.
456	456–486–516–546–576
457	457–487–517–547–577
458	458–488–518–548–578
459	459–489–519–549–579
460	460–490–520–550–580
461	461–491–521–551–581
462	462–492–522–552–582

TABLE 12.—SMR CATEGORY—95 CHANNELS

[Regions 1, 4, 5, 6]

Spectrum block	Channel No.
EA-Based SMR Category (90 Channels):	
A	None.
B	463–480.
C	493–510, 523–540, 553–570, 583–600.
SMR Category (5 Channels):	
D	30, 60, 90, 120, 150.
E	None.

(9) Tables 13, 14 15, and 16 list the frequencies available in Region 2 for the categories of users indicated.

TABLE 13—PUBLIC SAFETY CATEGORY—50 CHANNELS

[Region 2]

Group No.	Channel Nos.
1	1–19–37–55–73
2	2–20–38–56–74
3	3–21–39–57–75
4	4–22–40–58–76
5	5–23–41–59–77
6	6–24–42–60–78
7	7–25–43–61–79
8	8–26–44–62–80
9	9–27–45–63–81
10	10–28–46–64–82

TABLE 14—INDUSTRIAL/LAND TRANSPORTATION CATEGORY—35 CHANNELS

[Region 2]

Group No.	Channel Nos.
11	11–29–47–65–83
12	12–30–48–66–84
13	13–31–49–67–85
14	14–32–50–68–86
15	15–33–51–69–87
16	16–34–52–70–88
17	17–35–53–71–89

TABLE 15—BUSINESS CATEGORY—35 CHANNELS

[Region 2]

Group No.	Channel Nos.
511	511–529–547–565–583
512	512–530–548–566–584
513	513–531–549–567–585
514	514–532–550–568–586
515	515–533–551–569–587
516	516–534–552–570–588
517	517–535–553–571–589

TABLE 16.—SMR CATEGORY—60 CHANNELS

[Region 2]

Spectrum block	Channel No.
EA-Based SMR Category (55 Channels):	
A	None.
B	None.
C	518–528, 536–546, 554–564, 572–582, 590–600.
SMR Category (5 Channels):	
D	18, 36, 54, 72, 90.
E	None.

(10) Tables 17, 18, 19, and 20 list the frequencies available in Region 3 for the categories of users indicated.

TABLE 17—PUBLIC SAFETY—115 CHANNELS

[Region 3]

Group No.	Channel Nos.
1	1–41–81–121–161
2	2–42–82–122–162
3	3–43–83–123–163
4	4–44–84–124–164
5	5–45–85–125–165
6	6–46–86–126–166
7	7–47–87–127–167
8	8–48–88–128–168
9	9–49–89–129–169
10	10–50–90–130–170
11	11–51–91–131–171
12	12–52–92–132–172
13	13–53–93–133–173
14	14–54–94–134–174
15	15–55–95–135–175
16	16–56–96–136–176
17	17–57–97–137–177
18	18–58–98–138–178
19	19–59–99–139–179
20	20–60–100–140–180
21	21–61–101–141–181
22	22–62–102–142–182
Contiguous channels	201, 202, 203, 204, 205

TABLE 18—INDUSTRIAL/LAND TRANSPORTATION CATEGORY—85 CHANNELS

[Region 3]

Group No.	Channel Nos.
23	23–63–103–143–183

TABLE 18—INDUSTRIAL/LAND TRANSPORTATION CATEGORY—85 CHANNELS—Continued

[Region 3]

Group No.	Channel Nos.
24	24–64–104–144–184
25	25–65–105–145–185
26	26–66–106–146–186
27	27–67–107–147–187
28	28–68–108–148–188
29	29–69–109–149–189
30	30–70–110–150–190
31	31–71–111–151–191
32	32–72–112–152–192
33	33–73–113–153–193
34	34–74–114–154–194
35	35–75–115–155–195
36	36–76–116–156–196
37	37–77–117–157–197
Contiguous channels	391, 392, 393, 394, 395, 396, 397, 398, 399, 400

TABLE 19—BUSINESS CATEGORY—85 CHANNELS

[Region 3]

Group No.	Channel Nos.
401	401–441–481–521–561
402	402–442–482–522–562
403	403–443–483–523–563
404	404–444–484–524–564
405	405–445–485–525–565
406	406–446–486–526–566
407	407–447–487–527–567
408	408–448–488–528–568
409	409–449–489–529–569
410	410–450–490–530–570
411	411–451–491–531–571
412	412–452–492–532–572
413	413–453–493–533–573
414	414–454–494–534–574
415	415–455–495–535–575
416	416–456–496–536–576
Contiguous channels	206, 207, 208, 209, 210

TABLE 20.—SMR CATEGORY—135 CHANNELS

[Region 3]

Spectrum block	Channel No.
EA-Based SMR Category (120 Channels):	
A	417–420.
B	421–440, 457–480.
C	497–520, 537–560, 577–600.
SMR Category (15 Channels):	
D	38, 39, 40, 78, 79, 80, 118, 119, 120.
E	None.
Other	158, 159, 160, 198, 199, 200.

(11) Tables 21, 22, 23, and 24 list the frequencies available in Regions 7 and 8 for the categories of users indicated.

TABLE 21—(REGIONS 7, 8) PUBLIC SAFETY CATEGORY—170 CHANNELS

Group No.	Channel Nos.
1	1–41–81–121–161
2	2–42–82–122–162
3	3–43–83–123–163
4	4–44–84–124–164
5	5–45–85–125–165
6	6–46–86–126–166
7	7–47–87–127–167
8	8–48–88–128–168
9	9–49–89–129–169
10	10–50–90–130–170
11	11–51–91–131–171
12	12–52–92–132–172
13	13–53–93–133–173
14	14–54–94–134–174
15	15–55–95–135–175
16	16–56–96–136–176
17	17–57–97–137–177
18	18–58–98–138–178
19	19–59–99–139–179
20	20–60–100–140–180
21	21–61–101–141–181
22	22–62–102–142–182
23	23–63–103–143–183
24	24–64–104–144–184
25	25–65–105–145–185
26	26–66–106–146–186
27	27–67–107–147–187
28	28–68–108–148–188
29	29–69–109–149–189
30	30–70–110–150–190
31	31–71–111–151–191
32	32–72–112–152–192
33	33–73–113–153–193
34	34–74–114–154–194

TABLE 22—(REGIONS 7, 8) INDUSTRIAL/LAND TRANSPORTATION CATEGORY—120 CHANNELS

Group No.	Channel Nos.
201	201–241–281–321–361
202	202–242–282–322–362
203	203–243–283–323–363
204	204–244–284–324–364
205	205–245–285–325–365
206	206–246–286–326–366
207	207–247–287–327–367
208	208–248–288–328–368
209	209–249–289–329–369
210	210–250–290–330–370
211	211–251–291–331–371
212	212–252–292–332–372
213	213–253–293–333–373
214	214–254–294–334–374
215	215–255–295–335–375
216	216–256–296–336–376
217	217–257–297–337–377
218	218–258–298–338–378
219	219–259–299–339–379
220	220–260–300–340–380
221	221–261–301–341–381
222	222–262–302–342–382
223	223–263–303–343–383
224	224–264–304–344–384

TABLE 23—(REGIONS 7, 8) BUSINESS CATEGORY—120 CHANNELS

Group No.	Channel Nos.
401	401–441–481–521–561
402	402–442–482–522–562
403	403–443–483–523–563
404	404–444–484–524–564
405	405–445–485–525–565
406	406–446–486–526–566
407	407–447–487–527–567
408	408–448–488–528–568
409	409–449–489–529–569
410	410–450–490–530–570
411	411–451–491–531–571
412	412–452–492–532–572
413	413–453–493–533–573
414	414–454–494–534–574
415	415–455–495–535–575
416	416–456–496–536–576
417	417–457–497–537–577
418	418–458–498–538–578
419	419–459–499–539–579
420	420–460–500–540–580
421	421–461–501–541–581
422	422–462–502–542–582
423	423–463–503–543–583
424	424–464–504–544–584

TABLE 24.—(REGIONS 7, 8) SMR CATEGORY—190 CHANNELS

Spectrum block	Channel No.
EA-Based SMR Category (80 Channels):	
A	None.
B	425–440, 465–480.
C	505–520, 545–560, 585–600.
SMR Category (110 Channels):	
D	35–40, 75–80, 115–120.
E	225–228, 265–268, 305–308, 345–348, 385–388.
Other	155–160, 195–200, 229–240, 269–280, 309–320, 349–360, 389–400.

(c) *Use of frequencies in the 821–824/866–869 MHz band (Channels 601–830) in the U.S./Canada border area.* The following criteria shall govern the assignment of frequency pairs (channels) in the 821–824/866–869 MHz band for stations located in the U.S./Canada border area. They are available for assignments for conventional or trunked systems in accordance with applicable sections of this subpart and the Report and Order in Gen. Docket No. 87–112. They are not available for intercategory sharing.

(1) Channels 601–830, as listed in § 90.613 table of 806–824/851–869 MHz Channel Designations, are available to eligible applicants in the Public Safety Category for use in the U.S./Canada border area as shown in table 25. Additionally, Channels 601, 639, 677, 715, and

753 are available in all regions only for mutual aid purposes.

TABLE 25—CHANNELS IN THE 821–824/866–869 MHZ FREQUENCY BANDS AVAILABLE IN THE U.S./CANADA BORDER AREA

Region	Location (longitude)	Channels
1	66° W–71° W (0–100 km from border)	715–830
2	71° W–80°30′ W (0–100 km from border)	760–830
3	80°30′ W–85° W (0–100 km from border)	636–830
4	85° W–121°30′ W (0–100 km from border)	715–830
5	121°30′ W–127° W (0–140 km from border)	715–830
6	127° W–143° W (0–100 km from border)	715–830
7	66° W–121°30′ W (100–140 km from border)	601–830
8	127° W–143° W (100–140 km from border)	601–830

Note: For assignments in the 821–824/866–869 MHz bands, the cities of Akron, Ohio (41°05′00″ N, 81°30′40″ W) and Youngstown, Ohio (41°05′57″ N, 80°39′02″ W) are considered outside of Region 3, and Syracuse, New York (43°03′04″ N, 76°09′14″ W) is considered outside of Region 2. These cities are defined as an area with the given center coordinates and encompassing a circle of 30 km radius.

(2) All frequency assignments made pursuant to paragraph (c)(1) of this section shall comply with the requirements of § 90.619(b)(2).

(3) In Region 5, Channels 601–714 may be authorized in the United States under the following conditions:

(i) An assignment may be made if the predicted power flux density (PFD) of a proposed station's signal does not exceed −107 dBW/m^2 at the border. The prediction of the PFD is calculated based upon a modified Longley-Rice point-to-point propagation model with time and location variabilities of 10 percent[1] and 3-second digitized terrain data.[2]

(ii) Authorizations for Channels 601–714 in Region 5 are secondary to Canadian operations and conditioned to require that licensees take immediate action to eliminate any harmful interference resulting from the station's transmitted signal exceeding −107 dBW/m^2 at or beyond the U.S./Canada border.

(4) Channel assignments for stations to be located in the geographical area in Region 1 enclosed by the Unites States-Canada border, the meridian 71°W and the line beginning at the intersection of 44°25′ N, 71° W, then-running by great circle arc to the intersection of 45° N, 70° W, then North along meridian 70° W to the intersection of 45°45′ N, then running West along 45°45′ N to the intersection of the United States-Canada border, will be only for even numbered channels beginning with Channel 716 and ending with Channel 758.

(5) Channel assignments for stations to be located in the geographical area in Region 3 enclosed by the meridian 81° W longitude, the arc of a circle of 100 km radius centered at 42°39′30″ N latitude 81° W longitude at the northern shore of Lake Erie and drawn clockwise from the southerly intersection with 80°30′ W longitude to intersect the United States-Canada border West of 81° W, and the United States-Canada border, will be only for even numbered channels beginning with Channel 636 and ending with Channel

[1] G.A. Hufford, A.G. Longley, and W.A. Kissick, *A guide to the use of the ITS irregular terrain model in the area prediction mode*, NTIA Report 82–100. (Available from U.S. Department of Commerce, National Technical and Information Service (NTIS), Springfield, VA 22161. Accession number PB–217977.)

A.G. Longley and P.L. Rice, *Prediction of tropospheric radio transmission loss over irregular terrain—a computer method 1968*, ESSA Technical Report ERL 79–ITS 67. (Available from NTIS, Assession number AD–676–874.)

P.L. Rice, A.G. Longley, K.A. Norton, and A.P. Barsis, *Transmission loss predictions for tropospheric communication circuits*, National Bureau of Standards Technical Note 101, Volumes I and II. (Available from NTIS, Assession numbers AD–687–820 and AD–687–821.)

[2] *Level 1-Digital Terrain Elevation Data*, United States Defense Mapping Agency. (Available from National Cartographic Information Center, U.S. Geological Survey, 507 National Center, Reston, VA 22092 as *Digital Elevation Model Data* in 1°×1° units. Two of these units are required to cover each 1°×2° map (1:250,000-scale quadrangle) from which the data were produced.

758. Coordination with Canada will be required for these channels. U.S. stations must protect Canadian stations operating on channels 636 through 758 within an area of 30 km radius from the center city coordinates of London, Ontario (42°59′ N, 81°14′ W).

(6) *Additional channels available.*—The channels listed in table 26 are available for assignment in Regions 1–6 if the maximum power flux density (PFD) of the station's transmitted signal does not exceed the limits specified in tables 27 and 28. The spreading loss shall be calculated using the free space formula taking into account an antenna discrimination in the direction of the border.

TABLE 26—ADDITIONAL CHANNELS AVAILABLE

[Regions 1–6]

Region	Channel No.'s	Effective radiated power
1	601–714	See Table 29
2	601–759	See Table 29
3	601–635	See Table 29
4	601–714	See Table 29
5	601–714	See Table 30
6	601–714	See Table 29

Authorizations for stations using these channels will be secondary to Canadian operations and conditioned to require that licensees take immediate action to eliminate any harmful interference resulting from the station's transmitted signal exceeding the values specified in tables 29 or 30 at or beyond the U.S./Canada border.

(d) *Use of frequencies in the 896–901/935–940 MHz band (Channels 1–399) in the U.S./Canada border area.* The following criteria shall govern the assignment of frequency pairs (channels) in the 896–901/935–940 MHz band for stations located in the U.S./Canada border area. They are available for assignments for conventional or trunked systems in accordance with applicable sections of this subpart.

(1) Channels 1–399, as listed in § 90.613 table of 896–901/935–940 MHz Channel Designations, are available to eligible applicants for use in the U.S./Canada border area as shown in table 27. Additionally, Channels 71, 75, 79, 151, 155, and 159 are available in all regions only for implementation of an Advanced Train Control System as defined in 3 FCC Rcd 427 (1988) (Advanced Train Control Waiver).

TABLE 27—CHANNELS IN THE 896–901/935–940 MHZ FREQUENCY BANDS AVAILABLE IN THE U.S./CANADA BORDER AREA

Region	Location (longitude)	Channels
1	66° W–71° W. (0–100 km from border)	1–200, 398, 399
2	71° W–80°30′ W (0–100 km from border)	1–120
3	80°30′ W–85° W (0–100 km from border)	1–340
4	85° W–121°30′ W (0–100 km from border)	1–200, 398, 399
5	121°30′ W–127° W (0–140 km from border)	1–200, 398, 399
6	127° W–143° W (0–100 km from border)	1–200, 398, 399
7	66° W–121°30′ W (100–140 km from border)	1–399
8	127° W–143° W (100–140 km from border)	1–399

Note: For assignments in the 896–901/935–940 MHz bands, the cities of Akron, Ohio (41°05′00″ N, 81°30′40″ W) and Youngstown, Ohio (41°05′57″ N, 80°39′02″ W) are considered outside of Region 3, and Syracuse, New York (43°03′04″ N, 76°09′14″ W) is considered outside of Region 2. These cities are defined as an area with the given center coordinates and encompassing a circle of 30 km radius.

(2) All frequency assignments made pursuant to paragraph (d)(1) of this section shall comply with the requirements of § 90.619(b)(2).

(3) In Region 5, Channels 201–397 may be authorized in the United States under the following conditions:

(i) An assignment may be made if the predicted power flux density (PFD) of a proposed station's signal does not exceed –107 dBW/m² at the border. The prediction of the PFD is calculated based upon a modified Longley-Rice point-to-point propagation model with time and location variabilities of 10 percent[3] and 3-second digitized terrain date[4].

[3] See note 1, paragraph (c) of this section.

[4] See note 2, paragraph (c) of this section.

(ii) Authorizations for Channels 201–397 in Region 5 are secondary to Canadian operations and conditioned to require that licensees take immediate action to eliminate any harmful interference resulting from the station's transmitted signal exceeding –107 dBW/m² at or beyond the U.S./Canada border.

(4) Channel assignments for stations to be located in the geographical area in Region 1 enclosed by the United States-Canada border, the meridian 71° W and the line beginning at the intersection of 44°25′ N, 71° W, then running by great circle arc to the intersection of 45° N, 70° W, then North along meridian 70° W to the intersection of 45°45′ N, then running West along 45°45′ N to the intersection of the United States-Canada border, will be only for channels 121 through 160, inclusive, and will be limited to assignments with 11 kHz or less necessary bandwidth. Coordination with Canada will be required for these channels.

(5) Channel assignments for stations to be located in the geographical area in Region 3 enclosed by the meridian of 81° W longitude, the arc of a circle of 100 km radius centered at 42°39′30″ N latitude and 81° W longitude at the northern shore of Lake Erie and drawn clockwise from the southerly intersection with 80°30′ W longitude to intersect the United States-Canada border West of 81° W, and the United States-Canada border, will be only for channels 121 through 230, inclusive, and will be limited to assignments with 11 kHz or less necessary bandwidth. Coordination with Canada will be required for these channels. U.S. stations must protect Canadian stations operating on channels 121 through 230 within an area of 30 km radius from the center city coordinates of London, Ontario (42°59′ N, 81° 14′ W).

(6) *Additional channels available*—The channels listed in table 28 are available for assignment in Regions 1–6 if the maximum power flux density (PFD) of the station's transmitted signal does not exceed the limits specified in tables 29 and 30. The spreading loss shall be calculated using the free space formula taking into account any antenna discrimination in the direction of the border.

TABLE 28—ADDITIONAL CHANNELS AVAILABLE

[Regions 1–6]

Region	Channel No.'s	Effective radiated power
1	201–397	See Table 29
2	121–399	See Table 29
3	341–399	See Table 29
4	201–397	See Table 29
5	201–397	See Table 30
6	201–397	See Table 29

Authorizations for stations using these channels will be secondary to Canadian operations and conditioned to require that licensees take immediate action to eliminate any harmful interference resulting from the station's transmitted signal exceeding the values specified in tables 29 or 30 at or beyond the U.S./Canada border.

TABLE 29—MAXIMUM POWER FLUX DENSITY (PFD) AT THE U.S./CANADA BORDER CORRESPONDING TO EFFECTIVE ANTENNA HEIGHT

[Regions 1, 2, 3, 4, and 6]

Effective antenna height (EAH)		PFD (dBW/m²)
Feet	Meters	
0–500	0–152	−84
501–1000	153–305	−90
1001–1500	306–457	−95
1501–2000	458–609	−98
2001–2500	610–762	−101
2501–3000	763–914	−101
3001–3500	915–1066	−103
3501–4000	1067–1219	−104
Above 4000	Above 1219	−104

TABLE 30—MAXIMUM POWER FLUX DENSITY (PFD) AT THE U.S./CANADA BORDER CORRESPONDING TO ANTENNA HEIGHT ABOVE MEAN SEA LEVEL

[Region 5]

Antenna height above mean sea level		PFD (dBW/m²)
Feet	Meters	
0–1650	0–503	−87.0
1651–2000	504–609	−88.5
2001–2500	610–762	−91.0
2501–3000	763–914	−92.5
3001–3500	915–1066	−94.0
3501–4000	1067–1219	−95.0
4001–4500	1220–1371	−95.5
4501–5000	1372–1523	−96.0
Above 5000	Above 1523	−107.0

(Secs. 4(i) and 303, Communications Act, as amended, and 5 U.S.C. 553 (b)(3)(B) and (d)(1))

[47 FR 41032, Sept. 16, 1982; 47 FR 41045, Sept. 16, 1982; 47 FR 51883, Nov. 18, 1982, as amended at 48 FR 51928, Nov. 15, 1983; 49 FR 22094, May 25, 1984; 50 FR 12261, Mar. 28, 1985; 52 FR 3662, Feb. 5, 1987; 55 FR 42571, Oct. 22, 1990; 56 FR 41469, Aug. 21, 1991; 57 FR 55146, Nov. 24, 1992; 58 FR 31476, June 3, 1993; 58 FR 44963, Aug. 25, 1993; 59 FR 31558, June 20, 1994; 60 FR 48918, Sept. 21, 1995; 61 FR 6156, Feb. 16, 1996; 61 FR 6577, Feb. 21, 1996]

§90.621 Selection and assignment of frequencies.

(a) Applicants for frequencies in the Public Safety, Industrial/Land Transportation, and Business Categories must specify on the application the frequencies on which the proposed system will operate pursuant to a recommendation by the applicable frequency coordinator. Applicants for frequencies in the SMR Category must request specific frequencies by including in their applications the frequencies requested.

(1) For trunked systems, the assignment of frequencies will be made in accordance with applicable loading criteria and in accordance with the following:

(i) Channels will be chosen and assigned in accordance with §§90.615, 90.617, or 90.619.

(ii) A mobile station is authorized to transmit on any frequency assigned to its associated base station.

(iii) There are no limitations on the number of frequencies that may be trunked. Authorizations for non-SMR stations may be granted for up to 20 trunked frequency pairs at a time in accordance with the frequencies listed in §§90.615, 90.617, and 90.619.

(2) For conventional systems the assignment of frequencies will be made in accordance with applicable loading criteria. Accordingly, depending upon the number of mobile units to be served, an applicant may either be required to share a channel, or, if an applicant shows a sufficient number of mobile units to warrant the assignment of one or more channels for its exclusive use, it may be licensed to use such channel or channels on an unshared basis in the area of operation specified in its application.

(i) Channels will be chosen and assigned in accordance with §§90.615, 90.617, or 90.619.

(ii) A mobile station is authorized to transmit on any frequency assigned to its associated base station.

(b) Stations authorized on frequencies listed in this subpart, except for those stations authorized pursuant to paragraph (g) of this section and EA-based and MTA-based SMR systems, will be afforded protection solely on the basis of fixed distance separation criteria. The separation between co-channel systems will be a minimum of 113 km (70 mi) with the following exceptions:

(1) Except as indicated in paragraph (b)(4) of this section, no station shall be less than 169 km (105 mi) distant from a co-channel station that has been granted channel exclusivity and authorized 1 kW ERP on any of the following mountaintop sites: Santiago Peak, Sierra Peak, Mount Lukens, Mount Wilson (California).

(2) The separation between co-channel stations that have been granted exclusivity and that are located at high sites in California north of 35° N Latitude and west of 118° W Longitude shall be determined as follows:

(i) Required co-channel separations between common antenna sites are given by table 1. A channel group assigned to a station on a site listed in the vertical column may not be re-assigned to a station on a site listed in the horizontal column if there is an ''X'' in the box created by the intersection of the vertical and horizontal lines. The geographic coordinates listed in the table represent an average for each particular site; all locations within 1.6 km (1 mi) of the coordinates will be considered to be at that site.

(ii) Required co-channel separations involving antenna sites not listed in table 1 shall be determined by Commission staff on a case by case basis. The interference potential of proposed assignments will be evaluated considering parameters such as antenna height, effective radiated power, terrain irregularities, and market conditions.

TABLE 1: CO-CHANNEL SEPARATIONS BETWEEN COMMON ANTENNA SITES IN THE STATE OF CALIFORNIA NORTH OF 35° NORTH LATITUDE AND WEST OF 118° WEST LONGITUDE

North Latitude	West Longitude	Site Name	Big Rock Ridge	Mt. Tamalpais	Wolfback Ridge	Mt. Diablo	Grizzley Peak	Vollmer Peak	Roundtop	Clay Jones Bldg	San Bruno Mtn	Skeggs Peak	Black Mountain	Mt Umunnum	Mt Chual	Loma Prieta	Toro Peak	Mission Ridge	Tuscan Buttes	Forest Ranch	Sutter Buttes	Wolf Mtn	Chantry Hill	Mt Vaca	Fowler Peak	Mt Oso	Mt Bullion	Meadow Lakes	Bear Mtn	Joaquin Ridge	Blue Ridge	Pheasant Hill	Granite Peak	Elk Hill	McKittrick Peak	McKittrick Peak
38-03-40	122-36-17	Big Rock Ridge		x	x	x	x	x	x	x	x	x	x	x	x	x		x			x	x	x	x	x	x										
37-55-44	122-35-11	Mt. Tamalpais	x		x	x	x	x	x	x	x	x	x	x	x	x		x			x	x	x	x	x	x										
37-50-57	122-29-56	Wolfback Ridge	x	x		x	x	x	x	x	x	x	x	x	x	x		x						x												
37-52-54	121-55-05	Mt. Diablo	x	x	x		x	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x	x	x							
37-51-12	122-12-30	Grizzley Peak	x	x	x	x		x	x	x	x	x	x	x	x	x		x			x	x	x	x	x	x										
37-52-58	122-13-11	Vollmer Peak	x	x	x	x	x		x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x									
37-51-00	122-11-30	Roundtop	x	x	x	x	x	x		x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x									
37-43-33	122-24-52	Clay Jones Bldg.	x	x	x	x	x	x	x		x	x	x	x	x	x		x			x			x												
37-41-21	122-26-08	San Bruno Mtn.	x	x	x	x	x	x	x	x		x	x	x	x	x		x						x												
37-24-39	122-18-20	Skeggs Peak	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x						x		x										
37-19-13	122-08-33	Black Mountain	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x						x		x										
37-10-37	121-54-24	Mt. Umunnum	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x						x		x										
37-07-09	121-49-58	Mt. Chual	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x						x		x										
37-06-40	121-50-29	Loma Prieta	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x						x		x										
36-31-45	121-36-24	Toro Peak											x	x	x	x	x	x												x						
37-29-15	121-52-03	Mission Ridge	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x						x	x	x	x									
40-15-46	122-05-37	Tuscan Buttes																	x	x	x	x	x	x												
39-51-50	121-41-20	Forest Ranch				x		x	x										x	x	x	x	x	x												
39-12-17	121-49-02	Sutter Buttes	x	x		x	x	x	x	x									x	x	x	x	x	x	x	x										
39-08-01	121-05-58	Wolf Mtn	x	x		x	x	x	x										x	x	x	x	x	x	x	x										
38-52-15	121-07-39	Chantry Hill	x	x		x	x	x	x										x	x	x	x	x	x	x	x	x									
38-24-20	122-06-30	Mt. Vaca	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x									
38-01-15	120-35-06	Fowler Peak	x	x		x	x	x	x									x			x	x	x	x	x	x	x	x	x	x						
37-30-31	121-22-26	Mt. Oso	x	x		x	x	x	x			x	x	x	x	x		x			x	x	x	x	x	x	x	x	x	x	x					
37-32-32	120-03-45	Mt. Bullion				x		x	x									x					x	x	x	x	x	x	x	x	x					
37-04-10	119-25-39	Meadow Lakes				x																			x	x	x	x	x	x	x	x	x	x	x	x
36-44-38	119-16-59	Bear Mtn				x																			x	x	x	x	x	x	x	x	x	x	x	x
36-18-10	120-24-03	Joaquin Ridge															x								x	x	x	x	x	x	x	x	x	x	x	x
36-17-07	118-50-19	Blue Ridge																								x	x	x	x	x	x	x	x	x	x	x
35-38-29	118-47-08	Pheasant Hill																										x	x	x	x	x	x	x	x	x
35-33-09	118-49-20	Granite Peak																										x	x	x	x	x	x	x	x	x
35-17-17	119-30-55	Elk Hill																										x	x	x	x	x	x	x	x	x
35-17-27	119-45-48	Mc Kittrick Peak																										x	x	x	x	x	x	x	x	x
35-16-51	119-44-52	Mc Kittrick Peak																										x	x	x	x	x	x	x	x	x

(3) Except as indicated in paragraph (b)(4) of this section, stations that have been granted channel exclusivity and are located in the State of Washington at the following locations shall be separated from co-channel stations by a minimum of 169 km (105 mi). Locations within one mile of the geographical coordinates listed in the table will be considered to be at that site.

Site name	North latitude	West longitude
Mount Constitution	48–40–48	122–50–24
Lyman Mountain	48–35–42	122–09–35
Cultus Mountain	48–25–31	122–08–54
Gunsite Ridge	48–03–23	121–51–37
Gold Mountain	47–32–52	122–46–52
Buck Mountain	47–47–06	122–59–30
Cougar Mountain	47–32–40	122–06–30
Squak Mountain	47–30–15	122–03–30
Tiger Mountain	47–30–14	121–58–28
Devils Mountain	48–21–53	122–16–02
McDonald Mountain	47–20–12	122–51–26
Maynard Hill	48–00–59	122–55–31
North Mountain	47–19–08	123–20–44
Green Mountain	47–33–41	122–48–27
Capitol Peak	46–58–22	123–08–17
Rattlesnake Mountain	47–28–10	121–49–13
Three Sisters Mountain	47–07–20	121–53–30
Grass Mountain	47–12–15	121–47–38
Spar Pole Hill	47–02–52	122–08–35

(4) Upon an applicant's specific request to the Commission or a frequency coordinator, co-channel stations may be separated by less than 113 km (70 mi) by meeting certain transmitter ERP and antenna height criteria. The following table indicates separations assignable to such co-channel stations for various transmitter power and antenna height combinations. The minimum separation permitted is 88 km (55 mi). Applicants will provide the Commission with a statement that the application is submitted for consideration under the table, a list of all co-channel stations within 113 km (70 mi), and the DHAATs and ERPs for these stations and the applicant's proposed station. Applicants seeking to be licensed for stations located at distances less than those prescribed in the table are required to secure a waiver and must submit with the application, in addition to the above, an interference analysis, based upon any of the generally-accepted terrain-based propagation models, that shows that co-channel stations would receive the same or greater interference protection than provided in the table. Requests for separations less than 88 km (55 mi) must also include an analysis of interference potential from mobile transmitters to existing co-channel base station receivers. Applicants seeking a waiver must submit with their application a certificate of service indicating that concurrent with the submission of the application to the Commission or a coordinator, all co-channel licensees within the applicable area were served with a copy of the application and all attachments thereto. Licensees thus served may file an opposition to the application within 30 days from the date the application is filed with the Commission.

(i) The directional height of the antenna above average terrain (DHAAT) is calculated from the average of the antenna heights above average terrain from 3 to 16 km (2 to 10 mi) from the proposed site along a radial extending in the direction of the existing station and the radials 15 degrees to either side of that radial.

(ii) Except for the sites listed in paragraphs (b)(1), (b)(2), and (b)(3) of this section, additional co-channel distance separation must be afforded to an existing station from an applicant wishing to locate a station less than 113 km (70 mi) from a co-channel station, where either the applicant's or the existing station is located at sites with DHAATs of 458 m (1500 ft) and above. The separation between short-spaced co-channel stations shall be determined as follows:

(A) Calculate the DHAAT in each direction between every existing co-channel station with 113 km (70 mi) and the proposed station.

(B) In the table, locate the approximate ERP and DHAAT values for the proposed and existing stations.

(C) When DHAAT values are greater than 458 m (1500 ft), use the required separation for 305 m (1000 ft) and add 1.6 km (1 mi) for every 30.5 km (100 ft), or increment thereof, of DHAAT above 458 m (1500 ft) to the distance indicated in the table. If both the proposed existing stations have DHAATs of 458 m (1500 ft) or more, the additional distance is separately determined for each station and the combined distance is added to the distance obtained from the table. Protection to existing stations will be afforded only up to 113 km (70 mi).

SHORT-SPACING SEPARATION TABLE

Proposed station ERP (watts)/DHAAT(m) [3]	Distance between stations (km) [1,2]						
	Existing station DHAAT (meters) [3]						
	305	215	150	108	75	54	37
1000/305	113	113	113	113	113	113	113
1000/215	113	113	113	113	113	113	110
1000/150	113	113	113	113	112	108	103
1000/108	113	113	113	110	107	103	98
1000/75	113	112	108	103	100	96	91
1000/54	113	109	105	100	97	93	88
1000/37	109	104	100	95	92	88	88
500/305	113	113	113	113	113	113	110
500/215	113	113	113	112	109	105	100
500/150	113	112	108	103	100	96	91
500/108	112	107	103	98	95	91	88
500/75	107	102	98	93	90	88	88
500/54	103	98	94	89	88	88	88
500/37	99	94	90	88	88	88	88
250/305	113	113	113	112	109	105	100
250/215	113	113	107	102	99	95	90
250/150	109	104	100	95	92	88	88
250/108	105	100	96	91	88	88	88
250/75	99	94	90	88	88	88	88
250/54	95	90	88	88	88	88	88
250/37	91	88	88	88	88	88	88
125/305	113	111	107	102	99	95	90
125/215	108	103	99	94	91	88	88
125/150	103	98	94	89	88	88	88
125/108	98	93	89	88	88	88	88
125/75	93	88	88	88	88	88	88
125/54	88	88	88	88	88	88	88
125/37	88	88	88	88	88	88	88
62/305	108	103	99	94	91	88	88
62/215	103	98	94	89	88	88	88
62/150	97	92	88	88	88	88	88
62/108	92	88	88	88	88	88	88
62/75	88	88	88	88	88	88	88
62/54	88	88	88	88	88	88	88
62/37	88	88	88	88	88	88	88

[1] Separations for stations on Santiago Peak, Sierra Peak, Mount Lukens, and Mount Wilson (CA) and the locations in the State of Washington listed in paragraph (b)(3) of this section are 56 km (35 mi) greater than those listed in the table above. In the event of conflict between this table and the table of additional California high elevation sites shown in paragraph (b)(2) of this section, the latter will apply.

[2] Distances shown are derived from the R–6602 curves and are based upon a non-overlap of the 22 dBu (F50,10) interference contour of the proposed station with the 40 dBu (F50,50) contour of the existing station(s). No consideration is given to the 40 dBu service contour of the proposed station and the 22 dBu contour of the existing station(s). The minimum separation of stations will be 88 km (55 mi).

[3] All existing stations are assumed to operate with 1000 watts ERP. When the ERP and/or DHAAT of a proposed station or the DHAAT of an existing station is not indicated in the table, the next higher value(s) must be used.

(5) The separation between co-channel systems may be less than the separations defined above if an applicant submits with its application letters of concurrence indicating that the applicant and each co-channel licensee within the specified separation agree to accept any interference resulting from the reduced separation between their systems. Each letter from a co-channel licensee must certify that the system of the concurring licensee is constructed and fully operational. The applicant must also submit with its application a certificate of service indicating that all concurring co-channel licensees have been served with an actual copy of the application.

(6) A station located closer than the distances provided in this section to a co-channel station that was authorized as short-spaced under paragraph (b)(4) of this section shall be permitted to modify its facilities as long as the station does not extend its 22 dBu contour beyond its maximum 22 dBu contour (i.e., the 22 dBu contour calculated using the station's maximum power and antenna height at its original location) in the direction of the short-spaced station.

(7) Offset frequencies in the 811–821/856–866 MHz band for use only within U.S./Mexico border area, as designated in §90.619(a), shall be considered co-channel with non-offset frequencies in this band as designated in §90.613. New applications for frequencies in this band for stations adjacent to the U.S./Mexico border area must comply with the co-channel separation provisions of this section.

(c) Conventional systems authorized on frequencies in the Public Safety (except for those systems that have participated in a formal regional planning process as described in §90.16), Industrial/Land Transportation, Business, and Spectrum Block D frequencies in the 800 MHz SMR service (formerly General) Categories which have not met the loading levels necessary for channel exclusivity will not be afforded co-channel protection.

(d) UHF television translator stations using UHF output channels from Channels 70 through 83 operate on a secondary basis to land mobile stations using the UHF bands allocated under this subpart for land mobile use. Accordingly, such television translator stations will not be protected from interference from such authorized land mobile stations.

(e) Frequencies in the 806–821/851–866 MHz bands listed as available for eligibles in the Public Safety, Industrial/Land Transportation, and Business Categories are available for inter-category sharing under the following conditions:

(1) Channels in the Public Safety, Industrial/Land Transportation and Business categories will be available to eligible applicants in those categories only if there are no frequencies in their own category and no public safety systems are authorized on those channels under consideration to be shared.

(2)–(4) [Reserved]

(5) The applicant must submit a statement from its own category coordinator that frequencies are not available in that category, and coordination is required from the applicable out-of-category coordinator.

(6) The out-of-category licensee must operate by the rules applicable to the category to which the frequency is allocated.

(f) The 896-901/935-940 MHz channels listed as available for eligibles in the Industrial/Land Transportation and Business categories will be available for inter-category sharing to all persons eligible in those categories under the following conditions thirty-six (36) months from the date the first authorization in this spectrum is issued.

(1) The applicant must submit a statement from its own category coordinator that frequencies are not available in that category, and coordination is required from the applicable out-of-category coordinator.

(2) The out-of-category licensee must operate by the rules applicable to the category to which the frequency is allocated.

(g) Applications for Public Safety systems (both trunked and conventional) in the 821–824/866–869 MHz bands will be assigned and protected based on the criteria established in the appropriate regional plan. See §90.16 and the *Report and Order* in General Docket 87–112.

(h) Channel numbers 401–410, 441–450, 481–490, 521–530, and 561–570 are available on co-primary basis to station in Basic Exchange Telecommunications Radio Service as described in part 22 of the Commission's Rules.

[47 FR 41032, Sept. 16, 1982]

EDITORIAL NOTE: For Federal Register citations affecting §90.621, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§90.623 Limitations on the number of frequencies assignable for conventional systems.

(a) The maximum number of frequency pairs that may be assigned to a licensee for operation in the conventional mode in a given area is five (5).

(b) Where an applicant proposes to operate a conventional radio system to provide facilities for the use of a single person or entity eligible under subparts B, C, D, or E of this part, the applicant may be assigned only the number of frequency pairs justified on the basis of the requirements of the proposed single user of the system.

(c) No non-SMR licensee will be authorized an additional frequency pair for a conventional system within 64

kilometers (40 miles) of an existing conventional system, except where:

(1) The additional frequency pair will be used to provide radio facilities to a single entity and the additional frequency pair is justified on the basis of the requirements of the proposed single user; or,

(2) The licensee's existing frequency pair(s) is loaded to prescribed levels.

(d) No licensee will be authorized frequencies for a conventional system if that licensee is operating an unloaded trunked system or has an application pending for a trunked system to serve multiple subscribers within 64 km (40 miles) of the requested conventional system.

[47 FR 41032, Sept. 16, 1982, as amended at 48 FR 44559, Sept. 29, 1983; 48 FR 51929, Nov. 15, 1983; 58 FR 44963, Aug. 25, 1993; 59 FR 59966, Nov. 21, 1994]

§ 90.625 Other criteria to be applied in assigning channels for use in conventional systems of communication.

(a) Where an applicant shows that a channel will be loaded to 70 mobile stations, that channel will be made available to that applicant for its exclusive use in the area in which it proposes to operate. If the showing made justifies the assignment of more than one channel to the applicant, additional frequencies will be authorized.

(b) Where an applicant proposes to furnish service to eligibles under subparts B, C, D, or E of this part on a commercial basis using a conventional system of communication, the application will be considered on the same basis as that of an applicant for private or shared communications facilities.

(c) No person authorized to operate any radio facility under the provisions of this subpart shall have a right to protest proposals on grounds other than violation of or inconsistency with the provisions of this subpart. All grants are made subject to this condition and to the other conditions and standards set out in this subpart.

[47 FR 41032, Sept. 16, 1982]

§ 90.627 Limitation on the number of frequency pairs that may be assignable for trunked systems and on the number of trunked systems.

(a) The maximum number of frequency pairs that may be assigned at any one time for the operation of a trunked radio system is twenty, except as specified in § 90.621(a)(1)(iv).

(b) No non-SMR licensee will be authorized an additional trunked system within 64 kilometers (40 miles) of an existing trunked system, except where:

(1) The additional trunked system will be used to provide radio facilities for a single entity, where the additional system is justified on the basis of the requirements of the proposed single user; or,

(2) The licensee's existing trunked system is loaded to at least 70 mobile and control stations per channel.

[47 FR 41032, Sept. 16, 1982, as amended at 48 FR 44559, Sept. 29, 1983; 48 FR 51929, Nov. 15, 1983; 49 FR 36377, Sept. 17, 1984; 51 FR 37404, Oct. 22, 1986; 53 FR 12157, Apr. 13, 1988; 58 FR 44963, Aug. 25, 1993; 59 FR 59966, Nov. 21, 1994]

§ 90.629 Extended implementation period.

Applicants requesting frequencies for either trunked or conventional operations may be authorized a period of up to five (5) years for constructing and placing a system in operation in accordance with the following:

(a) The applicant must justify an extended implementation period. The justification must describe the proposed system, state the amount of time necessary to construct and place the system in operation, identify the number of base stations to be constructed and placed in operation during each year of the extended construction period, and show that:

(1) The proposed system will require longer than eight months (if a conventional system) or one year (if a trunked system) to construct and place in operation because of its purpose, size, or complexity; or

(2) The proposed system is to be part of a coordinated or integrated wide-area system which will require more than eight months (if a conventional

system) or one year (if a trunked system) to plan, approve, fund, purchase, construct, and place in operation; or

(3) The applicant is required by law to follow a multi-year cycle for planning, approval, funding, and purchasing the proposed system.

(b) Where an applicant is required by law to follow a multi-year cycle for planning, approval, funding and purchasing a proposed system, the applicant must indicate whether funding approval has been obtained and if not, when such funding approval is expected.

(c) Authorizations under this section are conditioned upon the licensee constructing and placing its system in operation within the authorized implementation period and in accordance with an approved implementation plan of up to five years. Licensees must certify annually that they are in compliance with their yearly station construction commitments, but may request amendment to these commitments at the time they file their annual certification. If the Commission approves the requested amendments to a licensee's implementation commitments, the licensee's extended implementation authority will remain in effect. If, however, the Commission concludes, at this or any other time, that a licensee has failed to meet its commitments, the Commission will terminate authority for the extended implementation period. When the Commission terminates an extended implementation authority, the affected licensee will be given six months from the date of termination to complete system construction. At the end of any licensee's extended implementation period, authorizations for all stations not constructed and placed in operation will be cancelled. Trunked systems granted an extended implementation period must comply with the channel loading requirements of section 90.631(b). Conventional channels not loaded to 70 mobile units may be subject to shared use by the addition of other licensees.

(d) Applicants eligible in the Industrial/Land Transportation Category requesting authorizations under this section may request frequencies in the Business Category only if the application contains a statement that no frequencies in the Industrial/Land Transportation Category are available for assignment in their geographic area.

(e) As of March 18, 1996, Specialized Mobile Radio systems are not eligible for extended implementation periods under this section. Additionally, all 800 MHz SMR licensees that are operating under extended implementation authority as of March 18, 1996 must, by May 16, 1996, demonstrate that continuing to allow them to have an extended period of time to construct their facilities is warranted and furthers the public interest. If a licensee's extended implementation authority showing is approved by the Bureau, such licensee will be afforded an extended implementation of two years or the remainder of its current extended implementation period, whichever is shorter. Upon the termination of this period, the authorizations for those facilities that remain unconstructed will terminate automatically. If a licensee with a current extended implementation period fails to submit the showing mentioned above within the designated timeframe or submits an insufficient or incomplete showing, such licensee will have six months from the last day on which it could timely file such a showing or from the disapproval of its request to construct the remaining facilities covered under its implementation plan to construct any unconstructed facilities for which it is authorized. The authorizations for those facilities remaining unconstructed after this six-month period will terminate automatically.

[58 FR 34379, June 25, 1993, as amended at 61 FR 6157, Feb. 16, 1996]

§90.631 Trunked systems loading, construction and authorization requirements.

(a) Non-SMR trunked systems will be authorized on the basis of a loading criteria of one hundred (100) mobile stations per channel. For purposes of determining compliance with trunked system loading requirements under this subpart, the term ''mobile station'' includes vehicular and portable mobile units and control stations.

(b) Each applicant for a non-SMR trunked system must certify that a minimum of seventy (70) mobiles for each channel authorized will be placed

into operation within five (5) years of the initial license grant. Except for SMR systems licensed in the 806–821/851–866 MHz band and as indicated in paragraph (i) of this section, if at the end of five (5) years a trunked system is not loaded to the prescribed levels and all channels in the licensee's category are assigned in the system's geographic area, authorizations for trunked channels not loaded to seventy (70) mobile stations cancels automatically at a rate that allows the licensee to retain one channel for every one hundred (100) mobiles loaded, plus one additional channel. If a trunked system has channels from more than one category, Spectrum Block D frequencies in the 800 MHz SMR service (formerly General Category) channels are the first channels considered to cancel automatically. All non-SMR licensees initially authorized before June 1, 1993, that are within their original license term, or SMR licensees that are within the term of a two-year authorization granted in accordance with paragraph (i) of this section, are subject to this condition. A licensee that has authorized channels cancelled due to failure to meet the above loading requirements will not be authorized additional channels to expand that same system for a period of six (6) months from the date of cancellation.

(c) Except for SMR applicants and as provided in paragraph (d) of this section, an applicant seeking to expand a trunked system by requesting additional channels from the Commission, or through intercategory sharing, or through an assignment, must have a loading level of seventy (70) mobiles per channel on the existing system that is the subject of the expansion request.

(d) In rural areas, a licensee of a trunked system may request to increase its system capacity by five more channels than it has constructed without meeting the loading requirements specified in paragraphs (b) and (c) of this section. A rural area is defined for purposes of this section as being beyond a 100-mile radius of the designated centers of the following urbanized areas, as well as those areas that have a waiting list. (Rural areas may be different for 800 and 900 MHz channels since the Commission maintains separate waiting lists for these frequency bands.) The identified urbanized areas are: New York, NY; Los Angeles, CA; Chicago, IL; Philadelphia, PA: San Francisco, CA; Detroit, MI; Boston, MA; Houston, TX; Washington, DC; Dallas-Fort Worth, TX; Miami, FL; Cleveland, OH; St. Louis, MO; Atlanta, GA; Pittsburgh, PA; Baltimore, MD; Minneapolis-St. Paul, MN; Seattle, WA; San Diego, CA; and Tampa-St. Petersburg, FL. The coordinates for the centers of these areas are those referenced in § 90.635, except that the coordinates for Tampa-St. Petersburg are latitude 28°00′00″ N, longitude 82°27′00″ W. Where waiting lists determine whether an area is rural, the designated centers of those areas will be identified on the actual waiting lists released by the Commission. If a waiting list is later established in a rural area, licensees who have acquired additional channels pursuant to this paragraph will be subject to the automatic cancellation provisions in paragraph (b) of this section at the end of one year from the date the area first appears on a Commission waiting list, or at the end of their license term, whichever is longer.

(e) Except as provided in § 90.629, licensees of trunked facilities must complete construction within one year.

(f) If a station is not placed in permanent operation, in accordance with the technical parameters of the station authorization, within one year, except as provided in § 90.629, its license cancels automatically and must be returned to the Commission. For purposes of this section, a base station is not considered to be placed in operation unless at least two associated mobile stations, or one control station and one mobile station, are also placed in operation. An SMR licensee with facilities that have discontinued operations for 90 continuous days after the effective date of this rule is presumed to have permanently discontinued operations, unless the licensee notifies the FCC otherwise prior to the end of the 90 day period and provides a date on which operation will resume, which date must not be in excess of 30 additional days.

(g) Wide area systems may be authorized to persons eligible for licensing

under subparts B, C, D, or E of this part upon an appropriate showing of need. Remote or satellite stations of wide area systems in the Public Safety, Special Emergency, Telephone Maintenance, and Power Radio Services may be authorized on a primary basis if such stations are the first to be authorized in their area of operation on the frequency or group of frequencies. Remote or satellite stations of wide area systems in all other services will be authorized only on a secondary, non-interference basis to cochannel licensees. To determine system loading, the total number of mobile units and control stations operating in the wide-area system shall be counted with respect to the total number of base station frequencies assigned to the system.

(h) Regional, statewide, or ribbon configuration systems may be authorized to persons eligible for licensing under subparts B, C, D or E of this part upon an appropriate showing of need. In a ribbon, regional or statewide system, a mobile station will be counted for channel loading purposes only for the base station facility in the geographic area in which it primarily operates. If this cannot be determined, it will be counted fractionally over the number of base station facilities with which it communicates regularly.

(i) For SMRS category trunked systems licensed in the 896–901/935–940 MHz band (other than MTA-licensed systems), if at the end of the initial five-year license term the licensee of such a trunked system has not satisfied the loading requirements of paragraph (b) of this section, the licensee requesting renewal of its license will be granted a renewal for only a two-year period. Regardless of the date of grant of the two-year renewal, the licensee will be required to comply fully with the minimum requirements set forth in paragraph (b) of this section at the end of the two-year renewal term. As an exception to this requirement, if the licensee obtains the MTA license covering its assigned spectrum in accordance with §§90.661 through 90.671, these loading requirements will no longer be applicable and the coverage requirements of §90.665 will govern.

[47 FR 41032, Sept. 16, 1982, as amended at 48 FR 51929, Nov. 15, 1983; 49 FR 36377, Sept. 17, 1984; 53 FR 12157, Apr. 13, 1988; 57 FR 37731, Aug. 20, 1992; 58 FR 12177, Mar. 3, 1993; 59 FR 59966, Nov. 21, 1994; 60 FR 21991, May 4, 1995; 60 FR 48918, Sept. 21, 1995; 61 FR 6157, Feb. 16, 1996; 61 FR 6577, Feb. 21, 1996]

§90.633 Conventional systems loading requirements.

(a) Non-SMR conventional systems of communication will be authorized on the basis of a minimum loading criteria of seventy (70) mobile stations for each channel authorized.

(b) A channel will not be assigned to additional licensees when it is loaded to 70 mobile stations. Where a licensee does not load a channel to 70 mobiles the channel will be available for assignment to other licensees. All authorizations for conventional systems are issued subject to this potential channel sharing condition.

(c) Except as provided in §90.629 licensees of conventional systems must place their authorized facilities in operation not later than eight months after the date of grant of the license for the system.

(d) If a station is not placed in operation in eight months, except as provided in §90.629, its license cancels automatically and must be returned to the Commission. For purposes of this section, a base station is not considered to be placed in operation unless at least one associated mobile station is also placed in operation.

(e) A non-SMR licensee may apply for additional frequency pairs if its authorized conventional channel(s) is loaded to seventy (70) mobiles. Applications may be considered for additional channels in areas where spectrum is still available and not applied for, even if the already authorized channel(s) is not loaded to 70 mobile units, upon an appropriate demonstration of need.

(f) Wide-area systems may be authorized to persons eligible for licensing under subparts B, C, D or E of this part upon an appropriate showing of need. For loading purposes, if the total number of mobile stations justifies the

total number of authorized based frequencies in a given area, the system will be construed to be loaded.

(g) Regional, statewide or ribbon configuration systems may be authorized to persons eligible for licensing under subparts B, C, D or E of this part upon an appropriate showing of need. In a ribbon, regional or statewide system, a mobile station will be counted for channel loading purposes only for the base station facility in the geographic area in which it primarily operates. If this cannot be determined, it will be counted fractionally over the number of base station facilities with which it communicates regularly.

[47 FR 41032, Sept. 16, 1982, as amended at 48 FR 51929, Nov. 15, 1983; 56 FR 65860, Dec. 19, 1991; 59 FR 59966, Nov. 21, 1994]

TECHNICAL REGULATIONS REGARDING THE USE OF FREQUENCIES IN THE 806–824 MHZ, 851–869 MHZ, 896–901 MHZ, AND 935–940 MHZ BANDS

§ 90.635 Limitations on power and antenna height.

(a) Systems to be located within 24 km. (15 mi.) of the geographic center of the 50 urbanized areas detailed in table 1 will be considered ''urban'' systems. All others will be considered ''suburban'' systems.

(b) The effective radiated power and antenna height, for base stations used in suburban-conventional systems of communications, shall be no greater than 500 watts (27 dBw) and 152 m. (500 ft.) above average terrain (AAT), respectively, or the equivalent as determined from table 2. These are maximum values, and applicants are required to justify power levels and antenna heights requested. For service area requirements less than 32 km. (20 mi.) in radius, see table 3.

(c) The effective radiated power and antenna height for base stations used in trunked and urban-conventional systems may not exceed 1 kilowatt (30 dBw) and 304 m. (1,000 ft.) above average terrain (AAT), respectively, or the equivalent thereof as determined from table 2. These are maximum values, and applicants will be required to justify power levels and antenna heights requested. For service area requirements less than 32 km (20 mi.) in radius, see table 4.

(d) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

TABLE 1—URBANIZED AREAS

Urbanized area	Geographic center	
	North latitude	West longitude
Akron, OH	41°05′00″	81°30′44″
Albany-Schenectady-Troy, NY	42°39′01″	73°45′01″
Atlanta, GA	33°45′10″	84°23′37″
Baltimore, MD	39°17′26″	76°36′45″
Birmingham, AL	33°31′01″	86°48′36″
Boston, MA	42°21′24″	71°03′24″
Buffalo, NY	42°53′12″	78°52′30″
Chicago, IL	41°52′28″	87°38′22″
Cincinnati, OH	39°06′07″	84°30′35″
Cleveland, OH	41°29′51″	81°41′50″
Columbus, OH	39°57′47″	83°00′17″
Dallas, TX	32°47′09″	96°47′37″
Dayton, OH	39°45′32″	84°11′43″
Denver, CO	39°44′58″	104°59′22″
Detroit, MI	42°19′48″	83°02′57″
Fort Lauderdale-Hollywood, FL	26°07′30″	80°09′00″
Fort Worth, TX	32°44′55″	97°19′44″
Houston, TX	29°45′26″	95°21′37″
Indianapolis, IN	39°46′07″	86°09′46″
Jacksonville, FL	30°19′44″	81°39′42″
Kansas City, MO-KS	39°04′56″	94°35′20″
Los Angeles, CA	34°03′15″	118°14′28″
Louisville, KY-IN	38°14′47″	85°45′49″
Miami, FL	25°46′37″	80°11′32″
Memphis, TN-MS	35°08′46″	90°03′13″
Milwaukee, WI	43°02′19″	87°54′15″
Minneapolis-St. Paul, MN	44°58′57″	93°15′43″
New Orleans, LA	29°56′53″	90°04′10″
New York-northeastern New Jersey	40°45′06″	73°59′39″
Norfolk-Portsmouth, VA	36°51′10″	76°17′21″
Oklahoma City, OK	35°28′26″	97°31′04″
Omaha, NE-IO	41°15′42″	95°56′14″
Philadelphia, PA-NJ	39°56′58″	75°09′21″
Phoenix, AZ	33°27′12″	112°04′28″
Pittsburgh, PA	40°26′19″	80°00′00″
Portland, OR-WA	45°31′06″	122°40′35″
Providence-Pawtucket-Warwick, RI-MA	41°49′32″	71°24′41″
Rochester, NY	43°09′41″	77°36′21″
Sacramento, CA	38°34′57″	121°29′41″
St. Louis, MO-IL	38°37′45″	90°12′22″
St. Petersburg, FL	27°46′18″	82°38′19″
San Antonio, TX	29°25′37″	98°29′06″
San Bernardino-Riverside, CA	34°06′30″	117°17′28″
San Diego, CA	32°42′53″	117°09′21″
San Francisco-Oakland, CA	37°46′39″	122°24′40″
San Jose, CA	37°20′16″	121°53′24″
Seattle, WA	47°36′32″	122°20′12″
Springfield-Chicopee-Holyoke, MA-CT	42°06′21″	72°35′32″
Toledo, OH-MI	41°39′14″	83°32′39″
Washington, DC-MD-VA	38°53′51″	77°00′33″

TABLE 2—EQUIVALENT POWER AND ANTENNA HEIGHTS FOR BASE STATIONS IN THE 851–869 MHZ AND 935–940 MHZ BANDS WHICH HAVE A REQUIREMENT FOR A 32 KM (20 MI) SERVICE AREA RADIUS

Antenna height (ATT) meters (feet)	Effective radiated power (watts) [1,2,5]	
	Urban/ trunked	Suburban
Above 1,372 (4,500)	65	15
Above 1,220 (4,000) to 1,372 (4,500)	70	20
Above 1,067 (3,500) to 1,220 (4,000)	75	25
Above 915 (3,000) to 1,067 (3,500)	100	30
Above 763 (2,500) to 915 (3,000)	140	35
Above 610 (2,000) to 763 (2,500)	200	50
Above 458 (1,500) to 610 (2,000)	350	80
Above 305 (1,000) to 458 (1,500)	600	160
Above 152.5 (500) to 305 (1,000)	[3] 1,000	220

TABLE 2—EQUIVALENT POWER AND ANTENNA HEIGHTS FOR BASE STATIONS IN THE 851–869 MHZ AND 935–940 MHZ BANDS WHICH HAVE A REQUIREMENT FOR A 32 KM (20 MI) SERVICE AREA RADIUS—Continued

Antenna height (ATT) meters (feet)	Effective radiated power (watts) [1,2,5]	
	Urban/ trunked	Suburban
Up to 152.5 (500)	1,000	[4] 500

[1] Power is given in terms of effective radiated power (ERP).

[2] Applicants in the Los Angeles, CA, area who demonstrate a need to serve both the downtown and fringe areas will be permitted to utilize an ERP of 1 kw at the following mountaintop sites: Santiago Park, Sierra Peak, Mount Lukens, and Mount Wilson.

[3] Stations with antennas below 305 m (1,000 ft) (AAT) will be restricted to a maximum power of 1 kw (ERP).

[4] Stations with antennas below 152.5 m (500 ft) (AAT) will be restricted to a maximum power of 500 W (ERP).

[5] Licensees in San Diego, CA, will be permitted to utilize an ERP of 500 watts at the following mountaintop sites: Palomar, Otay, Woodson and Miguel.

TABLE 3.—EQUIVALENT POWERS AND ANTENNA HEIGHTS FOR SUBURBAN-CONVENTIONAL BASE STATIONS IN THE 851–869 MHZ AND 935–940 MHZ Bands Which Have a Requirement for Less Than 32.2 km (20 mi) SERVICE AREA RADIUS—MAXIMUM EFFECTIVE RADIATED POWER (WATTS)

[Base station antenna height (AAT) in meters (feet)]

	Above / to					
	122 (400) to 152.5 (500)	91.5 (300) to 122 (400)	61 (200) to 91.5 (300)	30.5 (100) to 61 (200)	15 (50) to 30.5 (100)	0 (0) to 15 (50)
Service area radius km (mi):						
32 (20)	500	500	500	500	500	500
30 (19)	400	500	500	500	500	500
29 (18)	310	385	500	500	500	500
27 (17)	235	300	385	500	500	500
26 (16)	175	220	285	440	500	500
24 (15)	130	160	215	330	500	500
22 (14)	95	120	155	240	480	500
21 (13)	70	85	115	175	350	500
19 (12)	50	60	80	125	250	500
18 (11)	35	45	60	90	180	360
16 (10)	25	30	40	60	120	240
14 (9)	15	20	25	40	80	160
13 (8)	10	12	15	25	50	100
11 (7)	6	7	10	15	30	60
10 (6)	3	4	5	7	15	30
8 (5) or less	1	2	3	4	8	16

TABLE 4.—EQUIVALENT POWERS AND ANTENNA HEIGHTS FOR URBAN-CONVENTIONAL AND TRUNKED SYSTEM BASE STATIONS IN THE 851–869 MHZ AND 935–940 MHZ BANDS WHICH HAVE A REQUIREMENT FOR LESS THAN 32.2 km (20 mi) SERVICE AREA RADIUS—MAXIMUM EFFECTIVE RADIATED POWER (WATTS)

Base station antenna height (AAT) meters (feet)								
Above	228 (750)	152.5 (500)	122 (400)	91.5 (300)	61 (200)	30.5 (100)	15 (50)	0 (0)
to	305 (1,000)	228 (750)	152.5 (500)	122 (400)	91.5 (300)	61 (200)	30.5 (100)	15 (50)
Service area radius: km (mi):								
32 (20)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
30 (19)	800	1,000	1,000	1,000	1,000	1,000	1,000	1,002
29 (18)	640	830	1,000	1,000	1,000	1,000	1,000	1,000
27 (17)	480	625	960	1,000	1,000	1,000	1,000	1,000
26 (16)	360	470	720	900	1,000	1,000	1,000	1,000
24 (15)	270	350	540	675	875	1,000	1,000	1,000
22 (14)	200	260	400	500	650	1,000	1,000	1,000
21 (13)	140	180	280	350	450	700	1,000	1,000
19 (12)	100	130	200	250	325	500	1,000	1,006
18 (11)	70	90	140	175	230	350	700	1,000
16 (10)	45	60	90	110	145	220	440	1,000

14 (9)	30	40	60	75	100	150	300	600
13 (8)	20	25	40	50	65	100	200	400
11 (7)	15	20	30	40	50	80	160	300
10 (6)	8	10	16	20	25	40	80	100
8 (5) or less	5	6	9	12	15	25	50	100

[47 FR 41032, Sept. 16, 1982; 47 FR 41045, Sept. 16, 1982, as amended at 50 FR 784, Jan. 7, 1985; 51 FR 37404, Oct. 22, 1986; 52 FR 29857, Aug. 12, 1987; 53 FR 1027, Jan. 15, 1988; 58 FR 44963, Aug. 25, 1993; 60 FR 50123, Sept. 28, 1995]

§ 90.637 Restrictions on operational fixed stations.

(a) Except for control stations, operational fixed operations will not be authorized in the 806–824 MHz, 851–869 MHz, 896–901 MHz, or 935–940 MHz bands. This does not preclude secondary fixed tone signaling and alarm operations authorized in § 90.235 or in paragraph (c) of this section.

(b) Control stations associated with one or more mobile relay stations will be authorized only on the assigned frequency of the associated mobile station. Use of a mobile service frequency by a control station of a mobile relay system is subject to the condition that harmful interference shall not be caused to stations of licensees authorized to use the frequency for mobile service communications.

(c) Trunked and conventional systems that have exclusive-use status in their respective geographic areas may conduct fixed ancillary signaling and data transmissions subject to the following requirements:

(1) All operations must be on a secondary, non-interference basis to the primary mobile operation of any other licensee.

(2) The output power at the remote site must not exceed 30 watts.

(3) Any fixed transmitters will not count toward meeting the mobile loading requirements nor be considered in whole or in part as a justification for authorizing additional frequencies in the licensee's mobile system.

(4) Automatic means must be provided to deactivate the remote transmitter in the event the carrier remains on for a period in excess of three minutes.

(5) Operational fixed stations authorized pursuant to the provisions of paragraphs (c) and (d) of this section are exempt from the requirements of §§ 90.425 and 90.429.

(d) Conventional systems that do not have exclusive-use status in their respective geographic areas may conduct fixed ancillary signaling and data transmissions only in accordance with all the provisions of § 90.235.

[47 FR 41032, Sept. 16, 1982, as amended at 48 FR 51929, Nov. 15, 1983; 49 FR 36377, Sept. 17, 1984; 51 FR 37405, Oct. 22, 1986; 52 FR 1332, Jan. 13, 1987; 53 FR 12157, Apr. 13, 1988; 57 FR 34693, Aug. 6, 1992]

§ 90.645 Permissible operations.

Conventional and trunked radio systems may be used:

(a) Only for purposes expressly allowed under this part.

(b) Only by persons who are eligible for facilities, either under this subpart or in the radio services included under subparts B, C, D, or E.

(c) Except for licensees classified as CMRS providers under part 20 of this chapter, only for the transmission of messages or signals permitted in the services is which the participants are eligible.

(d) For digital or analog transmissions.

(e) An SMRS licensee or a licensee who has been authorized a channel(s) on an exclusive basis, may use the system for the transmission of any base/mobile message, page or signal permitted in the service in which the participants are eligible.

(f) Where the channel(s) is assigned to an SMRS licensee or exclusively to a single licensee, or where all users of a system agree, more than a single emission may be utilized within the authorized bandwidth. In such cases, the frequency stability requirements of § 90.213 shall not apply, but out-of-band emission limits of § 90.209 shall be met.

(g) Up to five (5) contiguous 806–821/851–866 band channels as listed in §§ 90.615, 90.617, and 90.619 may be authorized after justification for systems requiring more than the normal single channel bandwidth. If necessary, licensees may trade channels amongst themselves in order to obtain contiguous frequencies. Notification of such proposed exchanges shall be made to the appropriate frequency coordinator(s) and to the Commission for approval.

(h) Up to 10 contiguous 896–901/935–940 MHz band channels as listed in § 90.617

may be combined for systems requiring more than the normal single channel bandwidth. If necessary, licensees may trade channels amongst themselves in order to obtain contiguous frequencies. Notification of such proposed exchanges shall be made to the appropriate frequency coordinator(s) and to the Commission for approval.

(i) Paging operations may be utilized on multiple licensed facilities (community repeaters) only when all licensees of the facility agree to such use.

[47 FR 41032, Sept. 16, 1982, as amended at 48 FR 51929, Nov. 15, 1983; 51 FR 37405, Oct. 22, 1986; 59 FR 59966, Nov. 21, 1994]

§90.647 Station identification.

(a) Conventional systems of communication shall be identified in accordance with existing regulations governing such matters.

(b) Trunked systems of communication, except as noted in paragraph (c) of this section, shall be identified through the use of an automatic device which transmits the call sign of the base station facility at 30 minute intervals. Such station identification shall be made on the lowest frequency in the base station trunk group assigned the licensee. Should this frequency be in use at the time station identification is required, such identification may be made at the termination of the communication in progress on this frequency. Identification may be made by voice or International Morse Code. When the call sign is transmitted in International Morse Code, it must be at a rate of between 15 to 20 words per minute and by means of tone modulation of the transmitter, the tone frequency being between 800 and 1000 hertz.

(c) Stations operating in either the 806–824/851–869 MHz or 896–901/935–940 MHz bands that are licensed on an exclusive basis, and normally employ digital signals for the transmission of data, text, control codes, or digitized voice may also be identified by digital transmission of the call sign. A licensee that identifies its station in this manner must provide the Commission, upon its request, information sufficient to decode the digital transmission and ascertain the call sign transmitted.

[47 FR 41032, Sept. 16, 1982, as amended at 58 FR 12177, Mar. 3, 1993]

§90.651 Supplemental reports required of licensees authorized under this subpart.

(a) [Reserved]

(b) Other trunked system licensees must report the number of mobile units being served annually, and at the time of filing applications for renewal of licenses. These reports should be filed with the Commission's Private Radio Bureau, Licensing Division, Land Mobile Branch in Gettysburg, PA 17326.

(c) Licensees of conventional systems must report the number of mobile units placed in operation within 8 months of the date of the grant of their license. Such reports shall be filed within 30 days from that date.

(d) Licensees of trunked systems must report, to the Commission's Private Radio Bureau, Licensing Division, Land Mobile Branch in Gettysburg, PA 17326, within thirteen months of the date of the grant, whether or not construction of the facility has been completed.

[47 FR 41032, Sept. 16, 1982, as amended at 47 FR 51883, Nov. 18, 1982; 54 FR 38682, Sept. 20, 1989; 57 FR 40850, Sept. 8, 1992]

§90.653 Number of systems authorized in a geographical area.

There shall be no limit on the number of systems authorized to operate in any one given area except that imposed by allocation limitations and no person shall have a right to protest any other proposal on grounds other than violation of any inconsistency with the provisions of this subpart.

[47 FR 41032, Sept. 16, 1982]

§90.655 Special licensing requirements for Specialized Mobile Radio systems.

End users of conventional or trunked Specialized Mobile Radio systems that have control stations that require FAA clearance, as specified in subpart B of part 17 of Title 47 of the Code of Federal Regulations, 47 CFR 17.7–17.17, or

that may have a significant environmental effect, as defined by § 1.1307, or that are located in a ''quiet zone'', as defined by 47 CFR 90.177 must be individually licensed for such control stations prior to construction or operation. All other end users' operations will be within the scope of the base station licensee. All end users, however, continue to be responsible to comply with 47 CFR part 90 and other federal laws.

[57 FR 40850, Sept. 8, 1992]

§ 90.656 Responsibilities of base station licensees of Specialized Mobile Radio systems.

(a) The licensees of base stations that provide Specialized Mobile Radio service on a commercial basis for the use of individuals, Federal government agencies, or persons eligible for licensing under either subparts B, C, D, or E of this part will be responsible for exercising effective operational control over all mobile and control stations that communicate with the base station. The base station licensee will be responsible for assuring that its system is operated in compliance with all applicable rules and regulations.

(b) Customers that operate mobile units on a particular Specialized Mobile Radio system will be licensed to that system. A customer that operates temporarily on more than one system will be deemed, when communicating with the other system, to be temporarily licensed to the other system and for that temporary period, the licensee of the other system will assume the same licensee responsibility for the customer's mobile station(s) as if the customer's stations were licensed to that other system.

[57 FR 40851, Sept. 8, 1992]

§ 90.657 Temporary permit.

An applicant for a subpart S radio station license utilizing an already authorized facility may operate the radio station(s) for a period of up to 180 days under a temporary permit evidenced by a properly executed certification of FCC Form 572 after filing a formal application for station license, together with evidence of frequency coordination (when required), provided that the antenna(s) employed by the control station(s) is (are) 6.1 m (20 ft) or less above ground or 6.1 m (20 ft) or less above a man-made structure other than an antenna tower to which it is affixed.

[58 FR 44964, Aug. 25, 1993]

§ 90.658 Loading data required for base station licensees of trunked Specialized Mobile Radio systems to acquire additional channels or to renew trunked systems licensed before June 1, 1993.

(a) A base station licensee of a trunked Specialized Mobile Radio system that applies for additional channels to expand an existing system or to construct a new system within 40 miles of its existing system, or a base station licensee of a trunked system applying for its first renewal in a waiting list area for a system licensed before June 1, 1993 must identify on the appropriate application form the number of mobiles and control stations loaded on its system as calculated in paragraph (b) of this section.

(b) The number described in paragraph (a) of this section must be calculated by averaging the number of mobiles and control stations operating on a licensee's system on the first business day of each of the six months immediately preceding the filing of an application and must be based on the licensee's business records for that period. Alternative calculations will be permitted upon good cause showings of special circumstances.

(c) Business records may constitute invoices, customer service agreements, customer lists or any other type of record kept in the ordinary course of business.

(d) The FCC will use the loading data required by this section to determine whether the licensee's existing system has a sufficient number of mobiles as required by 47 CFR chapter I to qualify for additional channels or for the first renewal of trunked systems licensed before June 1, 1993.

[57 FR 40851, Sept. 8, 1992]

§90.659 Change in number or location of base stations or transmitters.

(a) Licensees of trunked Specialized Mobile Radio systems are exempt from the requirement under §90.135(a)(5) to file an application for modification of license when there is a change in the location or number of fixed, control, or mobile transmitters from that authorized, including area of mobile operations.

(b) Licensees of conventional Specialized Mobile Radio channels are not exempt from the requirement under §90.135(a)(5) to file an application for modification of license when there is a change in the location or number of fixed, control, or mobile transmitters from that authorized, including area of mobile operations.

(c) Licensees of trunked and conventional Specialized Mobile Radio systems are not exempt from the requirement under §90.135(a)(5) to file an application for modification of license when there is a change in the location or number of base stations.

[57 FR 40851, Sept. 8, 1992]

POLICIES GOVERNING THE LICENSING AND USE OF MTA-BASED SMR SYSTEMS IN THE 896–901/935–940 MHZ BAND

§90.661 MTA-based SMR service areas.

MTA licenses for SMR spectrum blocks in the 896–901/935–940 MHz band listed in table 4B of §90.617(d) are available in 51 Major Trading Areas (MTAs) as defined in §90.7. Within these MTAs, licenses will be authorized in ten channel blocks as specified in table 4B of §90.617(d) through the competitive bidding procedures described in subpart U of this part.

[60 FR 21991, May 4, 1995]

§90.663 MTA-based SMR system operations.

(a) MTA-based licensees authorized in the 896–901/935–940 MHz band pursuant to §90.661 may construct and operate base stations using any frequency identified in their spectrum block anywhere within their authorized MTA, provided that:

(1) The MTA licensee affords protection, in accordance with §90.621(b), to all sites for which applications were filed on or prior to August 9, 1994.

(2) The MTA licensee complies with any rules and international agreements that restrict use of frequencies identified in their spectrum block, including the provisions of §90.619 relating to U.S./Canadian and U.S./Mexican border areas.

(3) The MTA licensee limits its field strength at any location on the border of the MTA service area in accordance with §90.671 and masks its emissions in accordance with §90.669.

(b) In the event that the authorization for a previously authorized co-channel station within the MTA licensee's authorized spectrum block is terminated or revoked, the MTA licensee's co-channel obligations to such station will cease upon deletion of the facility from the Commission's licensing record. The MTA licensee then will be able to construct and operate base stations using such frequency.

[60 FR 21991, May 4, 1995]

§90.665 Authorization, construction and implementation of MTA licenses.

(a) MTA licenses in the 896–901/935–940 MHz band will be issued for a term not to exceed ten years.

(b) MTA licensees in the 896–901/935–940 MHz band will be permitted five years to construct their stations. This five-year period will commence with the issuance of the MTA-wide authorization and will apply to all of the licensee's stations within the MTA spectrum block, including any stations that may have been subject to an earlier construction deadline arising from a pre-existing authorization.

(c) Each MTA licensee in the 896–901/935–940 MHz band must, three years from the date of license grant, construct and place into operation a sufficient number of base stations to provide coverage to at least one-third of the population of the MTA. Further, each MTA licensee must provide coverage to at least two-thirds of the population of the MTA five years from the date of license grant; or alternatively, demonstrate through a showing to the Commission that it is providing substantial service. The MTA licensee must meet the population coverage

benchmarks regardless of the extent to which incumbent licensees are present within the MTA block.

(d) MTA licensees who fail to meet the coverage requirements imposed at either the third or fifth years of their license term, or to make a convincing showing of substantial service, will forfeit the portion of the MTA license that exceeds licensed facilities constructed and operating on the date of the MTA license grant.

[60 FR 21991, May 4, 1995, as amended at 60 FR 48918, Sept. 21, 1995; 60 FR 61487, Nov. 30, 1995]

§ 90.667 Grandfathering provisions for incumbent licensees.

(a) These provisions apply to all 900 MHz SMR licensees who obtained licenses or filed applications for secondary sites on or before August 9, 1994 (''incumbent licensees''), as well as to all 900 MHz SMR licensees who obtained authorizations pursuant to § 90.173(k). An incumbent licensee's service area shall be defined by its originally-licensed 40 dBu field strength contour. Incumbent licensees are permitted to add new or modify transmit sites in this existing service area without prior notification to the Commission so long as their original 40 dBu field strength contour is not expanded.

(b) Incumbent licensees operating at multiple sites may, after grant of MTA licenses has been completed, exchange multiple site licenses for a single license, authorizing operations throughout the contiguous and overlapping 40 dBu field strength contours of the multiple sites. Incumbents exercising this license exchange option must submit specific information for each of their external base sites after the close of the 900 MHz SMR auction.

(c) Applications in the 900 MHz SMR service for secondary sites filed after August 9, 1994 shall be authorized on a secondary, non-interference basis to MTA licensee operations. No secondary sites shall be granted on this basis in an MTA once the MTA licensee has been selected.

[60 FR 48918, Sept. 21, 1995]

§ 90.669 Emission limits.

(a) On any frequency in an MTA licensee's spectrum block that is adjacent to a non-MTA frequency, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 plus 10 $\log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation.

NOTE: The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

[60 FR 21992, May 4, 1995]

§ 90.671 Field strength limits.

The predicted or measured field strength at any location on the border of the MTA service area for MTA licensees shall not exceed 40 dBuV/m unless all bordering MTA licensees agree to a higher field strength. MTA licensees are also required to coordinate their frequency usage with so-channel adjacent MTA licensees and all other affected parties. To the extent that a single entity obtains licenses for adjacent MTAs on the same channel block, it will not be required to coordinate its operations in this manner. In the event that this standard conflicts with the MTA licensee's obligation to provide co-channel protection to incumbent licensees under § 90.621(b), the requirements of § 90.621(b) shall prevail.

[60 FR 21992, May 4, 1995]

POLICIES GOVERNING THE LICENSING AND USE OF EA-BASED SMR SYSTEMS IN THE 816–821/861–866 BAND

SOURCE: 61 FR 6158, 6159, Feb. 16, 1996, unless otherwise noted.

§ 90.681 EA-based SMR service areas.

EA licenses for SMR spectrum blocks in the 816–821/861–866 band listed in Table 4A of § 90.617(d) are available in 175 Economic Areas (EAs) as defined in § 90.7.

§90.683 EA-based SMR system operations.

(a) EA-based licensees authorized in the 816–821/861–866 MHz band pursuant to §90.681 may construct and operate base stations using any of the base station frequencies identified in their spectrum block anywhere within their authorized EA, provided that:

(1) The EA licensee affords protection, in accordance with §90.621(b), to all previously authorized co-channel stations that are not associated with another EA license;

(2) The EA licensee complies with any rules and international agreements that restrict use of frequencies identified in their spectrum block, including the provisions of §90.619 relating to U.S./Canadian and U.S./Mexican border areas;

(3) The EA licensee limits the field strength of its base stations at any location on the border of the EA service area in accordance with §90.689;

(4) The EA licensee notifies the Commission within 30 days of the completion of the addition, removal, relocation or modification of any of its facilities within the EA. Such notification must be made by submitting an FCC Form 600 and must include the appropriate filing fee, if any; and

(5) For any construction or alteration that would exceed the requirements of §17.7 of this chapter, licensees must notify the appropriate Regional Office of the Federal Aviation Administration (FAA Form 7460–1) and file a request for antenna height clearance and obstruction marking and lighting specifications (FCC Form 854) with the FCC, WTB, Support Services Branch, Gettysburg, PA 17325.

(6) Any additional transmitters placed in operation must not have a significant environmental effect as defined by §§1.1301 through 1.1319 of this chapter.

(b) In the event that the authorization for a previously authorized co-channel station within the EA licensee's spectrum block is terminated or revoked, the EA licensee's co-channel obligations to such station will cease upon deletion of the facility from the Commission's official licensing records, and the EA licensee then will be able to construct and operate without regard to that previous authorization.

§90.685 Authorization, construction and implementation of EA licenses.

(a) EA licenses in the 816–821/861–866 MHz band will be issued for a term not to exceed ten years. Additionally, EA licensees generally will be afforded a renewal expectancy only for those stations put into service after August 10, 1996.

(b) EA licensees in the 816–821/861–866 band will be permitted five years to construct their stations. This five-year period will commence with the issuance of the EA-based license and will apply to all of the licensee's stations within the EA spectrum block, including any stations that may have been subject to an earlier construction deadline arising from a pre-existing authorization.

(c) EA licensees in the 816–821/861–866 MHz band must, within three years, construct and place into operation a sufficient number of base stations to provide coverage to at least one-third of the population of its EA-based service area. Further, each EA licensee must provide coverage to at least two-thirds of the population of the EA-based service area within five years.

(d) *Channel use requirement.* In addition to the population coverage requirements described in this section, we will require EA licensees to construct 50 percent of the total channels included in their spectrum block in at least one location in their respective EA-based service area within three years of initial license grant and to retain such channel usage for the remainder of the construction period.

(e) An EA licensee's failure to meet the population coverage requirements of paragraphs (c) and (d) of this section, will result in forfeiture of the entire EA license. Forfeiture of the EA license, however, would not result in the loss of any constructed facilities authorized to the licensee prior to the date of the commencement of the auction for the EA licenses.

§ 90.687 Special provisions regarding assignments and transfers of authorizations for incumbent SMR licensees in the 816–821/861–866 MHz band.

An SMR licensee initially authorized on any of the channels listed in Table 4A of § 90.617 may transfer or assign its channel(s) to another entity subject to the provisions of §§ 90.153 and 90.609(b). If the proposed transferee or assignee is the EA licensee for the spectrum block to which the channel is allocated, such transfer or assignment presumptively will be deemed to be in the public interest. However, such presumption will be rebuttable.

§ 90.689 Field strength limits.

(a) For purposes of implementing §§ 90.689 through 90.699, predicted 40 dBuV/m contours shall be calculated using Figure 10 of § 73.699 of this chapter with a correction factor of −9 dB, and predicted 22 dBuV/m contours shall be calculated using Figure 10a of § 73.699 of this chapter with a correction factor of −9 dB.

(b) The predicted or measured field strength at any location on the border of the EA-based service area for EA licensees must not exceed 40 dBuV/m unless all bordering EA licensees agree to a higher field strength. In the event that this standard conflicts with the EA licensee's obligation to provide co-channel protection to incumbent licensees pursuant to § 90.621(b), the requirements of § 90.621(b) shall prevail.

§ 90.691 Emission mask requirements for EA-based systems.

(a) Out-of-band emission requirement shall apply only to the ''outer'' channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 $Log_{10}(f/6.1)$ decibels or 50 + 10 $Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + $10Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

§ 90.693 Grandfathering provisions for incumbent licensees in spectrum blocks A, B, and C.

(a) These provisions apply to ''incumbent licensees'', all 800 MHz SMR licensees who obtained licenses or filed applications on or before December 15, 1995. An incumbent licensee's service area shall be defined by its originally-licensed 40 dBu field strength contour and its interference contour shall be defined as its originally-licensed 22 dBu field strength contour. Incumbent licensees are permitted to add, remove or modify transmitter sites within this existing service area without prior notification to the Commission so long as their original 22 dBu field strength contour is not expanded and the station complies with the Commission's short-spacing criteria in §§ 90.621(b)(4) through 90.621(b)(6). The incumbent licensee must, however, notify the Commission within 30 days of the completion of any changes in technical parameters or additional stations constructed through a minor modification of their license. Such notification must be made by submitting an FCC Form 600 and must include the appropriate filing fee, if any. These minor modification applications are not subject to public notice and petition to deny requirements or mutually exclusive applications.

(b) Incumbent licensees operating at multiple sites may, after grant of EA licenses has been completed, exchange

multiple site licenses for a single license, authorizing operations throughout the contiguous and overlapping 40 dBu field strength contours of the multiple sites. Incumbents exercising this license exchange option must submit specific information for each of their external base sites after the close of the 800 MHz SMR auction.

§90.699 Transition of the upper 200 channels in the 800 MHz band to EA licensing.

In order to facilitate provision of service throughout an EA, an EA licensee may relocate incumbent licensees in its EA by providing ''comparable facilities'' on other frequencies in the 800 MHz band. Such relocation is subject to the following provisions:

(a) EA licensees may negotiate with incumbent licensees as defined in §90.693 operating on frequencies in Spectrum Blocks A, B, and C for the purpose of agreeing to terms under which the incumbents would relocate their operations to other channels in the 800 MHz band, or alternatively, would accept a sharing arrangement with the EA licensee that may result in an otherwise impermissible level of interference to the incumbent licensee's operations. EA licensees may also negotiate agreements for relocation of the incumbents' facilities within Spectrum Blocks A, B or C in which all interested parties agree to the relocation of the incumbent's facilities elsewhere within these bands. ''All interested parties'' includes the incumbent licensee, the EA licensee requesting and paying for the relocation, and any EA licensee of the spectrum to which the incumbent's facilities are to be relocated.

(b) The relocation mechanism consists of two phases that must be completed before an EA licensee may proceed to request the involuntary relocation of an incumbent licensee.

(1) *Voluntary period.* There is a one year voluntary period during which an EA licensee and an incumbent may negotiate any mutually agreeable relocation agreement. The Commission will announce the commencement of the first phase voluntary period by Public Notice. EA licensees must notify incumbents operating on frequencies included in their spectrum block of their intention to relocate such incumbents within 90 days of the release of the Public Notice that commences the voluntary negotiation period. Failure on the part of the EA licensee to notify the incumbent licensee during this 90 period of its intention to relocate the incumbent will result in the forfeiture of the EA licensee's right to request involuntary relocation of the incumbent at any time in the future.

(2) *Mandatory period.* If no agreement is reached by the end of the voluntary period, a two-year mandatory period will begin during which both the EA licensee and the incumbent must negotiate in ''good faith''. Failure on the part of the EA licensee to negotiate in good faith during this mandatory period will result in the forfeiture of the EA licensee's right to request involuntary relocation of the incumbent at any time in the future.

(c) If no agreement is reached during either the voluntary or mandatory negotiating periods, the EA licensee may request involuntary relocation of the incumbent's system. In such a situation, the EA licensee must:

(1) Guarantee payment of all costs of relocating the incumbent to a comparable facility;

(2) Complete all activities necessary for placing the new facilities into operation; and

(3) Build and test the new system.

(d) If an EA licensee cannot provide comparable facilities to an incumbent licensee as defined in this section, the incumbent licensee may continue to operate its system on a primary basis in accordance with the provisions of this part.

Subpart T—Regulations Governing Licensing and Use of Frequencies in the 220–222 MHz Band

SOURCE: 56 FR 19603, Apr. 29, 1991, unless otherwise noted.

§90.701 Scope.

Frequencies in the 220–222 MHz band are available for land mobile use for both Government and non-Government operations. This subpart sets out the

regulations governing the licensing and operation of non-Government systems operating in the 220–222 MHz band. It includes eligibility requirements, application procedures, and operational and technical standards for stations licensed in these bands. The rules in this subpart are to be read in conjunction with the applicable requirements contained elsewhere in this part; however, in case of conflicts, the provisions of this subpart shall govern with respect to licensing and operation in this frequency band.

§ 90.703 Eligibility.

The following persons are eligible for licensing in the 220–222 MHz band.

(a) Any person eligible for licensing under subparts B, C, D or E of this part.

(b) Any person proposing to provide communications service to any person eligible for licensing under subparts B, C, D or E of this part on a not-for-profit, cost-shared basis.

(c) Any person eligible under this part proposing to provide on a commercial basis, station and ancillary facilities for the use of individuals, federal government agencies and persons eligible for licensing under subparts B, C, D, or E of this part.

[56 FR 19603, Apr. 29, 1991, as amended at 60 FR 15495, Mar. 24, 1995]

§ 90.705 Forms to be used.

Applications for all radio facilities under this subpart must be prepared on FCC Form 574 and must be submitted or filed in accordance with § 90.127 of this part.

§ 90.709 Special limitations on amendment of applications and on assignment or transfer of authorizations licensed under this subpart.

(a) Except as indicated in paragraph (b) of this section, the Commission will not consent to the following:

(1) Any request to amend an application so as to substitute a new entity as the applicant;

(2) Any application to assign or tranfer a license for a non-nationwide system prior to the completion of construction of facilities; or

(3) Any application to transfer or assign a license for a nationwide system before the licensee has constructed at least 40% of the proposed system pursuant to the provisions of § 90.725(a) of this part.

(4) Any application to transfer or assign a nationwide non-commercial system before the expiration of the first ten-year license term.

(b) The Commission will grant the applications described in paragrpah (a) of this section if:

(1) the request to amend an application or to transfer or assign a license does not involve a substantial change in the ownership or control or the applicant; or

(2) The changes in the ownership or control of the applciant are involuntary due to the original applicant's insolvency, bankruptcy, incapacity, or death.

(c) The assignee or transferee of a nationwide system is subject to the construction benchmarks and reporting requirements of § 90.725(a) of this part. The assignee or transferee of a nationwide system is not subject to the entry criteria described in § 90.713 of this part.

(d) A licensee may not partially assign any authorization granted pursuant to the subpart.

[56 FR 19603, Apr. 29, 1991, as amended at 57 FR 32449, July 22, 1992]

§ 90.711 Processing of applications.

(a) Applications will be processed on a first-come, first-served basis. When multiple applications are filed on the same day for frequencies in the same geographic area, and insufficient frequencies are available to grant all applications (*i.e.*, if all applications were granted, violation of the provisions of § 90.723(f) of this subpart would result), or when multiple applications for nationwide systems are filed on the same day for a number of systems in excess of those available in the relevant category (10-channel non-commercial, 5-channel non-commercial, or 5-channel commercial), these applications will be considered mutually exclusive and will be subject to lottery proceeding pursuant to § 1.972 of this chapter.

(b) All applications will first be considered to determine whether they are substantially complete and acceptable for filing. If so, they will be assigned a

file number and put in pending status. If not, they will be dismissed.

(c) Except as otherwise provided in this section, all applications in pending status will be processed in the order in which they are received, determined by the date on which the application was received by the Commission in its Gettysburg, Pennsylvania office (or the address set forth at §1.1102 of this chapter for applications requiring the fees established by part 1, subpart G of this chapter).

(d) Each application that is accepted for filing will then be reviewed to determine whether it can be granted. Frequencies will be assigned by the Commission pursuant to the provisions of §90.723 of this part.

(e) An application which is dismissed will lose its place in the processing line.

(f) If an application is returned for correction and resubmitted and received by the Commission within 60 days from the date on which it was returned to the applicant, it will retain its place in the processing line. If it is not received within 60 days, it will lose its place in the processing line.

§90.713 Entry criteria.

(a) As set forth in §90.717, two blocks of ten and six blocks of five contiguous channels have been set aside for exclusive assignments for non-government use on a nationwide basis. Depending upon whether the application is for nationwide commercial or non-commercial channel blocks, it must comply with the following:

(1) Applicants for commercial nationwide channels must include certification that, within ten years of receiving a license, the applicant will construct a minimum of one base station in a least 70 different geographic areas designated in the application; that base stations will be located in a minimum of 28 of the 100 urban areas listed in §90.741; and that each base station will have all five assigned nationwide channels constructed and placed in operation (regularly interacting with mobile and/or portable units). Applicants for non-commercial nationwide channels must include certification that, within five years of receiving a license, the applicant will construct a minimum of at least one base station in at least 70 different geographic areas designed in the application; that base stations will be located in a minimum of 28 of the 100 urban areas listed in §90.741; that each base station in the ten large urban areas designated in §90.725(h) will have all assigned nationwide channels constructed and placed in operation (regularly interacting with mobile and/or portable units); and that all other base stations will have a minimum of five of the assigned nationwide channels constructed and placed in operation.

(2) Applicants for commercial and non-commercial nationwide channels must include certification that they will meet the construction requirements set forth in §90.725.

(3) Applicants for commercial nationwide channels must include a ten-year schedule detailing plans for construction of the proposed system. Applicants for non-commercial nationwide channels must include a five-year schedule detailing plans for construction of the proposed system.

(4) Applicants for commercial nationwide channels must include an itemized estimate of the cost of constructing 40 percent of the system and operating the system during the first four years of the license term. Applicants for non-commercial nationwide channels must include an itemized estimate of the cost of constructing the entire system within five years and operating the system during the first five years of the license term.

(5) Applicants for commercial nationwide channels must include proof that the applicant has sufficient financial resources to construct 40 percent of the system and operate the proposed system for the first four years of the license term; i.e., that the applicant has net current assets sufficient to cover estimated costs or a firm financial commitment sufficient to cover estimated costs. Applicants for non-commercial nationwide channels must include proof that the applicant has sufficient financial resources to construct the entire system within five years of the license grant and operate the proposed system for the first five years of

the license term; i.e., that the applicant has net current assets to cover estimated costs or a firm financial commitment sufficient to cover estimated costs.

(6) Applicants for non-commercial nationwide licensing must also submit a certification demonstrating an actual presence necessitating internal communications capacity in the 70 or more markets identified in the license application.

(b) Applicants for commercial and non-commercial nationwide licensing relying on personal or internal resources for the showing required in paragraph (a) of this section must submit independently audited financial statements certified within one year of the date of the application showing net current assets sufficient to meet estimated construction and operating costs. Applicants for both commercial and non-commercial nationwide licensing must also submit an unaudited balance sheet, current within 60 days of the date of submission, that clearly shows the continued availability of sufficient net current assets to construct and operate the proposed system, and a certification by the applicant or an officer of the applicant organization attesting to the validity of the balance sheet.

(c) Applicants submitting evidence of a firm financial commitment for the showing required in paragraph (a) of this section must obtain the commitment from a *bona fide* commercially acceptable source, *e.g.*, a state or federally chartered bank or savings and loan institution, other recognized financial institution, the financial arm of a capital equipment supplier, or an investment banking house. If the lender is not a state or federally chartered bank or savings and loan institution, other recognized financial institution, the financial arm of a capital equipment supplier, or an investment banking house, the lender must also demonstrate that it has funds available to cover the total commitments it has made. The lender's commitment shall contain a statement that the lender:

(1) Has examined the financial condition of the applicant including an audited financial statement, and has determined that the applicant is creditworthy;

(2) Has examined the financial viability of the proposed system for which the applicant intends to use the commitment; and

(3) Is willing, if the applicant is seeking a commercial nationwide license, to provide a sum to the applicant sufficient to cover the realistic and prudent estimated costs of construction of 40 percent of the system and operation of the system for the first four years of the license term; and

(4) Is willing, if the applicant is seeking a non-commercial nationwide license, to provide a sum to the applicant sufficient to cover the realistic and prudent estimated costs of construction of a minimum of at least one base station in at least 70 different geographic areas designated in the application within five years of receiving a license, and operation of the system for the first five years of the license term.

(d) An applicant in a geographic area for frequencies in the 220–222 MHz band may not have any interest in another pending application in the same geographic area for frequencies in the same category (trunked, individual, individual data, public safety/mutual aid) in that band. An applicant for a nationwide system in the 220–222 MHz band may not have any interest in another pending application for a nationwide system in the same category (10-channel non-commercial, 5-channel non-commercial, 5-channel commercial) in that band.

[56 FR 19603, Apr. 29, 1991, as amended at 56 FR 32517, July 17, 1991; 57 FR 32449, July 22, 1992; 57 FR 44340, Sept. 25, 1992; 58 FR 36363, July 7, 1993]

§ 90.715 Frequencies available.

(a) The following table indicates the channel designations of frequencies available for assignment to eligible applicants under this subpart. Frequencies shall be assigned in pairs, with base station frequencies taken from the 220–221 MHz band with corresponding mobile and control station frequencies being 1 MHz higher and taken from the 221–222 MHz band. Only the lower half of the frequency pair(s) is listed in the table. Use of these frequencies in the Mexican and Canadian

border areas is subject to coordination with those countries. See paragraph (c) of this section for special provisions concerning use in the Mexico border area.

TABLE OF 220–222 MHZ CHANNEL DESIGNATIONS

Channel No.	Base frequency (MHz)
1	220.0025
2	.0075
3	.0125
4	.0175
5	.0225
6	.0275
7	.0325
8	.0375
9	.0425
10	.0475
11	.0525
12	.0575
13	.0625
14	.0675
15	.0725
16	.0775
17	.0825
18	.0875
19	.0925
20	.0975
21	220.1025
22	.1075
23	.1125
24	.1175
25	.1225
26	.1275
27	.1325
28	.1375
29	.1425
30	.1475
31	.1525
32	.1575
33	.1625
34	.1675
35	.1725
36	.1775
37	.1825
38	.1875
39	.1925
40	.1975
41	220.2025
42	.2075
43	.2125
44	.2175
45	.2225
46	.2275
47	.2325
48	.2375
49	.2425
50	.2475
51	.2525
52	.2575
53	.2625
54	.2675
55	.2725
56	.2775
57	.2825
58	.2875
59	.2925
60	.2975
61	220.3025
62	.3075
63	.3125

TABLE OF 220–222 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
64	.3175
65	.3225
66	.3275
67	.3325
68	.3375
69	.3425
70	.3475
71	.3525
72	.3575
73	.3625
74	.3675
75	.3725
76	.3775
77	.3825
78	.3875
79	.3925
80	.3975
81	220.4025
82	.4075
83	.4125
84	.4175
85	.4225
86	.4275
87	.4325
88	.4375
89	.4425
90	.4475
91	.4525
92	.4575
93	.4625
94	.4675
95	.4725
96	.4775
97	.4825
98	.4875
99	.4925
100	.4975
101	220.5025
102	.5075
103	.5125
104	.5175
105	.5225
106	.5275
107	.5325
108	.5375
109	.5425
110	.5475
111	.5525
112	.5575
113	.5625
114	.5675
115	.5725
116	.5775
117	.5825
118	.5875
119	.5925
120	.5975
121	220.6025
122	.6075
123	.6125
124	.6175
125	.6225
126	.6275
127	.6325
128	.6375
129	.6425
130	.6475
131	.6525
132	.6575
133	.6625

TABLE OF 220–222 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
134	.6675
135	.6725
136	.6775
137	.6825
138	.6875
139	.6925
140	.6975
141	220.7025
142	.7075
143	.7125
144	.7175
145	.7225
146	.7275
147	.7325
148	.7375
149	.7425
150	.7475
151	.7525
152	.7575
153	.7625
154	.7675
155	.7725
156	.7775
157	.7825
158	.7875
159	.7925
160	.7975
161	220.8025
162	.8075
163	.8125
164	.8175
165	.8225
166	.8275
167	.8325
168	.8375
169	.8425

TABLE OF 220–222 MHZ CHANNEL DESIGNATIONS—Continued

Channel No.	Base frequency (MHz)
170	.8475
171	.8525
172	.8575
173	.8625
174	.8675
175	.8725
176	.8775
177	.8825
178	.8875
179	.8925
180	.8975
181	220.9025
182	.9075
183	.9125
184	.9175
185	.9225
186	.9275
187	.9325
188	.9375
189	.9425
190	.9475
191	.9525
192	.9575
193	.9625
194	.9675
195	.9725
196	.9775
197	.9825
198	.9875
199	.9925
200	220.9975

(b) The 200 channels are divided into three sub-bands as follows:

Channel No.	Sub-band	Frequencies (MHz)
1–40	A	220.0025–220.1975/221.0025–221.1975
41–160	C	220.2025–220.7975/221.2025–221.7975
161–200	B	220.8025–220.9975/221.8025–221.9975

(c) U.S./Mexico border area.

(1) Channels 16–30, 45–60, 76–90, 106–120, 136–145, 156–165, 178–194 are available for primary use within the United States within 120 km (74.6 mi) of the Mexican border, subject to the power and antenna height conditions specified in § 90.729 and the use restrictions specified in §§ 90.717–90.721.

(2) Channels 195–200 are available to both the United States and Mexico in the border area on an unprotected basis. Use is limited to a maximum effective radiated power (ERP) of 2 watts and a maximum antenna height of 6.1 meters (20 ft) above ground.

(3) Channels allotted for primary Mexican use (1–15, 31–45, 61–75, 91–105, 121–135, 146–155, and 166–177) may be used in the border area subject to the condition that the power flux density not exceed −86 dB(W/m²) at or beyond any point on the border. Stations operating under this provision will be considered secondary and will not be granted protection from harmful interference from stations that have primary use of the frequencies.

[56 FR 19603, Apr. 29, 1991, as amended at 57 FR 55148, Nov. 24, 1992]

§ 90.717 Channels available for nationwide systems in the 220–222 MHz band.

Channels 51–60 and 141–150 are 10-channel blocks available to applicants eligible in all part 90 services only for nationwide non-commercial systems.

Channels 81–85 and 86–90 are 5-channel blocks available to applicants eligible in all part 90 services only for nationwide non-commercial systems. The term ''non-commercial system'' is defined as a system that will be used only for a licensee's internal use. Channels 21–25, 26–30, 151–155, and 156–160 are 5-channel blocks available to non-Government applicants only for nationwide commercial systems. Channels 111–115 and 116–120 are 5-channel blocks available for Government nationwide use only.

§90.719 Individual channels available for assignment in the 220–222 MHz band.

Channels 171–200 are available to both Government and non-Government applicants, and may be assigned singly or in contiguous channel groups. Channels 171–180 are available for any use consistent with this subpart. Channels 181–185 are set aside for Emergency Medical Radio Service use under subpart B. Channels 186–200 are set aside for data only operations until March 31, 2000. The term ''data'', for purposes of this subpart, includes the transmission of text, control codes, and other information typical of machine-to-machine communications. Digitized voice signals are considered data signals under this subpart.

[58 FR 12182, Mar. 3, 1993]

§90.720 Channels available for public safety/mutual aid.

(a) Part 90 licensees whose licenses reflect a two-letter radio service code beginning with the letter ''P'' are authorized by this rule to use mobile and/or portable units on Channels 161–170 throughout the United States, its territories, and possessions to transmit:

(1) Communications relating to the immediate safety of life; or

(2) Communications to facilitate interoperability among public safety entities, and public safety entities and Special Emergency Radio Service eligibles in §§90.35, 90.37, 90.41 and 90.45.

(b) Any entity eligible to obtain a license under subpart B of this part or eligible to obtain a license under §§90.35, 90.37, 90.41 and 90.45 of subpart C of this part is also eligible to obtain a license for base/mobile operations on Channels 161–170. Base/mobile or base/portable communications on these channels that do not relate to the immediate safety of life or to communications interoperability among public safety entities, and public safety and the above specified special emergency entities may only be conducted on a secondary non-interference basis to such communications.

[61 FR 6577, Feb. 21, 1996]

§90.721 Channels available for trunked systems in the 220–222 MHz band.

The channel groups listed in the following table are available to both Government and non-Government applicants for trunked operations or operations of equivalent or greater efficiency for non-commercial or commercial operations.

TABLE—TRUNKED CHANNEL GROUPS

Group No.	Channel Nos.
1	1–31–61–91–121
2	2–32–62–92–122
3	3–33–63–93–123
4	4–34–64–94–124
5	5–35–65–95–125
6	6–36–66–96–126
7	7–37–67–97–127
8	8–38–68–98–128
9	9–39–69–99–129
10	10–40–70–100–130
11	11–41–71–101–131
12	12–42–72–102–132
13	13–43–73–103–133
14	14–44–74–104–134
15	15–45–75–105–135
16	16–46–76–106–136
17	17–47–77–107–137
18	18–48–78–108–138
19	19–49–79–109–139
20	20–50–80–110–140

§90.723 Selection and assignment of frequencies.

(a) Applications for frequencies in the 220–222 MHz band shall specify the number of frequencies requested and whether their intended use is for 5- or 10-channel nationwide systems, commercial or non-commercial use, 5-channel trunked systems, public safety/mutual aid use, individual data/voice use, or individual data only use. All frequencies in this band will be assigned by the Commission.

(b) Channels will be assigned pursuant to §§90.717, 90.719, 90.720 and 90.721 of this part.

(c) Applicants will be assigned only the number of channels justified to meet their requirements. Except for the 10-channel nationwide assignments, the maximum number of frequencies that will be assigned to an applicant at any one time is five.

(d) Base station receivers utilizing channels assigned from Sub-band A as designated in § 90.715(b) of this part will be geographically separated from those base station transmitters utilizing channels removed 200 kHz or less and assigned from Sub-band B as follows:

GEOGRAPHIC SEPARATION OF SUB-BAND A BASE STATION RECEIVERS AND SUB-BAND B BASE STATION TRANSMITTERS

Separation distance (kilometers)	Effective radiated power (watts)[1]
0.0–0.3	([2])
0.3–0.5	5
0.5–0.6	10
0.6–0.8	20
0.8–2.0	25
2.0–4.0	50
4.0–5.0	100
5.0–6.0	200
Over 6.0	500

[1] Transmitter peak envelope power shall be used to determine effective radiated power.

[2] Stations separated by 0.3 km or less shall not be authorized. This table does not apply to the low-power mobile data channels 196–200. See § 90.729(c) of this part.

(e) A mobile station is authorized to transmit on any frequency assigned to its associated base station (mobile units not associated with base stations (see § 90.720(a) of this part must operate on ''mobile'' channels).

(f) Except for nationwide assignments, the separation of co-channel base stations shall be 120 kilometers. Except for licensees seeking license modification in accordance with the provisions of §§ 90.751 and 90.753, shorter separations will be considered on a case-by-case basis upon submission of a technical analysis indicating that at least 10 dB protection will be provided to an existing station's 38 dBu signal level contour.

[56 FR 19603, Apr. 29, 1991, as amended at 61 FR 3845, Feb. 2, 1996]

§ 90.725 Construction requirements.

(a) Licensees granted commercial nationwide authorizations will be required to construct base stations having a minimum of five assigned nationwide channels and place those base stations in operation as follows:

(1) In at least 10 percent of the geographic areas designated in the application within two years of initial license grant, including base stations in at least seven urban areas listed in § 90.741 of this part;

(2) In at least 40 percent of the geographic areas designated in the application within four years of initial license grant, including base stations in at least 28 urban areas listed in § 90.741 of this part;

(3) In at least 70 percent of the geographic areas designated in the application within six years of initial license grant, including base stations in at least 28 urban areas listed in § 90.741 of this part;

(4) In all geographic areas designated in the application within ten years of initial license grant, including base stations in at least 28 urban areas listed in § 90.741 of this part.

(b) Licensees not meeting the two and four year criteria shall lose the entire authorization, but will be permitted a six month period to convert the system to non-nationwide channels, if such channels are available.

(c) Licensees not meeting the six and ten year criteria shall lose the authorizations for the facilities not constructed, but will retain exclusivity for constructed facilities.

(d) Each commercial nationwide licensee must file a system progress report on or before the anniversary date of the grant of its license after 2, 4, 6 and 10 years, demonstrating compliance with the relevant construction benchmark criteria.

(1) An overall status report of the system, that must include, but need not be limited to:

(i) A list of all sites at which base stations have been constructed, with antenna heights and effective radiated power specified for each site;

(ii) A list of all other known base station sites at which construction has not been completed; and

(iii) A construction and operational schedule for the next five-year period, including any known changes to the plan for construction and operation

submitted with the licensee's original application for the system.

(2) An analysis of the system's compliance with the requirements of paragraph (a) of this section, with documentation to support representations of completed construction, including, but not limited to:

(i) Equipment purchase orders and contracts;

(ii) Lease or purchase contracts relating to antenna site arrangements;

(iii) Equipment and antenna identification (serial) numbers; and

(iv) Service agreements and visits.

(e) Beginning with its second license term, each nationwide licensee must file a progress report once every five years on the anniversary date of the grant of the first renewal of its authorization, including the information required by paragraph (d)(1) of this section.

(f) Licensees authorized non-nationwide systems must construct their systems (*i.e.*, have all specified base stations constructed with all channels) and place their systems in operation within eight months of the initial license grant date. Authorizations for systems not constructed and placed in operation within eight months from the date of initial license grant cancel automatically.

(g) A licensee that loses authorization for some or all of its channels due to failure to meet construction deadlines or benchmarks may not reapply for nationwide channels in the same category or for non-nationwide channels in the same category in the same geographic area for one year from the date the Commission takes final action affirming that those channels have been cancelled.

(h) Licensees granted non-commercial nationwide authorizations will be required to construct and place in operation base stations in a minimum of 70 markets designated in the application within five years of the initial license grant. Base stations of 10-channel non-commercial nationwide systems that are located in any of the ten large urban areas listed in the following table (base stations are considered located in the following ten large urban areas if they are within 60 kilometers (37.3 miles) of the coordinates listed) must have all 10 channels constructed and placed in operation within 5 years of the initial license grant:

TABLE

Large urban area	North longitude			West latitude		
	°	′	″	°	′	″
New York, New York—Northeastern New Jersey	40	45	06	73	59	39
Los Angeles—Long Beach, California	34	03	15	118	14	28
Chicago, Illinois—Northwestern Indiana	41	52	28	87	38	22
Philadelphia, Pennsylvania—New Jersey	39	56	58	75	09	21
Detroit, Michigan	42	19	48	83	02	57
Boston, Massachusetts	42	21	24	71	03	25
San Francisco—Oakland, California	37	46	39	122	24	40
Washington, DC—Maryland—Virginia	38	53	51	77	00	33
Dallas—Forth Worth, Texas	32	47	09	96	47	37
Houston, Texas	29	45	26	95	21	37

[56 FR 19603, Apr. 29, 1991, as amended at 56 FR 32517, July 17, 1991; 57 FR 32450, July 22, 1992; 58 FR 36363, July 7, 1993]

§ 90.727 Extended implementation schedules.

Except for nationwide and commercial systems, a period of up to three (3) years may be authorized for constructing and placing a system in operation if:

(a) The applicant submits justification for an extended implementation period. The justification must include reasons for requiring an extended construction period, the proposed construction schedule (with milestones), and must show either that:

(1) The proposed system will serve a large fleet of mobile units and will involve a multi-year cycle for its planning, approval, funding, purchase, and construction; or

(2) The proposed system will require longer than 8 months to place in operation because of its purpose, size, or complexity; or

(3) The proposed system is to be part of a coordinated or integrated area-wide system which will require more than 8 months to construct; or

(4) The applicant is a local governmental agency and demonstrates that the government involved is required by law to follow a multi-year cycle for planning, approval, funding, and purchasing the proposed system.

(b) Authorizations under this section are conditioned upon the licensee's compliance with the submitted extended implementation schedule. Failure to meet the schedule will result in loss of authorizations for facilities not constructed.

[56 FR 19603, Apr. 29, 1991, as amended at 56 FR 32517, July 17, 1991]

§ 90.729 Limitations on power and antenna height.

(a) The permissible effective radiated power (ERP) with respect to antenna heights shall be determined from the following table. These are maximum values and applicants are required to justify power levels requested.

ERP VS. ANTENNA HEIGHT TABLE

Antenna height above average terrain (HAAT), meters	Effective radiated power, watts [1]
Up to 150	500
150 to 225	250
225 to 300	125
300 to 450	60
450 to 600	30
600 to 750	20
750 to 900	15
900 to 1050	10
Above 1050	5

[1] Transmitter PEP shall be used to determine ERP.

(b) The maximum permissible ERP for mobile units is 50 watts. Portable units are considered as mobile units.

(c) Channels 196–200 are limited to 2 watts ERP and a maximum antenna height of 6.1 meters (20 ft) above ground.

[56 FR 19603, Apr. 29, 1991, as amended at 58 FR 44964, Aug. 25, 1993]

§ 90.731 Restrictions on operational-fixed stations.

Except for control stations, operational-fixed stations will not be authorized in the 220-222 MHz band. Licensees may utilize their authorized frequencies for fixed ancillary signaling and data transmissions, subject to the following requirements:

(a) All such ancillary operations must be on a secondary, non-interference basis to the primary mobile operation of any other licensee.

(b) The output power at the remote site shall not exceed 30 watts.

(c) Any fixed transmitters will not be considered in whole or in part as a justification for authorizing additional frequencies in the licensee's mobile system.

(d) Automatic means must be provided to deactivate the remote transmitter in the event the carrier remains on for a period in excess of three minutes.

(e) Operational fixed stations authorized pursuant to the provisions of this section are exempt from the requirements of § 90.735.

[58 FR 30996, May 28, 1993]

§ 90.733 Permissible operations.

(a) Systems authorized in the 220–222 MHz band may be used:

(1) Only for base/mobile and mobile relay transmissions on a primary basis, and fixed voice, signaling and paging transmissions ancillary to land mobile use. Fixed-only and paging-only operations are not permitted in this band.

(2) Only by persons who are eligible for facilities under either this subpart or in the radio services included in subparts B, C, D, or E of this part.

(3) Except for licensees classified as CMRS providers under part 20 of this chapter, only for the transmission of messages or signals permitted in the services in which the participants are eligible.

(b) See § 90.720 of this part for permissible operations on mutual aid channels.

(c) For operations requiring less than a 4 kHz bandwidth, more than a single emission may be utilized within the authorized bandwidth. In such cases, the frequency stability requirements of

§90.213 do not apply, but the out-of-band emission limits of §90.209(1) must be met.

(d) Licensees of non-commercial nationwide systems may lease excess capacity of their systems as private carriers five years after the date of original license grant provided that their system is fully constructed and operational.

[56 FR 19603, Apr. 29, 1991, as amended at 56 FR 32517, July 17, 1991; 57 FR 32450, July 22, 1992; 59 FR 59967, Nov. 21, 1994]

§90.735 Station identification.

(a) Except for nationwide systems authorized in the 220–222 MHz band, station identification is required pursuant to §90..425 of this part.

(b) Trunked systems shall employ an automatic device to transmit the call sign of the base station at 30 minute intervals. The identification shall be made on the lowest frequency in the base station trunked group assigned to the licensee. If this frequency is in use at the time identification is required, the identification may be made at the termination of the communication in progress on this frequency.

(c) Station identification may be by voice or International Morse Code. If the call sign is transmitted in International Morse Code, it must be at a rate of between 15 to 20 words per minute, and by means of tone modulation of the transmitter, with the tone frequency being between 800 and 1000 hertz.

(d) Data transmissions (see §90.719 of this part) may also be identified by data transmission of the station call sign. A licensee that identifies its station in this manner must provide the Commission, upon its request, information (such as digital codes and algorithms) sufficient to decipher the data transmission to ascertain the call sign transmitted.

§90.737 Supplemental reports required of licensees.

(a) Licensees of nationwide systems must submit progress reports pursuant to §90.725(d) of this part.

(b) Licensees offering service on a commercial basis must maintain records of the names and addresses of each customer and the dates that service commenced and terminated. These records must be made available to the Commission upon request. Such licensees must report at the time of license renewal the number of mobile units being served.

(c) Non-commercial trunked system licensees must report at the time of license renewal the number of mobile units being served.

(d) Except for licensees of nationwide systems, all licensees must report whether construction of the facility has been completed within eight months of the date of initial grant of their respective licenses.

(e) All reports must be filed with the Land Mobile Branch, Licensing Division, Wireless Telecommunications Bureau, Gettysburg, PA 17326.

[56 FR 19603, Apr. 29, 1991, as amended at 56 FR 32517, July 17, 1991; 60 FR 50123, Sept. 28, 1995]

§90.739 Number of systems authorized in a geographical area.

No licensee will be authorized more than one system in the 220–222 MHz band in a single category (i.e., one non-commercial nationwide system [either 5 or 10-channel], one commercial nationwide system, one 5-channel trunked system, one data-only local system of 1–5 channels, one unrestricted non-trunked local system of 1-5 channels, or one public safety/mutual aid local system of 1-5 channels) within 64 kilometers (40 miles) of an existing system authorized to that licensee in the same category, unless the licensee can demonstrate that the additional system is justified on the basis of its communications requirements.

§90.741 Urban areas for nationwide systems.

Licensees of nationwide systems must construct base stations in a minimum of 28 of the urban areas listed in the following table within ten years of initial license grant. A base station is considered to be within one of the listed urban areas if it is within 60 kilometers (37.3 miles) of the specified coordinates.

TABLE

Urban Area	North Latitude			West Longitude		
	°	′	″	°	′	″
New York, New York—Northeastern New Jersey	40	45	06	73	59	39
Los Angeles-Long Beach, California	34	03	15	118	14	28
Chicago, Illinois—Northwestern Indiana	41	52	28	87	38	22
Philadelphia, Pennsylvania/New Jersey	39	56	58	75	09	21
Detroit, Michigan	42	19	48	83	02	57
Boston, Massachusetts	42	21	24	71	03	25
San Francisco-Oakland, California	37	46	39	122	24	40
Washington, DC/Maryland/Virginia	38	53	51	77	00	33
Dallas-Fort Worth, Texas	32	47	09	96	47	37
Houston, Texas	29	45	26	95	21	37
St. Louis, Missouri/Illinois	38	37	45	90	12	22
Miami, Florida	25	46	37	80	11	32
Pittsburgh, Pennsylvania	40	26	19	80	00	00
Baltimore, Maryland	39	17	26	76	36	45
Minneapolis-St. Paul, Minnesota	44	58	57	93	15	43
Cleveland, Ohio	41	29	51	81	41	50
Atlanta, Georgia	33	45	10	84	23	37
San Diego, California	32	42	53	117	09	21
Denver, Colorado	39	44	58	104	59	22
Seattle-Everett, Washington	47	36	32	122	20	12
Milwaukee, Wisconsin	43	02	19	87	54	15
Tampa, Florida	27	56	58	82	27	25
Cincinnati, Ohio/Kentucky	39	06	07	84	30	35
Kansas City, Missouri/Kansas	39	04	56	94	35	20
Buffalo, New York	42	52	52	78	52	21
Phoenix, Arizona	33	27	12	112	04	28
San Jose, California	37	20	16	121	53	24
Indianapolis, Indiana	39	46	07	86	09	46
New Orleans, Louisiana	29	56	53	90	04	10
Portland, Oregon/Washington	45	31	06	122	40	35
Columbus, Ohio	39	57	47	83	00	17
Hartford, Connecticut	41	46	12	72	40	49
San Antonio, Texas	29	25	37	98	29	06
Rochester, New York	43	09	41	77	36	21
Sacramento, California	38	34	57	121	29	41
Memphis, Tennessee/Arkansas/Mississippi	35	08	46	90	03	13
Louisville, Kentucky/Indiana	38	14	47	85	45	49
Providence-Pawtucket-Warwick, RI/MA	41	49	32	71	24	41
Salt Lake City, Utah	40	45	23	111	53	26
Dayton, Ohio	39	45	32	84	11	43
Birmingham, Alabama	33	31	01	86	48	36
Bridgeport, Connecticut	41	10	49	73	11	22
Norfolk-Portsmouth, Virginia	36	51	10	76	17	21
Albany-Schenectady-Troy, New York	42	39	01	73	45	01
Oklahoma City, Oklahoma	35	28	26	97	31	04
Nashville-Davidson, Tennessee	36	09	33	86	46	55
Toledo, Ohio/Michigan	41	39	14	83	32	39
New Haven, Connecticut	41	18	25	72	55	30
Honolulu, Hawaii	21	19	00	157	52	00
Jacksonville, Florida	30	19	44	81	39	42
Akron, Ohio	41	05	00	81	30	44
Syracuse, New York	43	03	04	76	09	14
Worcester, Massachusetts	42	15	37	71	48	17
Tulsa, Oklahoma	36	09	12	95	59	34
Allentown-Bethlehem-Easton, PA/NJ	40	36	11	75	28	06
Richmond, Virginia	37	32	15	77	26	09
Orlando, Florida	28	32	42	81	22	38
Charlotte, North Carolina	35	13	44	80	50	45
Springfield-Chicopee-Holyoke, MA/CT	42	06	21	72	35	32
Grand Rapids, Michigan	42	58	03	85	40	13
Omaha, Nebraska/Iowa	41	15	42	95	56	14
Youngstown-Warren, Ohio	41	05	57	80	39	02
Greenville, South Carolina	34	50	50	82	24	01
Flint, Michigan	43	00	50	83	41	33
Wilmington, Delaware/New Jersey/Maryland	39	44	46	75	32	51
Raleigh-Durham/North Carolina	35	46	38	78	38	21
West Palm Beach, Florida	26	42	36	80	03	07
Oxnard-Simi Valley-Ventura, California	34	12	00	119	11	00
Fresno, California	36	44	12	119	47	11
Austin, Texas	30	16	09	97	44	37

TABLE—Continued

Urban Area	North Latitude			West Longitude		
	°	′	″	°	′	″
Tucson, Arizona	32	13	15	110	58	08
Lansing, Michigan	42	44	01	84	33	15
Knoxville, Tennessee	35	57	39	83	55	07
Baton Rouge, Louisiana	30	26	58	91	11	00
El Paso, Texas	31	45	36	106	29	11
Tacoma, Washington	47	14	59	122	26	15
Mobile, Alabama	30	41	36	88	02	33
Harrisburg, Pennsylvania	40	15	43	76	52	59
Albuquerque, New Mexico	35	05	01	106	39	05
Canton, Ohio	40	47	50	81	22	37
Chattanooga, Tennessee/Georgia	35	02	41	85	18	32
Wichita, Kansas	37	41	30	97	20	16
Charleston, South Carolina	32	46	35	79	55	53
San Juan, Puerto Rico	18	28	00	66	07	00
Little Rock-North Little Rock, Arkansas	34	44	42	92	16	37
Las Vegas, Nevada	36	10	20	115	08	37
Columbia, South Carolina	34	00	02	81	02	00
Fort Wayne, Indiana	41	04	21	85	08	26
Bakersfield, California	35	22	31	119	01	16
Davenport-Rock Island-Moline, IA/IL	41	31	00	90	35	00
Shreveport, Louisiana	32	30	46	93	44	58
Des Moines, Iowa	41	35	14	93	37	00
Peoria, Illinois	40	41	42	89	35	33
Newport News-Hampton, Virginia	36	59	30	76	26	00
Jackson, Mississippi	32	17	56	90	11	06
Augusta, Georgia/South Carolina	33	28	20	81	58	00
Spokane, Washington	47	39	32	117	25	33
Corpus Christi, Texas	27	47	51	97	23	45
Madison, Wisconsin	43	04	23	89	22	55
Colorado Springs, Colorado	38	50	07	104	49	16

NOTE: The geographic coordinates given are from the Department of Commerce publication of 1947: ''Air-line Distances Between Cities in the United States'' and from data supplied by the National Geodetic Survey. The coordinates are determined by using the first city mentioned as the center of the urban area.

[56 FR 19603, Apr. 29, 1991, as amended at 56 FR 32517, July 17, 1991; 60 FR 37277, July 19, 1995]

§ 90.751 Minor modifications of non-nationwide licenses.

Licensees granted non-nationwide authorizations from among applications filed on or before May 24, 1991 (Phase I licensees) will be given an opportunity to seek modification of their license to relocate their initially authorized base station, i.e., locate their base station at a site other than its initially authorized location. The conditions under which modifications will be granted and the procedures for applying for license modifications are described in §§ 90.753, 90.755, and 90.757. For CMRS licensees, these modifications will be treated as minor modifications in accordance with § 90.164.

[61 FR 3845, Feb. 2, 1996]

§ 90.753 Conditions of license modification.

(a) Except as provided in paragraphs (b), and (c) of this section, a Phase I non nationwide licensee may modify its authorization to relocate its authorized base station up to one-half the distance over 120 km toward any co-channel licensee's initially authorized base station, to a maximum distance of 8 km.

(b) A Phase I non-nationwide licensee with an authorized base station located outside a Designated Filing Area (DFA) (see Public Notice, DA 86–173, 52 FR 1302 (January 12, 1987)) may modify its authorization to relocate its authorized base station up to one-half the distance over 120 km toward any co-channel licensee's initially authorized base station, to a maximum distance of 25 km, so long as the base station is relocated no more than 8 km inside of any

DFA (i.e., no more than 8 km from the nearest DFA boundary line).

(c) A Phase I non-nationwide licensee that has been granted Special Temporary Authority (STA) to operate at an alternative base station location may modify its authorization to seek permanent authorization at that location, regardless of whether locating the station at the STA site is in strict conformance with the provisions of paragraphs (a) and (b) of this section, if the licensee certifies that such a modification is in conformance with §§ 90.723 and 90.729 and:

(1) It has constructed its base station and has placed it in operation, or commenced service, at the STA site on or before January 26, 1996; or

(2) It has taken delivery of its base station transceiver on or before January 26, 1996.

(d) The application of a Phase I non-nationwide licensee proposing a base station modification resulting in less than 120 km separation from a co-channel licensee's initially authorized base station will be accepted by the Commission only with the consent of that co-channel licensee, as evidenced in a letter submitted concurrently with the licensee's application.

(e) The application of a Phase I non-nationwide licensee proposing a base station modification resulting in at least a 120 km separation from each co-channel licensee's initially authorized base station but more than one-half the distance over 120 km toward any co-channel licensee's initially authorized base station will be accepted by the Commission only with the consent of that co-channel licensee, as evidenced in a letter submitted concurrently with the licensee's application.

[61 FR 3845, Feb. 2, 1996]

§ 90.755 Procedures for license modification.

(a) A Phase I non-nationwide licensee seeking modification of its authorization to relocate its authorized base station in accordance with the provisions of § 90.753 must file the following on or before May 1, 1996:

(1) Form 600 requesting license modification, and providing all applicable information;

(2) Certification that the location of its proposed base station is in conformance with the provisions of § 90.753, or, as provided in § 90.753(d), a letter evidencing consent of a co-channel licensee that the licensee may be authorized less than 120 km from the co-channel licensee;

(3) If applicable, the required certification by a licensee with a Special Temporary Authority, in accordance with § 90.753(c);

(4) If applicable, certification that the licensee has constructed its base station and placed it in operation, or commenced service, at its initially authorized location on or before March 11, 1996.

(b) A licensee seeking modification of its authorization to relocate its base station in accordance with the provisions of § 90.753, should file, on or before March 11, 1996, either a modification application, as provided in paragraph (a) of this section, or a letter certifying to the Commission its intent to file an application to modify its authorization to relocate its base station. For a licensee that has not constructed its authorized base station and placed it in operation, or commenced service, by March 11, 1996, this filing will serve to extend the licensee's construction requirement in accordance with the provisions of § 90.757.

[61 FR 3845, Feb. 2, 1996]

§ 90.757 Construction requirements.

(a) Except as provided in paragraph (b) of this section, a Phase I non-nationwide licensee that is granted modification of its authorization to relocate its base station must construct its base station and place it in operation, or commence service, on all authorized channels on or before August 15, 1996, or within 12 months of initial grant date, whichever is later. The authorization of a licensee that does not construct its base station and place it in operation, or commence service, by this date, cancels automatically and must be returned to the Commission.

(b) A Phase I non-nationwide licensee with a base station authorized at a location north of Line A must construct its base station and place it in operation, or commence service, on all authorized channels within 12 months of

initial grant date, or within 12 months of the date of the release of the terms of an agreement between the United States and Canadian governments on the sharing of 220–222 MHz spectrum between the two countries, whichever is later. The authorization of a licensee that does not construct its base station and place it in operation, or commence service, by this date, cancels automatically and must be returned to the Commission.

[61 FR 3845, Feb. 2, 1996]

Subpart U—Competitive Bidding Procedures for 900 MHz Specialized Mobile Radio Service

SOURCE: 60 FR 48919, Sept. 21, 1995, unless otherwise noted.

§90.801 900 MHz SMR subject to competitive bidding.

Mutually exclusive initial applications to provide 900 MHz SMR service are subject to competitive bidding procedures. The general competitive bidding procedures found in part 1, subpart Q of this chapter will apply unless otherwise provided in this part.

§90.802 Competitive bidding design for 900 MHz SMR licensing.

The Commission will employ a simultaneous multiple round auction design when choosing from among mutually exclusive initial applications to provide 900 MHz SMR service, unless otherwise specified by the Wireless Telecommunications Bureau before the auction.

§90.803 Competitive bidding mechanisms.

(a) *Sequencing.* The Wireless Telecommunications Bureau will establish and may vary the sequence in which 900 MHz SMR licenses will be auctioned.

(b) *Grouping.* All 900 MHz SMR licenses for each of the MTAs will be auctioned simultaneously, unless the Wireless Telecommunications Bureau announces, by Public Notice prior to the auction, an alternative auction scheme.

(c) *Minimum bid increments.* The Wireless Telecommunications Bureau will, by announcement before or during an auction, require minimum bid increments in dollar or percentage terms.

(d) *Stopping rules.* The Wireless Telecommunications Bureau will establish stopping rules before or during multiple round auctions in order to terminate an auction within a reasonable time.

(e) *Activity rules.* The Wireless Telecommunications Bureau will establish activity rules which require a minimum amount of bidding activity. In the event that the Commission establishes an activity rule in connection with a simultaneous multiple round auction, each bidder will be entitled to request and will be automatically granted a certain number of waivers of such rule during the auction.

§90.804 Aggregation of 900 MHz SMR licenses.

The Commission will license each 10-channel block in the 900 MHz SMR spectrum separately. Applicants may aggregate across spectrum blocks within the limitation specified in §20.6(b) of this chapter.

§90.805 Withdrawal, default and disqualification payments.

(a) During the course of an auction conducted pursuant to §90.802, the Wireless Telecommunications Bureau will impose payments on bidders who withdraw high bids during the course of an auction, who default on payments due after an auction closes, or who are disqualified.

(b) Bid withdrawal prior to close of auction. A bidder who withdraws a high bid during the course of an auction will be subject to a payment equal to the difference between the amount bid and the amount of the winning bid the next time the license is offered by the Commission. No withdrawal payment would be assessed if the subsequent winning bid exceeds the withdrawn bid. This payment amount will be deducted from any upfront payments or down payments that the withdrawing bidder has deposited with the Commission.

(c) Default or disqualification after close of auction. If a high bidder defaults or is disqualified after the close

of such an auction, the defaulting bidder will be subject to the payment in paragraph (b) of this section plus an additional payment equal to three (3) percent of the subsequent winning bid. If the subsequent winning bid exceeds the defaulting bidder's bid amount, the 3 percent payment will be calculated based on the defaulting bidder's bid amount. These amounts will be deducted from any upfront payments or down payments that the defaulting or disqualified bidder has deposited with the Commission. If the default occurs within five business days after the bidding has closed, the Commission retains the discretion to offer the license to the second highest bidder at its final bid level, of it that bidder declines the offer, to offer the license to other bidders (in descending order of their bid amounts) at the final bid levels.

§ 90.806 Bidding application (FCC Form 175 and 175–S Short-form).

All applicants to participate in competitive bidding for 900 MHz SMR licenses must submit applications on FCC Forms 175 and 175–S pursuant to the provisions of § 1.2105 of this chapter. The Wireless Telecommunications Bureau will issue a Public Notice announcing the availability of 900 MHz SMR licenses and, in the event that mutually exclusive applications are filed, the date of the auction for those licenses. This Public Notice also will specify the date on or before which applicants intending to participate in a 900 MHz SMR auction must file their applications in order to be eligible for that auction, and it will contain information necessary for completion of the application as well as other important information such as the materials which must accompany the Forms, any filing fee that must accompany the application or any upfront payment that will need to be submitted, and the location where the application must be filed. In addition to identifying its status as a small business or rural telephone company, each applicant must indicate whether it is a minority-owned entity, as defined in § 90.814(g) and/or a women-owned entity.

§ 90.807 Submission of upfront payments and down payments.

(a) Each bidder in the 900 MHz SMR auction will be required to submit an upfront payment of $0.02 per MHz per pop, for the maximum number of licenses (in terms of MHz-pops) on which it intends to bid pursuant to § 1.2106 of this chapter and procedures specified by Public Notice.

(b) Each winning bidder in the 900 MHz SMR auction shall make a down payment to the Commission in an amount sufficient to bring its total deposits up to 20 percent of its winning bid within five business days after the auction closes, and the remaining balance due on the license shall be paid within five business days after Public Notice announcing that the Commission is prepared to award the license. The grant of the application required by § 90.808 is conditional upon receipt of full payment, except for small businesses that are winning bidders, which are governed by § 90.811. The Commission generally will grant the license within ten (10) business days after the receipt of the remaining balance due on the license.

§ 90.808 Long-form applications.

Each winning bidder will be required to submit a long-form application on FCC Form 600 within ten (10) business days after being notified by Public Notice that it is the winning bidder. Applications on FCC Form 600 shall be submitted pursuant to the procedures set forth in 90.119 and any associated Public Notices. Only auction winners (and rural telephone companies and incumbent 900 MHz SMR licensees seeking partitioned licenses pursuant to agreements with auction winners under § 90.813) will be eligible to file applications on FCC Form 600 for initial 900 MHz SMR licenses in the event of mutual exclusivity between applicants filing Form 175.

§ 90.809 License grant, denial, default, and disqualification.

(a) A bidder who withdraws its bid subsequent to the close of bidding, defaults on a payment due, or is disqualified, will be subject to the payments specified in § 90.805 or § 1.2109 of this chapter, as applicable.

(b) MTA licenses pursued through competitive bidding procedures will be granted pursuant to the requirements specified in §90.166.

§90.810 Bidding credits for small businesses.

(a) A winning bidder that qualifies as a small business or a consortium of small businesses, (as defined in §90.814(b)(1)(i) may use a bidding credit of 15 percent to lower the cost of its winning bid on any of the blocks identified in §90.617(d), table 4B. A winning bidder that qualifies as a small business or a consortium of small businesses, (as defined in §90.814(b)(1)(ii) may use a bidding credit of 10 percent to lower the cost of its winning bid on any of the blocks identified in §90.617(d), table 4B.

(b) Unjust Enrichment. (1) A small business seeking transfer or assignment of a license to an entity that is not a small business under the definitions in §90.814(b)(1) will be required to reimburse the government for the amount of the bidding credit, plus interest at the rate imposed for installment financing at the time the license was awarded, before transfer will be permitted. The amount of this payment will be reduced over time as follows: a transfer in the first two years of the license term will result in a forfeiture of 100 percent of the value of the bidding credit: in year three of the license term the payment will be 75 percent; in year four the payment will be 50 percent and in year five the payment will be 25 percent, after which there will be no assessment. If a small business as defined in §90.814(b)(1)(i) seeks to transfer or assign a license to a small business as defined in §90.814(b)(1)(ii), the value of the bidding credit to be repaid is five percent, the difference between the 10 and 15 percent bidding credits. The five percent difference will be subject to the percentage reductions over time specified above. These payments must be paid back to the U.S. Treasury as a condition of approval of the assignment or transfer.

(2) If a small business that utilizes a bidding credit under this section seeks to assign or transfer control of its license to a small business meeting the eligibility standards for lower bidding credits or seeks to make any other change in ownership that would result in the licensee qualifying for a lower bidding credit under this section, the licensee must seek Commission approval and reimburse the government for the difference between the amount of the bidding credit obtained by the licensee and the bidding credit for which the assignee, transferee or licensee is eligible under this section as a condition of the approval of such assignment, transfer or other ownership change.

§90.811 Reduced down payment for licenses won by small businesses.

Each winning bidder that qualifies as a small business shall make a down payment equal to ten percent of its winning bid (less applicable bidding credits); a winning bidder shall bring its total amount on deposit with the Commission (including upfront payment) to five percent of its net winning bid within five (5) business days after the auction closes, and the remainder of the down payment (five percent) shall be paid within five (5) business days following Public Notice that the Commission is prepared to award the license. The Commission generally will grant the license within ten (10) business days after receipt of the remainder of the down payment.

§90.812 Installment payments for licenses won by small businesses.

(a) Each licensee that qualifies as a small business may pay the remaining 90 percent of the net auction price for the license in quarterly installment payments pursuant to §1.2110(e) of this chapter. Licensees who qualify for installment payments are entitled to pay their winning bid amount in installments over the term of the license, with interest charges to be fixed at the time of licensing at a rate equal to the rate for ten-year U.S. Treasury obligations plus 2.5 percent. Payments shall include both principal and interest amortized over the term of the license. An MTA license issued to an eligible small business that elects installment payments will be conditioned on the full and timely performance of the license

holder's quarterly payments. The additional following terms apply:

(1) An eligible licensee qualifying as a small business under § 90.814(b)(1)(i) may make interest-only payments for five years. Interest will accrue at the Treasury note rate. Payments of interest and principal shall be amortized over the remaining five years of the license term.

(2) An eligible licensee qualifying as a small business under § 90.814(b)(1)(ii) may make interest-only payments for the first two years of the license term. Interest will accrue at the Treasury note rate plus an additional 2.5 percent. Payments of interest and principal shall be amortized over the remaining eight years of the license term.

(b) Unjust Enrichment. (1) If a licensee that utilizes installment financing under this section seeks to assign or transfer control of its license to an entity not meeting the eligibility standards for installment payments, the licensee must make full payment of the remaining unpaid principal and any unpaid interest accrued through the date of assignment or transfer as a condition of approval.

(2) If a licensee that utilizes installment financing under this section seeks to make any change in ownership structure that would result in the licensee losing eligibility for installment payments, the licensee shall first seek Commission approval and must make full payment of the remaining unpaid principal and any unpaid interest accrued through the date of such change as a condition of approval.

(3) If a licensee that utilizes installment financing under this section seeks to assign or transfer control of a license to an entity that does not qualify for as favorable an installment payment plan, the installment payment plan for which the acquiring entity qualifies will become effective immediately upon transfer.

§ 90.813 Procedures for partitioned licenses.

(a) Notwithstanding § 90.661, a rural telephone company, as defined in § 90.814, may be granted a 900 MHz SMR license that is geographically partitioned from a separately licensed MTA, so long as the MTA applicant or licensee has voluntarily agreed (in writing) to partition a portion of the license to the entity.

(b) If partitioned licenses are being applied for in conjunction with a license(s) to be awarded through competitive procedures—

(1) The applicable procedures for filing short-form applications and for submitting upfront payments and down payments contained in this part and part 1 of this chapter shall be followed by the applicant, who must disclose as part of its short-form application all parties to agreement(s) with or among other entities to partition the license pursuant to this section, if won at auction (see 47 CFR 1.2105(a)(2)(viii));

(2) Each rural telephone company that is a party to an agreement to partition the license shall file a long-form application for its respective, mutually agreed-upon geographic area together with the application for the remainder of the MTA filed by the auction winner.

(c) If the partitioned license is being applied for as a partial assignment of the MTA license following grant of the initial license, request for authorization for partial assignment of a license shall be made pursuant to § 90.153.

(d) Each application for a partitioned area (long-form initial application or partial assignment application) shall contain a partitioning plan that must propose to establish a partitioned area to be licensed that meets the following criteria:

(1) Conforms to established geopolitical boundaries (such as county lines);

(2) Includes the wireline service area of the rural telephone company applicant; and

(3) Is reasonably related to the rural telephone company's wireline service area.

NOTE TO PARAGRAPH (d): A partitioned service area will be presumed to be reasonably related to the rural telephone company's wireline service area if the partitioned service area contains no more than twice the population overlap between the rural telephone company's wireline service area and the partitioned area.

(e) Each licensee in each partitioned area will be responsible for meeting the

construction requirements in its area (*see* §90.665).

§90.814 Definitions.

(a) Scope. The definitions in this section apply to §§90.810 through 90.813, unless otherwise specified in those sections.

(b) *Small Business: Consortium of Small Business:*

(1) A small business is an entity that either:

(i) together with its affiliates, persons or entities that hold attributable interests in such entity, and their affiliates, has average gross revenues that are not more than $3 million for the preceding three years; or

(ii) together with its affiliates, persons or entities that hold attributable interests in such entity, and their affiliates, has average gross revenues that are not more than $15 million for the preceding three years.

(2) For purposes of determining whether an entity meets either the $3 million or $15 million average annual gross revenues size standard set forth in paragraph (b)(1) of this section, the gross revenues of the entity, its affiliates, persons or entities holding interests in the entity and their affiliates shall be considered on a cumulative basis and aggregated, subject to the exceptions set forth in §90.814(g).

(3) A small business consortium is a conglomerate organization formed as a joint venture between or among mutually-independent business firms, each of which individually satisfies either definition of a small business in paragraphs (b)(1) and (b)(2) of this section. In a consortium of small businesses, each individual member must establish its eligibility as a small business, as defined in this section.

(c) *Rural Telephone Company*. A *rural telephone company* is a local exchange carrier having 100,000 or fewer access lines, including all *affiliates*.

(d) *Gross Revenues*. For applications filed after December 31, 1994, *gross revenues* shall be evidenced by audited financial statements for the preceding relevant number of calendar or fiscal years. If an entity was not in existence for all or part of the relevant period, gross revenues shall be evidenced by the audited financial statements of the entity's predecessor-in-interest or, if there is no identifiable predecessor-in-interest, unaudited financial statements certified by the applicant as accurate.

(e) *Businesses Owned by Members of Minority Groups and/or Women*. A business owned by members of minority groups and/or women in which minorities and/or women who are U.S. citizens control the applicant, have at least 50.1 percent equity ownership and, in the case of a corporate applicant, a 50.1 percent voting interest. For applicants that are partnerships, every general partner either must be a minority and/or woman (or minorities and/or women) who are U.S. citizens and who individually or together own at least 50.1 percent of the partnership equity, or an entity that is 100 percent owned and controlled by minorities and/or women who are U.S. citizens. The interests of minorities and women are to be calculated on a fully-diluted basis; agreements such as stock options and convertible debentures shall be considered to have a present effect on the power to control an entity and shall be treated as if the rights thereunder already have been fully exercised. However, upon a demonstration that options or conversion rights held by non-controlling principals will not deprive the minority and female principals of a substantial financial stake in the venture or impair their rights to control the designated entity, a designated entity may seek a waiver of the requirement that the equity of the minority and female principals must be calculated on a fully-diluted basis.

(f) *Members of Minority Groups. Members of minority groups* includes Blacks, Hispanics, American Indians, Alaskan Natives, Asians, and Pacific Islanders.

(g) *Attributable Interests.* Partnership and other ownership interests and any stock interest amounting to 20 percent or more of the equity, or outstanding stock, or outstanding voting stock of a licensee or applicant will be attributable.

(1) *Multiplier*. Ownership interests that are held indirectly by any party through one or more intervening corporations will be determined by successive multiplication of the ownership

percentages for each link in the vertical ownership chain and application of the relevant attribution benchmark to the resulting product, except that if the ownership percentage for an interest in any line in the chain exceeds 50 percent or represents actual control, it shall be treated as if it were a 100 percent interest.

(2) [Reserved]

(h) *Affiliate.* (1) *Basis for Affiliation.* An individual or entity is an affiliate of an applicant or of a person holding an attributable interest in an applicant (both referred to herein as ''the applicant'') if such individual or entity:

(i) Directly or indirectly controls or has the power to control the applicant, or

(ii) Is directly or indirectly controlled by the applicant, or

(iii) Is directly or indirectly controlled by a third party or parties that also controls or has the power to control the applicant, or

(iv) Has an ''identity of interest'' with the applicant.

(2) *Nature of control in determining affiliation.* (i) Every business concern is considered to have one or more parties who directly or indirectly control or have the power to control it. Control may be affirmative or negative and it is immaterial whether it is exercised so long as the power to control exists.

Example for paragraph (h)(2)(i). An applicant owning 50 percent of the voting stock of another concern would have negative power to control such concern since such party can block any action of the other stockholders. Also, the bylaws of a corporation may permit a stockholder with less than 50 percent of the voting to block any actions taken by the other stockholders in the other entity. Affiliation exists when the applicant has the power to control a concern while at the same time another person, or persons, are in control of the concern at the will of the party or parties with the power of control.

(ii) Control can arise through stock ownership; occupancy of director, officer or key employee positions; contractual or other business relations; or combinations of these and other factors. A key employee is an employee who, because of his/her position in the concern, has a critical influence in or substantive control over the operations or management of the concern.

(iii) Control can arise through management positions where a concern's voting stock is so widely distributed that no effective control can be established.

Example for paragraph (h)(2)(iii). In a corporation where the officers and directors own various size blocks totaling 40 percent of the corporation's voting stock, but no officer or director has a block sufficient to give him or her control or the power to control and the remaining 60 percent is widely distributed with no individual stockholder having a stock interest greater than 10 percent, management has the power to control. If persons with such management control of the other entity are persons with attributable interests in the applicant, the other entity will be deemed an affiliate of the applicant.

(3) *Identity of interest between and among persons.* Affiliation can arise between or among two or more persons with an identity of interest, such as members of the same family or persons with common investments. In determining if the applicant controls or is controlled by a concern, persons with an identity of interest will be treated as though they were one person.

Example 1 for paragraph (h)(3) introductory text. Two shareholders in Corporation Y each have attributable interests in the same SMR application. While neither shareholder has enough shares to individually control Corporation Y, together they have the power to control Corporation Y. The two shareholders with these common investments (or identity or interest) are treated as though they are one person and Corporation Y would be deemed an affiliate of the applicant.

Example 2 for paragraph (h)(3) introductory text. One shareholder in Corporation Y, shareholder A, has an attributable interest in a SMR application. Another shareholder in Corporation Y, shareholder B, has a non-attributable interest in the same SMR application. While neither shareholder has enough shares to individually control Corporation Y, together they have the power to control Corporation Y. Through the common investment of shareholders A and B in the SMR application, Corporation Y would still be deemed an affiliate of the applicant.

(i) *Spousal Affiliation.* Both spouses are deemed to own or control or have the power to control interests owned or controlled by either of them, unless they are subject to a legal separation recognized by a court of competent jurisdiction in the United States.

(ii) *Kinship Affiliation.* Immediate family members will be presumed to own or control or have the power to control interests owned or controlled by other immediate family members. In this context ''immediate family member'' means father, mother, husband, wife, son, daughter, brother, sister, father- or mother-in-law, son- or daughter-in-law, brother- or sister-in-law, step-father, or -mother, step-brother, or -sister, step-son, or -daughter, half brother or sister. This presumption may be rebutted by showing that

(A) The family members are estranged,

(B) The family ties are remote, or

(C) The family members are not closely involved with each other in business matters.

Example for paragraph (h)(3)(ii). A owns a controlling interest in Corporation X. A's sister-in-law, B, has an attributable interest in an SMR application. Because A and B have a presumptive kinship affiliation, A's interest in Corporation X is attributable to B, and thus to the applicant, unless B rebuts the presumption with the necessary showing.

(4) *Affiliation through stock ownership.*

(i) An applicant is presumed to control or have the power to control a concern if he or she owns or controls or has the power to control 50 percent or more of its voting stock.

(ii) An applicant is presumed to control or have the power to control a concern even though he or she owns, controls or has the power to control less than 50 percent of the concern's voting stock, if the block of stock he or she owns, controls or has the power to control is large as compared with any other outstanding block of stock.

(iii) If two or more persons each owns, controls or has the power to control less than 50 percent of the voting stock of a concern, such minority holdings are equal or approximately equal in size, and the aggregate of these minority holdings is large as compared with any other stock holding, the presumption arises that each one of these persons individually controls or has the power to control the concern; however, such presumption may be rebutted by a showing that such control or power to control, in fact, does not exist.

(5) *Affiliation arising under stock options, convertible debentures, and agreements to merge.* Stock options, convertible debentures, and agreements to merge (including agreements in principle) are generally considered to have a present effect on the power to control the concern. Therefore, in making a size determination, such options, debentures, and agreements will generally be treated as though the rights held thereunder had been exercised. However, neither an affiliate nor an applicant can use such options and debentures to appear to terminate its control over another concern before it actually does so.

Example 1 for paragraph (h)(5). If company B holds an option to purchase a controlling interest in company A, who holds an attributable interest in an SMR application, the situation is treated as though company B had exercised its rights and had become owner of a controlling interest in company A. The gross revenues of Company B must be taken into account in determining the size of the applicant.

*Example 2 for paragraph (h)(5).*If a large company, BigCo, holds 70% (70 to 100 outstanding shares) of the voting stock of company A, who holds an attributable interest in an SMR application, and gives a third party, SmallCo, an option to purchase 50 of the 70 shares owned by BigCo, BigCo will be deemed to be an affiliate of company, and thus the applicant, until SmallCo actually exercises its options to purchase such shares. In order to prevent BigCo from circumventing the intent of the rule which requires such options to be considered on a fully diluted basis, the option is not considered to have present in this case.

Example 3 for paragraph (h)(5). If company A has entered into an agreement to merge with company B in the future, the situation is treated as though the merger has taken place.

(6) *Affiliation under voting trusts.* (i) Stock interests held in trust shall be deemed controlled by any person who holds or shares the power to vote such stock, to any person who has the sole power to sell such stock, and to any person who has the right to revoke the trust at will or to replace the trustee at will.

(ii) If a trustee has a familial, personal or extra-trust business relationship to the grantor or the beneficiary, the stock interests held in trust will be deemed controlled by the grantor or beneficiary, as appropriate.

(iii) If the primary purpose of a voting trust, or similar agreement, is to separate voting power from beneficial ownership of voting stock for the purpose of shifting control of or the power to control a concern in order that such concern or another concern may meet the Commission's size standards, such voting trust shall not be considered valid for this purpose regardless of whether it is or is not recognized within the appropriate jurisdiction.

(7) *Affiliation through common management.* Affiliation generally arises where officers, directors, or key employees serve as the majority or otherwise as the controlling element of the board of directors and/or the management of another entity.

(8) *Affiliation through common facilities.* Affiliation generally arises where one concern shares office space and/or employees and/or other facilities with another concern, particularly where such concerns are in the same or related industry or field of operations, or where such concerns were formerly affiliated, and through theses sharing arrangements one concern has control, or potential control, of the other concern.

(9) *Affiliation through contractual relationships.* Affiliation generally arises where one concern is dependent upon another concern for contracts and business to such a degree that one concern has control, or potential control, of the other concern.

(10) *Affiliation under joint venture arrangements.* (i) A joint venture for size determination purposes is an association of concerns and/or individuals, with interests in any degree or proportion, formed by contract, express of implied, to engage in and carry out a single, specific business venture for joint profit for which purpose they combine their efforts, property, money, skill and knowledge, but not on a continuing or permanent basis for conducting business generally. The determination whether an entity is a joint venture is based upon the facts of the business operation, regardless of how the business operation may be designated by the parties involved. An agreement to share profits/losses proportionate to each party's contribution to the business operation is a significant factor in determining whether the business operation is a joint venture.

(ii) The parties to a joint venture are considered to be affiliated with each other.

§ 90.815 Eligibility for small business status.

(a) *Short-Form Applications: Certifications and Disclosure.* Each applicant for an MTA license which qualifies as a small business or consortium of small businesses shall append the following information as an exhibit to its short-form application (Form 175):

(1) The identity of the applicant's affiliates, persons or entities that hold attributable interests in such entity, and their affiliates, and, if a consortium of small businesses, the members in the joint venture; and

(2) The applicant's gross revenues, computed in accordance with § 90.814.

(b) *Long Form Applications: Certifications and Disclosure.* In addition to the requirements in subpart U of this part, each applicant submitting a long-form application for license(s) and qualifying as a small business shall, in an exhibit to its long-form application:

(1) Disclose separately and in the aggregate the gross revenues, computed in accordance with § 90.814, for each of the following: the applicant; the applicant's affiliates, the applicant's attributable investors, affiliates of its attributable investors, and, if a consortium of small businesses, the members of the joint venture;

(2) List and summarize all agreements or other instruments (with appropriate references to specific provisions in the text of such agreements and instruments) that support the applicant's eligibility as a small business under §§ 90.810 through 90.812, including the establishment of *de facto* and *de jure* control; such agreements and instruments include articles of incorporation and bylaws, shareholder agreements, voting or other trust agreements, franchise agreements, and any other relevant agreements (including letters of intent), oral or written; and

(3) List and summarize any investor protection agreements, including rights of first refusal, supermajority clauses, options, veto rights, and rights

to hire and fire employees and to appoint members to boards of directors or management committees.

(c) *Records Maintenance.* All winning bidders qualifying as small businesses, shall maintain at their principal place of business an updated file of ownership, revenue and asset information, including any documents necessary to establish eligibility as a small business and/or consortium of small businesses under §90.814. Licensees (and their successors in interest) shall maintain such files for the term of the license.

(d) *Audits.* (1) Applicants and licensees claiming eligibility as a small business or consortium of small businesses under §§90.810 through 90.812 shall be subject to audits by the Commission, using in-house and contract resources. Selection for audit may be random, on information, or on the basis of other factors.

(2) Consent to such audits is part of the certification included in the short-form application (Form 175). Such consent shall include consent to the audit of the applicant's or licensee's books, documents and other material (including accounting procedures and practices) regardless of form or type, sufficient to confirm that such applicant's or licensee's representations are, and remain, accurate. Such consent shall include inspection at all reasonable times of the facilities, or parts thereof, engaged in providing and transacting business, or keeping records regarding licensed 900 MHz SMR service and shall also include consent to the interview of principals, employees, customers and suppliers of the applicant or licensee.

(e) *Definitions.* The terms *affiliate, business owned by members of minority groups and/or women, consortium of small businesses, gross revenues, members of minority groups, nonattributable equity, small business* and *total assets* used in this section are defined in §90.814.

§90.816 Criteria for comparative 900 MHz SMR renewal proceedings.

(a) *Ultimate issue.* The ultimate issue in comparative renewal proceedings will be to determine, in light of the evidence adduced in the proceeding, what disposition of the applications would best serve the public interest, convenience and necessity.

(b) *Renewal expectancies.* The most important comparative factor to be considered in a comparative 900 MHz SMR renewal proceeding is a major preference, commonly referred to as a ''renewal expectancy''.

(1) The 900 MHz SMR renewal applicant involved in a comparative renewal proceeding will receive a renewal expectancy, if its past record for the relevant license period demonstrates that:

(i) The renewal applicant has provided ''substantial'' service during its past license term. ''Substantial'' service is defined as service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal; and

(ii) The renewal applicant has substantially complied with applicable FCC rules, policies and the Communications Act of 1934, as amended.

(2) In order to establish its right to a renewal expectancy, a 900 MHz renewal applicant involved in a comparative renewal proceeding must submit a showing explaining why it should receive a renewal expectancy. At a minimum, this showing must include:

(i) A description of its current service in terms of geographic coverage and population served;

(ii) An explanation of its record of expansion, including a timetable of the construction of new base sites to meet changes in demand for SMR service;

(iii) A description of its investments in its 900 MHz SMR system; and

(iv) Copies of all FCC orders finding the licensee to have violated the Communications Act or any FCC rule or policy; and a list of any pending proceedings that relate to any matter described in paragraph (b)(2) of this section.

(3) In making its showing of entitlement to a renewal expectancy, a renewal applicant may claim credit for any system modification applications that were pending on the date it filed its renewal application. Such credit will not be allowed if the modification application is dismissed or denied.

[60 FR 55485, Nov. 1, 1995]

Subpart V—Competitive Bidding Procedures for 800 MHz Specialized Mobile Radio Service

SOURCE: 61 FR 6159, Feb. 16, 1996, unless otherwise noted.

§ 90.901 800 MHz SMR spectrum subject to competitive bidding.

Mutually exclusive initial applications for Spectrum Blocks A, B, and C in the 800 MHz band are subject to competitive bidding procedures. The general competitive bidding procedures provided in part 1, subpart Q of this chapter will apply unless otherwise indicated in this subpart.

§ 90.902 Competitive bidding design for 800 MHz SMR licensing.

The Commission will employ a simultaneous multiple round auction design when selecting from among mutually exclusive initial applications for EA licenses for Spectrum Blocks A, B, and C in the 800 MHz band, unless otherwise specified by the Wireless Telecommunications Bureau before the auction.

§ 90.903 Competitive bidding mechanisms.

(a) *Sequencing.* The Wireless Telecommunications Bureau will establish and may vary the sequence in which 800 MHz SMR licenses for Spectrum Blocks A, B, and C will be auctioned.

(b) *Grouping.* All EA licenses for Spectrum Blocks A, B, and C will be auctioned simultaneously, unless the Wireless Telecommunications Bureau announces, by Public Notice prior to the auction, an alternative competitive bidding design.

(c) *Minimum bid increments.* The Wireless Telecommunications Bureau will, by announcement before or during an auction, require minimum bid increments in dollar or percentage terms.

(d) *Stopping rules.* The Wireless Telecommunications Bureau will establish stopping rules before or during the multiple round auctions in order to terminate an auction within a reasonable time.

(e) *Activity rules.* The Wireless Telecommunications Bureau will establish activity rules which require a minimum amount of bidding activity. In the event that the Commission establishes an activity rule in connection with a simultaneous multiple round auction, each bidder will be entitled to request and will be automatically granted a certain number of waivers of such rule during the auction.

§ 90.904 Aggregation of EA licenses for spectrum blocks A, B, and C.

The Commission will license each Spectrum Block A, B, and C in the 800 MHz band separately. Applicants may aggregate across spectrum blocks within the limitations specified in § 20.6 of this chapter.

§ 90.905 Withdrawal, default and disqualification payments.

(a) During the course of an auction conducted pursuant to § 90.902, the Commission will impose payments on bidders who withdraw high bids during the course of an auction, who default on payments due after an auction closes, or who are disqualified.

(b) *Bid withdrawal prior to close of auction.* A bidder who withdraws a high bid during the course of an auction will be subject to a payment equal to the difference between the amount bid and the amount of the winning bid the next time the license is offered by the Commission. No withdrawal payment would be assessed if the subsequent winning bid exceeds the withdrawn bid. This payment amount will be deducted from any upfront payments or down payments that the withdrawing bidder has deposited with the Commission.

(c) *Default or disqualification after close of auction.* If a high bidder defaults or is disqualified after the close of such an auction, the defaulting bidder will be subject to the payment in paragraph (b) of this section plus an additional monetary asssessment equal to three (3) percent of the subsequent winning bid. If the subsequent winning bid exceeds the defaulting bidder's bid amount, the 3 percent payment will be calculated based on the defaulting bidder's bid amount. These amounts will be deducted from any upfront payments or down payments that the defaulting or disqualified bidder has deposited with the Commission. If the default occurs within five (5) business days after the bidding has closed, the Commission retains the discretion to

offer the license to the second highest bidder at its final bid level, or if that bidder declines the offer, to offer the license to other bidders (in descending order of their bid amounts) at the final bid levels.

§90.906 Bidding application (FCC Form 175 and 175–S Short-form).

All applicants to participate in competitive bidding for 800 MHz SMR licenses in Spectrum Blocks A, B, and C must submit applications on FCC Forms 175 and 175–S pursuant to the provisions of §1.2105 of this chapter. The Wireless Telecommunications Bureau will issue a Public Notice announcing the availability of these 800 MHz SMR licenses and, in the event that mutually exclusive applications are filed, the date of the auction for those licenses. This Public Notice also will specify the date on or before which applicants intending to participate in a 800 MHz SMR auction must file their applications in order to be eligible for that auction, and it will contain information necessary for completion of the application as well as other important information such as the materials which must accompany the Forms, any filing fee that must accompany the application or any upfront payment that will need to be submitted, and the location where the application must be filed. In addition to identifying its status as a small business or rural telephone company, each applicant must indicate whether it is a minority-owned entity and/or a women-owned entity, as defined in §90.912(e).

§90.907 Submission of upfront payments and down payments.

(a) Bidders in the 800 MHz SMR auction for Spectrum Blocks A, B, and C will be required to submit an upfront payment of $0.02 per activity unit, in accordance with §1.2106 of this chapter.

(b) Winning bidders in a 800 MHz SMR auction for Spectrum Blocks A, B, and C must submit a down payment to the Commission in an amount sufficient to bring their total deposits up to 20 percent of their winning bids within five (5) business days after the auction closes, and the remaining balance due on the license shall be paid within five (5) business days after Public Notice announcing that the Commission is prepared to award the license.

§90.908 Long-form applications.

Each winning bidder will be required to submit a long-form application on FCC Form 600 within ten (10) business days after being notified by Public Notice that it is the winning bidder. Applications on FCC Form 600 shall be submitted pursuant to the procedures set forth in §90.119 of this part and any associated Public Notices. Only auction winners (and rural telephone companies seeking partitioned licenses pursuant to agreements with auction winners under §90.911) will be eligible to file applications on FCC Form 600 for initial 800 MHz SMR licenses in the event of mutual exclusivity between applicants filing FCC Form 175.

§90.909 License grant, denial, default, and disqualification for spectrum blocks A, B, and C.

(a) Except with respect to entities eligible for installment payments (*see* §90.912) each winning bidder will be required to pay the balance of its winning bid in a lump sum payment within five (5) business days following Public Notice that the license is ready for grant. The Commission will grant the license within ten (10) business days after receipt of full and timely payment of the winning bid amount.

(b) A bidder who withdraws its bid subsequent to the close of bidding, defaults on a payment due, or is disqualified, will be subject to the payments specified in §90.905 or §1.2109 of this chapter, as applicable.

(c) EA licenses pursued through competitive bidding procedures will be granted pursuant to the requirements specified in §90.166.

§90.910 Installment payments for licenses for spectrum blocks A, B, and C.

(a) Each licensee for Spectrum Blocks A, B, and C that qualifies as a small business may pay the remaining 90 percent of the net auction price for the license in quarterly installment payments pursuant to §1.2110(e) of this chapter. Licensees who qualify for installment payments are entitled to pay

their winning bid amount in installments over the term of the license, with interest charges to be fixed at the time of licensing at a rate equal to the rate for ten-year U.S. Treasury obligations plus 2.5 percent. Payments shall include both principal and interest amortized over the term of the license. An EA license issued to an eligible small business that elects installment payments will be conditioned on the full and timely performance of the license holder's quarterly payments. The additional following terms apply:

(1) An eligible licensee qualifying as a small business under §90.912(b)(1)(i) may make interest-only payments for five years. Interest will accrue at the Treasury note rate. Payments of interest and principal shall be amortized over the remaining five years of the license term.

(2) An eligible licensee qualifying as a small business under §90.912(b)(1)(ii) may make interest-only payments for the first two years of the license term. Interest will accrue at the Treasury note rate plus an additional 2.5 percent. Payments of interest and principal shall be amortized over the remaining eight years of the license term.

(b) *Unjust enrichment.* (1) If a licensee that utilizes installment financing under this section seeks to assign or transfer control of its license to an entity not meeting the eligibility standards for installment payments, the licensee must make full payment of the remaining unpaid principal and any unpaid interest accrued through the date of assignment or transfer as a condition of approval.

(2) If a licensee that utilizes installment financing under this section seeks to make any change in ownership structure that would result in the licensee losing eligibility for installment payments, the licensee shall first seek Commission approval and must make full payment of the remaining unpaid principal and any unpaid interest accrued through the date of such change as a condition of approval.

(3) If a licensee that utilizes installment financing under this section seeks to assign or transfer control of a license to an entity that does not qualify for as favorable an installment payment plan, the installment payment plan for which the acquiring entity qualifies will become effective immediately upon transfer.

§90.911 Procedures for partitioned licenses in spectrum blocks A, B, and C.

(a) Notwithstanding §90.661, a rural telephone company, as defined in §90.912, may be granted a 800 MHz SMR license that is geographically partitioned from a separately licensed EA, so long as the EA applicant or licensee has voluntarily agreed (in writing) to partition a portion of the license to the rural telephone company.

(b) If partitioned licenses are being applied for in conjunction with a license(s) to be awarded through competitive bidding procedures—

(1) The applicable procedures for filing short-form applications and for submitting upfront payments and down payments contained in this part and part 1 of this chapter shall be followed by the applicant, who must disclose as part of its short-form application all parties to agreement(s) with or among other entities to partition the license pursuant to this section, if won at auction (see §1.2105(a)(2)(viii) of this chapter);

(2) Each rural telephone company that is a party to an agreement to partition the license shall file a long-form application for its respective, mutually agreed-upon geographic area together with the application for the remainder of the EA filed by the auction winner.

(c) If the partitioned license is being applied for as a partial assignment of the EA license following grant of the initial license, request for authorization for partial assignment of a license shall be made pursuant to §90.153.

(d) Each application for a partitioned area (long-form initial application or partial assignment application) shall contain a partitioning plan that must propose to establish a partitioned area to be licensed that meets the following criteria:

(1) Conforms to established geopolitical boundaries (such as county lines);

(2) Includes the wireline service area of the rural telephone company applicant; and

(3) Is reasonably related to the rural telephone company's wireline service area.

NOTE TO PARAGRAPH (d)(3): A partitioned service area will be presumed to be reasonably related to the rural telephone company's wireline service area if the partitioned service area contains no more than twice the population overlap between the rural telephone company's wireline service area and the partitioned area.

(e) Each licensee in each partitioned area will be responsible for meeting the construction requirements in its area set forth in §90.685.

§90.912 Definitions for spectrum blocks A, B, and C.

(a) *Scope.* The definitions in this section apply to §§90.910 and 90.911, unless otherwise specified in those sections.

(b) *Small business: Consortium of small businesses.* (1) A small business is an entity that either:

(i) Together with its affiliates, persons or entities that hold attributable interests in such entity, and their affiliates, has average gross revenues that are not more than $3 million for the three preceding years; or

(ii) Together with its affiliates, persons, or entities that hold attributable interests in such entity, and their affiliates, has average gross revenues that are not more than $15 million for the preceding three years.

(2) For purposes of determining whether an entity meets the $3 million or $15 million average annual gross revenues size standard set forth in paragraph (b)(1) of this section, the gross revenues of the entity, its affiliates, persons, or entities holding interests in the entity and their affiliates shall be considered on a cumulative basis and aggregated, subject to the exceptions set forth in §90.912(h).

(3) A small business consortium is conglomerate organization formed as a joint venture between or among mutually-independent business firms, each of which individually satisfies the definition of a small business in paragraphs (b)(1) and (b)(2) of this section. In a consortium of small businesses, each individual member must establish its eligibility as a small business, as defined in this section.

(c) *Rural telephone company.* A *rural telephone company* is a local exchange carrier having 100,000 or fewer access lines, including all *affiliates.*

(d) *Gross revenues.* For applications filed after December 31, 1994, gross revenues shall be evidenced by audited financial statements for the preceding relevant number of calendar or fiscal years. If an entity was not in existence for all or part of the relevant period, gross revenues shall be evidenced by the audited financial statements of the entity's predecessor-in-interest or, if there is no identifiable predecessor-in-interest, unaudited financial statements certified by the applicant as accurate.

(e) *Businesses owned by members of minority groups and/or women.* A business owned by members of minority groups and/or women is one in which minorities and/or women who are U.S. citizens control the applicant, have at least 50.1 percent equity ownership and, in the case of a corporate applicant, a 50.1 percent voting interest. For applicants that are partnerships, every general partner either must be a minority and/or woman (or minorities and/or women) who are U.S. citizens and who individually or together own at least 50.1 percent of the partnership equity, or an entity that is 100 percent owned and controlled by minorities and/or women who are U.S. citizens. The interests of minorities and women are to be calculated on a fully-diluted basis; agreements such as stock options and convertible debentures shall be considered to have a present effect on the power to control an entity and shall be treated as if the rights thereunder already have been fully exercised. However, upon a demonstration that options or conversion rights held by non-controlling principals will not deprive the minority and female principals of a substantial financial stake in the venture or impair their rights to control the designated entity, a designated entity may seek a waiver of the requirement that the equity of the minority and female principals must be calculated on a fully-diluted basis.

(f) *Members of minority groups.* Members of minority groups includes Blacks, Hispanics, American Indians,

Alaskan Natives, Asians, and Pacific Islanders.

(g) *Attributable interests.* Partnership and other ownership interests and any stock interest amounting to 20 percent or more of the equity, or outstanding stock, or outstanding voting stock of a licensee or applicant will be attributable.

NOTE TO PARAGRAPH (g): Ownership interests that are held indirectly by any party through one or more intervening corporations will be determined by successive multiplication of the ownership percentages for each link in the vertical ownership chain and application of the relevant attribution benchmark to the resulting product, except that if the ownership percentages for an interest in any link in the chain exceeds 50 percent or represents actual control, it shall be treated as if it were a 100 percent interest.

(h) *Affiliate*—(1) *Basis for affiliation.* An individual or entity is an affiliate of an applicant or of a person holding an attributable interest in an applicant (both referred to herein as ''the applicant'') if such individual or entity:

(i) Directly or indirectly controls or has the power to control the applicant;

(ii) Is directly or indirectly controlled by the applicant;

(iii) Is directly or indirectly controlled by a third party or parties that also controls or has the power to control the applicant; or

(iv) Has an ''identity of interest'' with the applicant.

(2) *Nature of control in determining affiliation.* (i) Every business concern is considered to have one or more parties who directly or indirectly control or have the power to control it. Control may be affirmative or negative and it is immaterial whether it is exercised so long as the power to control exists.

Example for paragraph (h)(2)(i). An applicant owning 50 percent of the voting stock of another concern would have negative power to control such concern since such party can block any action of the other stockholders. Also, the bylaws of a corporation may permit a stockholder with less than 50 percent of the voting to block any actions taken by the other stockholders in the other entity. Affiliation exists when the applicant has the power to control a concern while at the same time another person, or persons, are in control of the concern at the will of the party or parties with the power of control.

(ii) Control can arise through stock ownership; occupancy of director, officer or key employee positions; contractual or other business relations; or combinations of these and other factors. A key employee is an employee who, because of his/her position in the concern, has a critical influence in or substantive control over the operations or management of the concern.

(iii) Control can arise through management positions where a concern's voting stock is so widely distributed that no effective control can be established.

Example for paragraph (h)(2)(iii). In a corporation where the officers and directors own various size blocks of stock totaling 40 percent of the corporation's voting stock, but no officer or director has a block sufficient to give him or her control or the power to control and the remaining 60 percent is widely distributed with no individual stockholder having a stock interest greater than 10 percent, management has the power to control. If persons with such management control of the other entity are persons with attributable interests in the applicant, the other entity will be deemed an affiliate of the applicant.

(3) *Identity of interest between and among persons.* Affiliation can arise between or among two or more persons with an identity of interest, such as members of the same family or persons with common investments. In determining if the applicant controls or is controlled by a concern, persons with an identity of interest will be treated as though they were one person.

Example 1. Two shareholders in Corporation Y each have attributable interests in the same SMR application. While neither shareholder has enough shares to individually control Corporation Y, together they have the power to control Corporation Y. The two shareholders with these common investments (or identity of interest) are treated as though they are one person and Corporation Y would be deemed an affiliate of the applicant.

Example 2. One shareholder in Corporation Y, shareholder A, has an attributable interest in a SMR application. Another shareholder in Corporation Y, shareholder B, has a nonattributable interest in the same SMR application. While neither shareholder has enough shares to individually control Corporation Y, together they have the power to control Corporation Y. Through the common investment of shareholders A and B in the

SMR application, Corporation Y would still be deemed an affiliate of the applicant.

(i) *Spousal affiliation.* Both spouses are deemed to own or control or have the power to control interests owned or controlled by either of them, unless they are subject to a legal separation recognized by a court of competent jurisdiction in the United States.

(ii) *Kinship affiliation.* Immediate family members will be presumed to own or control or have the power to control interests owned or controlled by other immediate family members. In this context ''immediate family member'' means father, mother, husband, wife, son, daughter, brother, sister, father- or mother-in-law, son- or daughter-in-law, brother- or sister-in-law, step-father, or -mother, step-brother, or -sister, step-son, or -daughter, half brother or sister. This presumption may be rebutted by showing that

(A) The family members are estranged,

(B) The family ties are remote, or

(C) The family members are not closely involved with each other in business matters.

Example for paragraph (h)(3)(ii). A owns a controlling interest in Corporation X. A's sister-in-law, B, has an attributable interest in an SMR application. Because A and B have a presumptive kinship affiliation, A's interest in Corporation X is attributable to B, and thus to the applicant, unless B rebuts the presumption with the necessary showing.

(4) *Affiliation through stock ownership.* (i) An applicant is presumed to control or have the power to control a concern if he or she owns or controls or has the power to control 50 percent or more of its voting stock.

(ii) An applicant is presumed to control or have the power to control a concern even though he or she owns, controls or has the power to control less than 50 percent of the concern's voting stock, if the block of stock he or she owns, controls or has the power to control is large as compared with any other outstanding block of stock.

(iii) If two or more persons each owns, controls or has the power to control less than 50 percent of the voting stock of a concern, such minority holdings are equal or approximately equal in size, and the aggregate of these minority holdings is large as compared with any other stock holding, the presumption arises that each one of these persons individually controls or has the power to control the concern; however, such presumption may be rebutted by a showing that such control or power to control, in fact, does not exist.

(5) *Affiliation arising under stock options, convertible debentures, and agreements to merge.* Stock options, convertible debentures, and agreements to merge (including agreements in principle) are generally considered to have a present effect on the power to control the concern. Therefore, in making a size determination, such options, debentures, and agreements will generally be treated as though the rights held thereunder had been exercised. However, neither an affiliate nor an applicant can use such options and debentures to appear to terminate its control over another concern before it actually does so.

Example 1 for paragraph (h)(5). If company B holds an option to purchase a controlling interest in company A, who holds an attributable interest in an SMR application, the situation is treated as though company B had exercised its rights and had become owner of a controlling interest in company A. The gross revenues of company B must be taken into account in determining the size of the applicant.

Example 2 for paragraph (h)(5). If a large company, BigCo, holds 70% (70 of 100 outstanding shares) of the voting stock of company A, who holds an attributable interest in an SMR application, and gives a third party, SmallCo, an option to purchase 50 of the 70 shares owned by BigCo, BigCo will be deemed to be an affiliate of company, and thus the applicant, until SmallCo actually exercises its options to purchase such shares. In order to prevent BigCo from circumventing the intent of the rule which requires such options to be considered on a fully diluted basis, the option is not considered to have present effect in this case.

Example 3 for paragraph (h)(5). If company A has entered into an agreement to merge with company B in the future, the situation is treated as though the merger has taken place.

(6) *Affiliation under voting trusts.* (i) Stock interests held in trust shall be deemed controlled by any person who holds or shares the power to vote such stock, to any person who has the sole power to sell such stock, and to any

person who has the right to revoke the trust at will or to replace the trustee at will.

(ii) If a trustee has a familial, personal or extra-trust business relationship to the grantor or the beneficiary, the stock interests held in trust will be deemed controlled by the grantor or beneficiary, as appropriate.

(iii) If the primary purpose of a voting trust, or similar agreement, is to separate voting power from beneficial ownership of voting stock for the purpose of shifting control of or the power to control a concern in order that such concern or another concern may meet the Commission's size standards, such voting trust shall not be considered valid for this purpose regardless of whether it is or is not recognized within the appropriate jurisdiction.

(7) *Affiliation through common management.* Affiliation generally arises where officers, directors, or key employees serve as the majority or otherwise as the controlling element of the board of directors and/or the management of another entity.

(8) *Affiliation through common facilities.* Affiliation generally arises where one concern shares office space and/or employees and/or other facilities with another concern, particularly where such concerns are in the same or related industry or field of operations, or where such concerns were formerly affiliated, and through these sharing arrangements one concern has control, or potential control, of the other concern.

(9) *Affiliation through contractual relationships.* Affiliation generally arises where one concern is dependent upon another concern for contracts and business to such a degree that one concern has control, or potential control, of the other concern.

(10) *Affiliation under joint venture arrangements.* (i) A joint venture for size determination purposes is an association of concerns and/or individuals, with interests in any degree or proportion, formed by contract, express or implied, to engage in and carry out a single, specific business venture for joint profit for which purpose they combine their efforts, property, money, skill and knowledge, but not on a continuing or permanent basis for conducting business generally. The determination whether an entity is a joint venture is based upon the facts of the business operation, regardless of how the business operation may be designated by the parties involved. An agreement to share profits/losses proportionate to each party's contribution to the business operation is a significant factor in determining whether the business operation is a joint venture.

(ii) The parties to a joint venture are considered to be affiliated with each other.

§ 90.913 Eligibility for small business status for spectrum blocks A, B, and C.

(a) *Short-form applications: Certifications and disclosure.* Each applicant for an EA license for Spectrum Blocks A, B, or C which qualifies as a small business or consortium of small businesses shall append the following information as an exhibit to its short-form application (FCC Form 175):

(1) The identity of the applicant's affiliates, persons or entities that hold attributable interests in such entity, and their affiliates, and, if a consortium of small businesses, the members of the joint venture; and

(2) The applicant's gross revenues, computed in accordance with § 90.912.

(b) *Long-form applications: Certifications and disclosure.* In addition to the requirements in this subpart, each applicant submitting a long-form application for license(s) for Spectrum Blocks A, B, or C and qualifying as a small business shall, in an exhibit to its long-form application:

(1) Disclose separately and in the aggregate the gross revenues, computed in accordance with § 90.912, for each of the following: the applicant, the applicant's affiliates, the applicant's attributable investors, affiliates of its attributable investors, and, if a consortium of small businesses, the members of the joint venture;

(2) List and summarize all agreements or other instruments (with appropriate references to specific provisions in the text of such agreements and instruments) that support the applicant's eligibility as a small business under §§ 90.910 and 90.911, including the establishment of de facto and de jure

control; such agreements and instruments include articles of incorporation and bylaws, shareholder agreements, voting or other trust agreements, franchise agreements, and any other relevant agreements (including letters of intent), oral or written; and

(3) List and summarize any investor protection agreements, including rights of first refusal, supermajority clauses, options, veto rights, and rights to hire and fire employees and to appoint members to boards of directors or management committees.

(c) *Records maintenance.* All winning bidders qualifying as small businesses, shall maintain at their principal place of business an updated file of ownership, revenue and asset information, including any document necessary to establish eligibility as a small business and/or consortium of small businesses under §90.912. Licensees (and their successors in interest) shall maintain such files for the term of the license.

(d) *Audits.* (1) Applicants and licensees claiming eligibility as a small business and/or consortium of small businesses under §§90.910 and 90.911 shall be subject to audits by the Commission, using in-house and contract resources. Selection for audit may be random, on information, or on the basis of other factors.

(2) Consent to such audits is part of the certification included in the short-form application (FCC Form 175). Such consent shall include consent to the audit of the applicant's or licensee's books, documents and other material (including accounting procedures and practices) regardless of form or type, sufficient to confirm that such applicant's or licensee's representations are, and remain, accurate. Such consent shall include inspection at all reasonable times of the facilities, or parts thereof, engaged in providing and transacting business, or keeping records regarding licensed 800 MHz SMR service and shall also include consent to the interview of principals, employees, customers and suppliers of the applicant or licensee.

(3) *Definitions.* The terms affiliate, attributable interests, consortium of small businesses, gross revenues, small business used in this section are defined in §90.912.

PART 94—[Reserved]

PART 95—PERSONAL RADIO SERVICES

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AUTHORITY: Secs. 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303.

Subpart A—General Mobile Radio Service (GMRS)

SOURCE: 48 FR 35237, Aug. 3, 1983, unless otherwise noted.

GENERAL PROVISIONS

§ 95.1 The General Mobile Radio Service (GMRS).

(a) The *GMRS* is a land mobile radio service available to persons for short-distance two-way communications to facilitate the activities of licensees and their immediate family members. Each licensee manages a system consisting of one or more stations.

(b) Any entity eligible for licensing under this subpart is eligible to obtain an authorization in the 31.0 to 31.3 GHz band for personal communications, provided that the technical standards applicable to the band (as set out in part 94) are observed. (Individuals applying for stations in the 31.0 to 31.3 GHz band for personal communications shall use application Form 402.)

(c) The Interactive Video and Data Service (IVDS) is a two-way point-to-multipoint radio service intended for system licensees to provide information, products, and services, and to obtain responses from, subscribers in a specific service area. The rules for this service are contained in subpart F of this part.

[48 FR 35237, Aug. 3, 1983, as amended at 50 FR 7345, Feb. 22, 1985; 53 FR 47714, Nov. 25, 1988; 57 FR 8275, Mar. 9, 1992]

§ 95.3 License required.

Before any station transmits on any channel authorized in the GMRS from any *point* (a geographical location) within or over the territorial limits of any area where radio services are regulated by the FCC, the responsible party must obtain a *license* (a written authorization from the FCC for a GMRS system).

[53 FR 47714, Nov. 25, 1988]

§ 95.5 License eligibility.

An *individual* (one man or one woman) is eligible to obtain, renew and have modified a GMRS system license if that individual is 18 years of age or older and is not a representative of a foreign government. A *non-individual* (an entity other than an individual) is ineligible to obtain a new GMRS system license or to make a major modification to an existing GMRS system licenses (see § 95.71(e)). Certain non-individuals are eligible to renew existing GMRS system license (see § 95.89 (c) and (d)).

[53 FR 47714, Nov. 25, 1988; 53 FR 51625, Dec. 22, 1988]

§ 95.7 Channel sharing.

(a) Channels or channel pairs are available to GMRS systems only on a shared basis and will not be assigned for the exclusive use of any licensee. All station operators and GMRS system licensees must cooperate in the selection and use of channels to reduce interference and to make the most effective use of the facilities.

(b) Licensees of GMRS systems suffering or causing harmful interference are expected to cooperate and resolve this problem by mutually satisfactory arrangements. If the licensees are unable to do so, the FCC may impose restrictions including specifying the transmitter power, antenna height, or area or hours of operation of the stations concerned. Further, the use of any frequency at a given geographical location may be denied when, in the judgment of the FCC, its use in that location is not in the public interest; the use of any channel or channel pair may

be restricted as to specified geographical areas, maximum power, or other operating conditions (see §95.71(d)).

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47715, Nov. 25, 1988]

CONSIDERATIONS WHEN PLANNING A GMRS SYSTEM

§95.21 GMRS system description.

(a) *A GMRS system* is one or more transmitting units used by station operators to communicate messages. A GMRS system is comprised of:

(1) One or more station operators;

(2) One mobile station consisting of one or more mobile units (see §95.23);

(3) One or more land stations (optional); and

(4) Paging receivers (optional).

(b) In certain areas, point-to-point GMRS systems may be comprised of fixed stations only (see §§95.47, 95.49 and 95.61).

(c) A GMRS system may be operated in:

(1) *Simplex mode.* (Only one station operator can speak at a time.)

(2) *Duplex mode.* (Two station operators can speak at the same time. One or more stations transmit on one channel. The other station(s) transmit(s) on the channel pair counterpart.)

(3) *A combined simplex-duplex mode.* (E.g., a mobile relay system with mobile units operating in simplex mode on a channel pair.)

§95.23 Mobile station description.

(a) A *mobile station* is one or more units which transmit while moving or during temporary stops at unspecified points.

(b) A mobile station unit may transmit from any point within or over any areas where radio services are regulated by the FCC *except* where additional considerations apply (see §§95.37 through 95.49).

(c) A mobile station unit may transmit from an aircraft or ship, with the captain's permission, which is:

(1) Within or over any area where radio services are regulated by the FCC *except* where additional restrictions apply; and

(2) On or over international waters, if the unit is transmitting from an aircraft or ship of United States registry.

(d) A mobile station unit must not transmit from points within or over the territorial limits of any area where radio services are regulated only by:

(1) A foreign government; or

(2) A United States government agency other than the FCC.

[48 FR 35237, Aug. 3, 1983, as amended at 49 FR 4003, Feb. 1, 1984]

§95.25 Land station description.

(a) A *land station* is a unit which transmits only from:

(1) An exact point as shown on the license; or

(2) An unspecified point within an *operating area* (an area within a circle centered on a point chosen by the applicant) as shown on the license, for a *temporary period* (one year or less).

(b) The point from which every land station transmits must be within an area where radio services are regulated by the FCC.

(c) Each land station is classified according to its *communications points* (the other stations or paging receivers to which the station operator communicates messages). There are four *land station classes:*

(1) Base station (see §95.55);

(2) Mobile relay station (see §95.57);

(3) Control station (see §95.59); and

(4) Fixed station (see §95.61).

(d) A *small control station* is any control station which:

(1) Has an antenna no more than 6.1 meters (20 feet) above the ground or above the building or tree on which it is mounted (see §95.51); and

(2) *Is:* (i) South of Line A or west of Line C (see §95.37); or

(ii) North of Line A or east of Line C, and the station transmits with no more than 5 watts *ERP* (effective radiated power).

(e) A *small base station* is any base station that:

(1) Has an antenna no more than 6.1 meters (20 feet) above the ground or above the building or tree on which it is mounted (see §95.51); and

(2) Transmits with no more than 5 watts ERP.

(f) A land station may be licensed to transmit as more than one station class. (*Example:* A land station is licensed as both a base station and a

control staton. When it is transmitting as a base station its communication points are those of a base station (see § 95.55). When it is transmitting as a control station its communication points are those of a control station (see § 95.59).)

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47715, Nov. 25, 1988; 53 FR 51625, Dec. 22, 1988]

§ 95.27 Paging receiver description.

A *paging receiver* is a unit capable of receiving the radio signals from a base station for the bearer to hear a *page* (someone's name or other identifier said in order to find, summon or notify him/her) spoken by the base station operator.

§ 95.29 Channels available.

(a) The licensee of the GMRS system must select the transmitting channel or channel pair for the stations in the GMRS system from the following lists:

(1) For a base station, mobile relay station, fixed station or mobile station, the following 462 *MHz* (megahertz) channels;

462.5500, 462.5750, 462.6000, 462.6250, 462.6500, 462.6750, 462.7000 and 462.7250.

(2) For a mobile station, control station or fixed station operated in the duplex mode, the following 467 MHz channels:

467.5500, 467.5750, 467.6000, 467.6250, 467.6500, 467.6750, 467.7000, and 467.7250.

(3) As of December 31, 1993, the 467 MHz channels may be used only to transmit communications through a mobile relay station and for remotely controlling a mobile relay station. As of December 31, 1993, no station in a GMRS system may transmit communications *directly* (not through a mobile relay station) on the 467 MHz channels.

(b) The FCC will normally assign only one channel or one *channel pair* (one 462 MHz channel and its counterpart 5 MHz spaced 467 MHz channel) to a GMRS system comprised of stations intended for operation in the simplex mode. A second channel or channel pair will be assigned at the request of the applicant.

(c) The FCC will normally assign only one channel pair to a GMRS system comprised of stations intended for operation in the duplex mode. A second channel pair will be assigned at the request of the applicant.

(d) No GMRS system may be assigned more than two channels or channel pairs. Stations in certain GMRS systems may, however, also transmit on additional frequencies listed in the following paragraphs, in accord with the conditions specified.

(e) Mobile stations in a GMRS system licensed to an individual that is not specifically authorized for the 462.675 MHz/467.675 MHz channel pair may transmit on that channel pair with the following limitations:

(1) The communications must be for the purpose of soliciting or rendering assistance to a traveler, or for communicating in an emergency pertaining to the immediate safety of life or the immediate protection of property; and

(2) The frequency 467.675 MHz may be used only for the purposes of accessing and communicating through a mobile relay station transmitting on 462.675 MHz.

(f) Except for a GMRS system licensed to a non-individual, a mobile station or a small base station operating in the simplex mode may transmit on the following 462 MHz interstitial channels:

462.5625, 462.5875, 462.6125, 462,6375, 462.6625, 462.6875 and 462.7125.

These channels may be used only under the following conditions:

(1) Only voice type emissions may be transmitted;

(2) The station does not transmit one-way pages; and

(3) The station transmits with no more than 5 watts ERP.

(g) Fixed stations in GMRS systems authorized before March 18, 1968, located 160 kilometers (100 miles) or more from the geographic center of urbanized areas of 200,000 or more population as defined in the U.S. Census of Population, 1960, Vol. 1, Table 23, page 50 that were authorized to transmit on channels other than those listed in this section may continue to transmit on their originally assigned channels provided that they cause no interference to the operation of stations in any of

the part 90 private land mobile radio services.

[53 FR 47715, Nov. 25, 1988]

§95.31 Overlap of GMRS systems.

An entity may not have a base station or a mobile relay station for that entity's GMRS system within 64.4 kilometers (40 miles) of a base station or a mobile relay station for another GMRS system licensed to the same entity. Base stations and mobile relay stations licensed to the same entity in two different GMRS systems less than 64.4 kilometers (40 miles) apart which were authorized prior to October 16, 1983 are not subject to the provisions of this rule.

[48 FR 35237, Aug. 3, 1983, as amended at 49 FR 4003, Feb. 1, 1984]

§95.33 Cooperative use of radio stations in the GMRS.

(a) *Licensees* (a licensee is the entity to which the license is issued) of radio stations in the GMRS may share the use of their stations with other entities eligible in the GMRS, subject to the following conditions and limitations.

(1) The station to be shared must be individually owned by the licensee, jointly owned by the participants and the licensee, leased individually by the licensee, or leased jointly by the participants and the licensee.

(2) The licensee must maintain access to and control over all stations authorized under its license.

(3) A station may be shared only:

(i) Without charge;

(ii) On a non-profit basis, with contributions to capital and operating expenses including the cost of mobile stations and paging receivers prorated equitably among all participants; or

(iii) On a reciprocal basis, i.e., use of one licensee's stations for the use of another licensee's stations without charge for either capital or operating expenses.

(4) All sharing arrangements must be conducted in accordance with a written agreement to be kept as part of the station records.

(b) Participants in a cooperatively shared GMRS mobile relay or base station may obtain a license for their own mobile station(s), provided that the licensee of the shared GMRS station consents in writing to the issuance of such authorization.

§95.35 Multiple licensing of radio transmitting equipment in the GMRS.

Two or more persons licensed in the GMRS may use the same transmitting equipment under the following terms and conditions:

(a) Each licensee complies with the general operating requirements set out in §§95.171 through 95.181 of the rules; and

(b) Each licensee must have access to the transmitter for which the licensee is authorized.

§95.37 Considerations near the Canadian border.

The United States and the Government of Canada coordinate channel assignments to certain radio stations in areas along their common borders north of Line A and east of Line C. (See §1.955 of the FCC Rules.)

§95.39 Considerations near FCC monitoring facilities.

The FCC may impose additional restrictions on a land station in a GMRS system if it is at a point within 4.8 kilometers (3 miles) of an FCC monitoring facility and the station's transmissions degrade, obstruct, or repeatedly interrupt the operation of the equipment at the FCC monitoring facility. Before applying for license to put a land station at such a point, or before applying to change anything in a station already licensed for such a point, you should consult the FCC by writing to the Chief, Compliance and Information Bureau, Federal Communications Commission, Washington, DC 20554.

[53 FR 47715, Nov. 25, 1988, as amended at 60 FR 50123, Sept. 28, 1995; 61 FR 8478, Mar. 5, 1996]

§95.41 Considerations in the National Radio Quiet Zone.

(a) The FCC may impose additional restrictions on a land station in a proposed GMRS system, or on one in a GMRS system proposed for modification, if the station is proposed for or located at a point within the *National Radio Quiet Zone* (an area within the

States of Maryland, Virginia and West Virginia). The Zone is the area bounded by:

(1) 39°15′ N. on the North;

(2) 78°30′ W. on the East;

(3) 37°30′ N. on the South; and

(4) 80°30′ W. on the West.

(b) When applying for a license to put a land station at a point in the National Radio Quiet Zone, or when applying to change certain details in a station already licensed for such a point, the applicant must send a notice to the National Radio Astronomy Observatory (see § 95.79).

(c) Restrictions may be imposed if the National Radio Astronomy Observatory files an objection with the FCC within 20 days after the application is filed with the FCC.

§ 95.43 Environmental considerations.

An application for AMRS system that includes a local station which may have a significant impact upon the environment, as specified in § 1.1307 of this chapter, must be accompanied by an environmental assessment as set forth in § 1.1311 of this chapter.

[55 FR 20398, May 16, 1990]

§ 95.45 Considerations on Department of Defense land.

The Department of Defense may impose additional restrictions on a station transmitting on its land. (Before applying to place or modify a station at such a point, an applicant should consult with the commanding officer in charge of the land.)

§ 95.47 Considerations in large urban areas.

(a) No fixed station may be at any point within a large urban area.

(b) A control station at a point within a large urban area must have:

(1) A directional antenna (at least 15 decibel front-to-back ratio); and

(2) No more transmitter power than determined by a *control station power test* (a test to determine the appropriate transmitter power (see appendix A)).

(c) Where these rules use the term *large urban area*, it means a circular region extending out 121 kilometers (75 miles) in all directions around the geographic center of certain cities.

(d) The large urban areas and their geographic centers are shown in appendix B.

(e) Control stations and fixed stations authorized before October 16, 1983 located beyond 121 kilometers (75 miles) of the geographic center of urbanized areas of 200,000 or more population as defined in the U.S. Census of Population, 1960, Vol. 1, table 23, page 50, are not subject to the restrictions of this rule section.

§ 95.49 Considerations near large urban areas.

(a) A fixed station at a point near a large urban area must have:

(1) A directional antenna (at least 15 decibel front-to-back ratio); and

(2) No more than 15 watts transmitter power output.

(b) Where these rules use the term *near a large urban area*, it means the region within a circular band around a large urban area. The band is 40 kilometers (25 miles) wide. It begins at the rim of the large urban area, and extends out 161 kilometers (100 miles) around the geographic center of the city.

(c) Fixed stations authorized before October 16, 1983 located beyond 161 kilometers (100 miles) of the geographic center of urbanized areas of 200,000 or more population as defined in the U.S. Census of Population, 1960, Vol. 1, table 23, page 50, are not subject to the restrictions of this rule section.

§ 95.51 Antenna height.

(a) A land station *antenna* (the land station's radiating structure (for transmitting, receiving or both), including the tower, mast or pole supporting it and everything attached to the structure) must not be a hazard to aircraft. The licensee of a GMRS system must get FCC permission (see § 95.83) before the uppermost tip of an antenna may be higher than normally allowed in paragraphs (b), (c) and (d) of this section.

(b) Regardless of any other requirement of this section, an antenna may always be at least:

(1) 6.1 meters (20 feet) above the ground or above the building or tree upon which the antenna is mounted; or

(2) Equal to the height of an existing antenna to which the land station antenna is attached.

(c) The antenna may be as high as 61 meters (200 feet) above the ground, unless it will be within 6.1 kilometers (20,000 feet) of an airport or heliport.

(d) If the antenna is near an airport or heliport listed in the FAA's (Federal Aviation Administration's) Airport Facilities Directory, or near an airport or heliport operated by the Department of Defense, it must not be higher than:

(1) One meter higher than the airport elevation for every 100 meters from the nearest runway if the runway is longer than one kilometer (3,281 feet), and is within 6.1 kilometers (20,000 feet) of the antenna; or

(2) Two meters higher than the airport elevation for every 100 meters from the nearest runway if the runway is no longer than one kilometer (3,281 feet), and is within 3.1 kilometers (10,000 feet) of the antenna; or

(3) Four meters higher than the heliport elevation for every 100 meters from the nearest landing pad if the pad is within 1.5 kilometers (5,000 feet) of the antenna.

(e) If the FCC grants permission to put an antenna higher than normally allowed in paragraphs (b), (c) and (d) of this section, the licensee may have to mark the antenna with bright paint and light it up at night (see part 17 of the FCC Rules).

(f) The antenna for a small base stations or for a small control station must not be more than 6.1 meters (20 feet) above the ground or above the building or tree on which it is mounted.

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47715, Nov. 25, 1988]

§95.53 Mobile station communication points.

(a) A mobile station unit may transmit communications directly to:

(1) Other mobile station units in the same GMRS system;

(2) Mobile station units in any other GMRS system;

(3) A base station in the same GMRS system; and

(4) A base station in any other GMRS system;

(b) A mobile station unit may transmit communications through a mobile relay station in the same GMRS system to:

(1) Other mobile station units in the same GMRS system;

(2) Control stations in the same GMRS system; and

(3) Mobile station units in any other GMRS system.

(c) A mobile station unit authorized to transmit on a channel assigned to a mobile relay station in another GMRS system may transmit communications through that mobile relay station to:

(1) Mobile station units in the other GMRS system; and

(2) Control stations in the other GMRS system.

(d) A mobile station unit in a GMRS system licensed to an individual authorized to transmit on a channel assigned to a mobile relay station in another GMRS systgem may transmit communications through that mobile relay station with the permission of the licensee of the other GMRS system to:

(1) Other mobile station units in the same GMRS system; and

(2) Mobile station units in another GMRS system having permission to transmit communications through the mobile relay station.

(e) A mobile station unit must not transmit communications to:

(1) Any fixed station;

(2) Any control station, directly;

(3) Any station in the Amateur Radio Service;

(4) Any unauthorized station; or

(5) Any foreign station.

(f) A mobile station unit must not transmit communications through a mobile relay station in another GMRS system, for retransmission to:

(1) Other mobile station units in its own GMRS system, unless:

(i) The mobile station units are in a GMRS system licensed to an individual; and

(ii) The licensee of the other GMRS system has given permission to use the mobile relay station for this purpose.

(2) A control station in its own GMRS system; or

(3) Any station in any GMRS system other than the system which includes the mobile relay station.

(g) A mobile station unit may transmit communications as a radio control link (see §95.127) to a remotely controlled station.

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47715, Nov. 25, 1988]

§95.55 Base station communication points.

(a) A base station may transmit communications directly to:

(1) Mobile station units in the same GMRS system;

(2) Mobile station units in any other GMRS system; and

(3) Paging receivers in the same GMRS system.

(b) A base station must not transmit communications to:

(1) Any mobile relay station;

(2) Any base station;

(3) Any paging receiver not in the same GMRS system;

(4) Any fixed station;

(5) Any control station;

(6) Any station in the Amateur Radio Service;

(7) Any unauthorized station; or

(8) Any foreign station.

§95.57 Mobile relay station communication points.

(a) A mobile relay station in a GMRS system may *automatically* (without immediate thought or action by the station operator) retransmit communications between:

(1) A mobile station unit in the same GMRS system and:

(i) Another mobile station unit in the same GMRS system; or

(ii) A control station in the same GMRS system.

(2) A mobile station unit in any other GMRS system and:

(i) Another mobile station unit in the same GMRS system as the mobile relay station; or

(ii) A control station in the same GMRS system as the mobile relay station.

(b) A mobile relay station in a GMRS system must not automatically retransmit communications between:

(1) A mobile station unit in any other GMRS system *and* another unit of the same mobile station, unless:

(i) The other GMRS system is licensed to an individual; and

(ii) The licensee of the GMRS system with the mobile relay station has given permission to use the mobile relay station for this purpose;

(2) Any control station *and* any other control station;

(3) Any other mobile relay station *and* any station;

(4) Any base station *and* any station; or

(5) Any fixed station *and* any station.

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47716, Nov. 25, 1988]

§95.59 Control station communication points.

(a) A control station may transmit communications as a radio control link (see §95.127) to a remotely controlled station.

(b) A control station may transmit communications through a mobile relay station to:

(1) Mobile station units in the same GMRS system as the control station; and

(2) Mobile station units in any other GMRS system.

(c) A control station must not transmit communications to any other station.

§95.61 Fixed station communication points.

(a) A fixed station may transmit communications from the point authorized for it on the license to another fixed station in the same GMRS system at the point authorized for it on the license.

(b) A fixed station must not transmit communications to any other station.

APPLYING FOR A GMRS SYSTEM LICENSE

§95.71 Applying for a new or modified license.

(a) An individual applies for a license for a new GMRS system by filling out an application form and attaching all additional information required. An individual applies to modify a license for an existing GMRS system using the same form and in the same manner as applying for a new GMRS system. Individuals should submit their applications, together with the filing fee, to the address specified in the Private Radio Services Fee Filing Guide.

(b) An applicant for a General Mobile Radio Service system license, sharing a multiply-licensed mobile relay station, may operate the system for a period of 180 days, under a Temporary Permit, evidenced by a properly-executed certification made on FCC Form 574–T, after mailing FCC Form 574 to the Commission.

(c) The application will be returned to the applicant if it is defective. An application is *defective* if:

(1) The form is not completely filled out;

(2) All necessary additional information is not included; or

(3) All necessary certifications have not been made (see, e.g., §95.75 (g)(2), (o) and (p)).

(d) The Commission may, without a hearing, grant an application in part or subject to terms or conditions or with privileges other than those requested. Such an action is presumed to be a grant of the application unless the applicant files a written rejection of the grant as made within 30 days from the date of the grant or the effective date of the grant, whichever is later. If the Commission receives rejection of such a grant, the Commission will vacate its original action and will set the application for hearing.

(e) A non-individual may not obtain a new GMRS system license. A non-individual that held a GMRS system license issued before July 31, 1987, may not make the following major modifications:

(1) Change the area of operation of the GMRS system;

(2) Add any stations to the GMRS system;

(3) Increase the number of units of the mobile station;

(4) Change the location of any land station in the GMRS system;

(5) Add one or more channels or channel pairs and/or change the assigned channel(s) or channel pair(s);

(6) Increase the transmitter power of an station in the GMRS system; or

(7) Increase the height of a station antenna in the GMRS system.

(f) A GMRS system licensee may notify the FCC of a change of name or a change of mailing address by sending a letter to the Federal Communications Commission, 1270 Fairfield Road, Gettysburg, PA 17325–7245. This does not, however, permit GMRS system license transferability (see §95.109). Nor does this suffice for corporate transfer of control—the provisions of §95.111 apply instead.

[43 FR 54791, Nov. 22, 1978, as amended at 52 FR 10232, Mar. 31, 1987; 53 FR 47716, Nov. 25, 1988; 53 FR 51625, Dec. 22, 1988; 55 FR 51908, Dec. 18, 1990]

§95.72 Applying for an STA or waiver of the rules.

Applicants requesting an STA or waiver of the rules should submit their requests, together with the filing fee, to the address specified in the Wireless Telecommunications Bureau Fee Filing Guide.

[60 FR 50123, Sept. 28, 1995]

§95.73 System licensing.

(a) Application for a license for a new GMRS system or application to modify a licensed GMRS system is made on Form 574. The applicant must follow the *Instructions for Completion of FCC Form 574* (available at FCC Field Offices).

(b) One set of forms must be used for each system the applicant wants the FCC to license.

(c) One form must be used to apply for the following stations in a GMRS system:

(1) The mobile station;

(2) All small base stations (see §95.25(e));

(3) All small control stations (see §95.25(d)); and

(4) All other land stations (at no more than 6 locations).

(d) An additional form must be used to apply for every six land stations in a GMRS system that cannot be listed in the preceding form.

(e) Form 574–T, Temporary Permit for a General Mobile Radio Service System, should be used if applicant is eligible and desires to operate the station pending the processing of the application. (See also §95.71(b).)

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47716, Nov. 25, 1988]

§ 95.75 Basic information.

The following information is required in all applications for a license for a new or modified GMRS system:

(a) Applicant's name (see § 95.5);

(b) Applicant's *mailing address* (an address in the United States where mail from the FCC can be received);

(c) Transmitting channel or channel pair requested (see § 95.29);

(d) Station class;

(e) Number of transmitter units in a mobile station (see § 95.23);

(f) Number of land stations in each class (see § 95.25);

(g) Transmitter power as follows:

(1) Transmitter output power in watts for all stations.

(2) Station ERP in watts for all stations other than mobile stations, small base stations and small control stations.

(h) Each land station point (except small base stations and small control stations):

(1) Latitude and longitude within one second; and

(2) Street address (if none, local directions to the station);

(i) Each control point for each remotely controlled land station (see § 95.127), including small base stations and small control stations:

(1) Street address (if none, local directions to the control point); or

(2) Call sign of any control station already licensed to the applicant for that point;

(j) Antenna height (see § 95.51) and antenna ground elevation for each land station, except for small base stations and small control stations;

(k) Communication services (see § 95.101(c)) the proposed GMRS system would provide to, or receive from, any other individual or entity;

(l) Age eligibility statement (where required—see § 95.5);

(m) Area of operation;

(n) *Emission designator.* In the GMRS, emission F3E will be considered to include use of a *selective calling tone, or a tone or digitally operated squelch* (a tone code used to address a particular station) in conjunction with voice communications;

(o) Foreign government certification, if applicable (see § 95.5);

(p) Frequency claim waiver certification, if applicable; and

(q) Applicant's signature (see § 95.87).

[48 FR 35237, Aug. 3, 1983, as amended at 49 FR 4003, Feb. 1, 1984; 53 FR 47716, Nov. 25, 1988]

§ 95.77 Additional information for GMRS systems with land stations at four or more locations.

(a) An application for a new or modified GMRS system having land stations (except for small control stations or small base stations) at 4 or more locations must include a *functional system diagram* (a drawing showing details of the GMRS system, including the points between which communications with other stations in the system will be exchanged.)

(b) [Reserved]

(c) A copy of the functional system diagram must be kept as part of the GMRS system records (§ 95.113).

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47716, Nov. 25, 1988]

§ 95.79 Additional information for stations in the National Radio Quiet Zone.

An application for a license for a new or modified GMRS system having a land station at a point within the National Radio Quite Zone (see § 95.41) must:

(a) Send a notice to:

Director, National Radio Astronomy Observatory
P.O. Box 2
Green Bank, WV 24944

(b) Provide the following details about the proposed station in the notice:

(1) Antenna point (latitude and longitude);

(2) Antenna height;

(3) Antenna directivity;

(4) Transmitting channel(s);

(5) Emission; and

(6) Transmitter output.

(c) Include in the application to the FCC the date the notice was sent to the Observatory.

§95.83 Additional information for stations with antennas higher than normally allowed.

(a) An applicant for a license for a new or modified GMRS system seeking permission to have a land station antenna higher than normally allowed (see §95.51) must:

(1) Request (on FCC Form 574) an antenna height greater than normally allowed; and

(2) Notify the Federal Aviation Administration (on FAA Form 7460–1) that the antenna would be higher than normally allowed.

(3) Register the structure by submitting FCC Form 854. The requirements for antenna structure registration, painting, and lighting are found in part 17 of this chapter.

(b) Each base station and each control station with an antenna height greater than 6.1 meters (20 feet) must be separately identified on Form 574 (see §§95.25 (d) and (e) and 95.51(f)).

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47716, Nov. 25, 1988; 61 FR 4369, Feb. 6, 1996]

§95.85 Additional information for stations near United States borders.

For a new or modified GMRS system having a land station at a point north of line A, east of line C, or at any point close to any United States border where interference to a station in another country could occur, an applicant may include additional data on FCC Form 574–B if the land station:

(a) Does not have vertical polarization;

(b) Does not have an omnidirectional azimuth;

(c) Has an associated control station with other than a directional antenna having its azimuth of maximum radiation directed towards the land station;

(d) Has an associated control station with other than 20 degrees beamwidth; or

(e) Is part of a GMRS system that includes stations or units intended for communication with stations or units in other GMRS systems or in other radio services.

Provision of this information will enable the Commission to seek greater interference protection for the station from foreign stations.

[49 FR 4003, Feb. 1, 1984]

§95.87 Who may sign applications.

See part 1 of this chapter, §1.913, for practices and procedures governing signatures on license applications.

[58 FR 21407, Apr. 21, 1993]

§95.89 Renewing a license.

(a) The licensee of a GMRS system may apply to the FCC to renew the license for another term (*see* §95.105) by filling out FCC Form 574–R (or FCC Form 405–A when the licensee has not gotten FCC Form 574–R within 30 days of the expiration of the license), and sending it, together with the filing fee, to the address specified in the Private Radio Services Fee Filing Guide (unless the licensee is a governmental entity, in which case the renewal application should be sent to the Federal Communications Commission, 1270 Fairfield Road, Gettysburg, PA 17325–7245).

(b) If the renewal application is sent to the FCC before the existing license term expires, the renewal application is timely filed. Except for GMRS systems whose licenses may not be renewed (see §95.89 (c)(3) and (d)), stations in a GMRS system whose application is timely filed may continue to transmit under the expired license until the FCC acts on the renewal application. A copy of the renewal application sent to the FCC must be kept in the GMRS system records (see §95.113) until the renewed license, or notification of other FCC action, is received.

(c) A GMRS system licensed to a non-individual before July 31, 1987, is eligible to renew that license and all subsequent licenses based upon it if:

(1) The non-individual is:

(i) A partnership, and each partner is 18 years of age or older;

(ii) A corporation;

(iii) An association;

(iv) A state, territorial or local government unit; or

(v) Other legal entity;

(2) The non-individual is not:

(i) A foreign government;

(ii) A representative of a foreign government; or

(iii) A federal government agency; and

(3) The licensee has not been granted any of the modifications to its GMRS system license specified in § 95.71(e).

(d) A GMRS system licensed to a non-individual on or after July 31, 1987, may not be renewed.

(e) If a GMRS system license is allowed to expire, the former licensee may file an application to reinstate the expired license within six months after the expiration date. The application to reinstate must be accompanied by a renewal application. An expired GMRS system license for which a timely renewal application has not been filed is not valid. No station of such a GMRS system may transmit until the licensee has received a new GMRS system license based on the late-filed renewal application.

[53 FR 47716, Nov. 25, 1988, as amended at 55 FR 51909, Dec. 18, 1990]

MANAGING A GMRS SYSTEM

§ 95.101 What the license authorizes.

(a) A license authorizes the licensee to manage the GMRS system only as:

(1) The Rules require;

(2) The license specifies;

(3) Proposed by the entity in the license application; and

(4) Shown on the functional system diagram (where applicable).

(b) The license does not authorize operation as a common carrier or communication of messages for pay.

(c) If the licensee is a corporation and the license so indicates, it may use its GMRS system to furnish non-profit radio communication service to its parent corporation, to another subsidiary of the same parent, or to its own subsidiary. Such use is not subject to the cooperative use provisions of § 95.33.

§ 95.103 Licensee duties.

(a) The licensee is responsible for the proper operation of the GMRS system at all times.

(b) The licensee must have access to the station equipment and be able to disable it. A licensee using multiple licensed transmitting equipment may satisfy this requirement by entering an arrangement with other licensees using the same equipment to select one of their number to have primary access responsibility.

(c) When the information about the licensee stated on the license changes, the licensee must take the following step(s):

(1) The licensee must notify the FCC in writing in the event of a name or mailing address change (see § 95.117(b)). The notice must show the name and mailing address as they appear on the license, the station call sign(s), and the new name or new mailing address. A copy of the notice must be kept as part of the GMRS system records (see § 95.113). (FCC Forms 405–A or 574–R may be used for this purpose.)

(2) If the status of a non-individual GMRS system licensee changes (for example, when a corporation is dissolved and a new corporation stands in its place, or a partnership becomes a corporation), the licensee must send the license to the FCC for cancellation (see § 95.117(b)).

The former licensee may not operate until the FCC has aproved a license for the system in the name of the new entity.

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47717, Nov. 25, 1988]

§ 95.105 License term.

A license for a GMRS system is usually issued for a 5-year term. (FCC prints the expiration date on the license.)

§ 95.107 Keeping the license.

(a) The licensee must keep the license document until:

(1) The license expires; or

(2) The license is terminated by the FCC; or

(3) The licensee obtains a different license for the GMRS system.

(b) The license must be kept as part of the GMRS system records (see § 95.113).

(c) The license may be photocopied for any lawful purpose.

(d) If the license is lost, the licensee must request a duplicate document from the FCC. The request for a duplicate license, together with the filing fee, should be sent to the address specified in the Wireless Telecommunications Bureau Fee Filing Guide.

(e) If the license is no longer desired, it must be sent to the FCC (see §95.117(b)(6)) with a written request that it be cancelled. (Forms 405–A or 574–R may be used for this purpose.)

[48 FR 35237, Aug. 3, 1983, as amended at 60 FR 50123, Sept. 28, 1995]

§95.109 License not transferable.

(a) The licensee must not transfer, assign, sell or give the license for a GMRS system to any other entity except in accordance with the provisions of §95.111.

(b) If the licensee sells or gives away the GMRS system equipment, the new owner must obtain a new license before using it (see §95.71), unless the new owner intends to use the equipment with an already licensed GMRS system.

§95.111 Transfer of control of a corporation.

If the licensee of a GMRS system is a corporation, and there is a change in the control of the corporation, the licensee must request consent for the change of control from the FCC by filling out Form 703 and sending it, together with the filing fee, to the address specified in the Wireless Telecommunications Bureau Fee Filing Guide. The FCC document granting such consent must be kept as part of the GMRS system records (*see* §95.113).

[56 FR 51909, Dec. 18, 1990, as amended at 60 FR 50123, Sept. 28, 1995]

§95.113 System records.

(a) The licensee must keep records for the GMRS system for the license term (see §95.105), except that the licensee need not keep authorizations which have expired.

(b) GMRS *system records* include the following documents (where applicable):

(1) The license (see §95.107);

(2) [Reserved]

(3) Copies of letters from the licensee to the FCC concerning name or mailing address changes (see §95.103);

(4) Copies of answers to discrepancy notices;

(5) An STA or waiver of these rules;

(6) A copy of any renewal application submitted to the FCC and not yet acted upon (see §95.89(b));

(7) A copy of the measurements and calculations (see appendix A) made during a control station power test (see §95.47);

(8) A copy of a functional system diagram (see §95.77);

(9) A copy of the agreement under which any station in the GMRS system is cooperatively shared (see §95.33);

(10) A copy of the FCC consent to a licensee corporation's change in its corporate control (see §95.111); and

(11) A temporary permit.

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47717, Nov. 25, 1988]

§95.115 Station inspection.

If an authorized FCC representative requests to inspect any station in a GMRS system, the licensee or station operator must make the station available. If an authorized FCC representative requests to inspect the GMRS system records (see §95.113), the licensee must make them available.

§95.117 Where to contact the FCC.

(a) Write to:

The nearest FCC Field Office

(1) For application forms (see §§95.73 and 95.87);

(2) For instruction forms (see §95.73);

(3) To complain about interference; or

(4) To find out if the FCC has type-accepted a certain transmitter for use in the GMRS (see §95.129).

(b) Write to: Federal Communications Commission, Attention: GMRS, 1270 Fairfield Road, Gettysburg, PA 17325–7245.

(1) To ask a question about an application or about these Rules;

(2)–(3) [Reserved]

(4) To notify the FCC of a new name or mailing address (*see* §95.103);

(5) [Reserved]

(6) To return a license to the FCC for cancellation (*see* §§95.103 and 95.107).

(7) [Reserved]

(c) [Reserved]

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47717, Nov. 25, 1988; 55 FR 51909, Dec. 18, 1990]

§ 95.119 Station identification.

(a) Except as provided in paragraph (e) of this section, every station in a GMRS system and every mobile station unit must transmit a station identification:

(1) Following the transmission of communications or a series of communications; and

(2) Every 15 minutes during a long transmission.

(b) The station identification is the call sign assigned to:

(1) The GMRS system; or

(2) The station in the GMRS system transmitting communications.

(c) A unit number may be included after the call sign in the identification.

(d) The station identification must be clearly transmitted in:

(1) Voice in the English language, with each letter and digit separately and distinctly transmitted (letters may be said using a phonetic alphabet); or

(2) International Morse code telegraphy with a keyed tone (400 to 2,000 Hertz) between 8.34 and 20.85 baud (ten to twenty-five words per minute). The transmitted frequency deviation must be between 1,500 and 2,500 Hertz. Should delayed or periodic activation of automatic Morse code identification equipment interrupt the communications of another co-channel licensee, the Commission may require the use of equipment which will inhibit automatic station identification when co-channel communications are in progress.

(e) A station need not identify its transmissions if it automatically retransmits communications from another station which are properly identified.

§ 95.121 Transmitting channel.

Each station in a GMRS system must transmit only on the channel(s) or channel pair(s) (see §§ 95.7 and 95.29) printed on the license for that station, or authorized by these Rules for use by that station (see § 95.29 (e) and (f)).

[53 FR 47717, Nov. 25, 1988]

§ 95.123 Sharing a station or sharing equipment.

Every station in a GMRS system which is cooperatively shared (see § 95.33) must be managed by the licensee in accordance with the written agreement and in accordance with the provisions of § 95.33. Licensees sharing multiply licensed equipment must do so in accordance with the provisions of § 95.35.

§ 95.125 Station control point.

(a) Each station in a GMRS system must have a *control point* (where the station operator can perform the required duties (see § 95.173)).

(b) The control point for each station must be at that station, unless the license authorizes the station to be controlled from a remote point.

§ 95.127 Controlling a station from a remote point.

(a) A station operator in a GMRS system may control the station from a remote point through a *control link* (a connection between the remote control point and the remotely controlled station). The control link must be either:

(1) A wireline control link solely for purposes of transmitter control (see § 95.181(i)(13)); or

(2) A radio control link.

(b) The remotely controlled station must not make unauthorized transmissions.

(c) The station operator must perform the required duties (see § 95.173) when controlling the station from a remote point the same as when controlling it locally at the station point. Should the control link fail to function so that the station operator cannot perform the required duties, the remotely controlled station must not transmit.

(d) The FCC does not consider a station in a GMRS system as being remotely controlled if the connection is a wireline or mechanical control link, and the station and its control point are both:

(1) On the same vehicle; or

(2) At the same street address, or within 152 meters (500 feet) of each other.

(e) Any device used to establish a wireline control link which is attached to the public switched telephone network after April 1, 1976 must be registered with the FCC and must comply with the standards incorporated in a registration program to protect the

public switched telephone network from harm (see part 68 of the FCC Rules).

§95.129 Station equipment.

(a) Every station in a GMRS system must use transmitters the FCC has type-accepted for use in the GMRS. Write to any FCC Field Office to find out if a particular transmitter has been type-accepted for the GMRS. All station equipment in a GMRS system must comply with the technical rules in part 95, subpart E of these rules.

(b) No transmitter may be used at a station in a GMRS system which:

(1) Is not FCC type-accepted for use in the GMRS;

(2) Has been internally modified to make it different from the FCC type-accepted model (see §95.133); or

(3) [Reserved]

(c) A land station in a GMRS system must use a directional antenna if it is a:

(1) Control station at a point within a large urban area (see §95.47); or

(2) Fixed station at a point near a large urban area (see §95.49).

(d) Every small base station and every small control station must use an antenna no more than 6.1 meters (20 feet) high (see §95.25 (d) and (e)).

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, 47 U.S.C. 154(i) and 303(r), and sec. 553 of the Administrative Procedures Act, 5 U.S.C. 553)

[48 FR 35237, Aug. 3, 1983, as amended at 49 FR 20672, May 16, 1984; 53 FR 47717, Nov. 25, 1988]

§95.131 Servicing station transmitters.

(a) The GMRS system licensee shall be responsible for the proper operation of all stations in the GMRS system at all times and is expected to provide for observations, servicing and maintenance as often as may be necessary to ensure proper operation.

(b) Except as provided in paragraph (c) of this section, test signals during internal adjustments to a station transmitter must be made using a non-radiating simulated antenna.

(c) Brief test signals using a radiating antenna may be transmitted to adjust the antenna to the station transmitter or to detect or measure spurious radiation. These test transmissions must not be longer than one minute during any five-minute period. These test transmissions shall not interfere with communications already in progress on the operating frequency, and shall be properly identified as required, but may be otherwise unmodulated as appropriate.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, 47 U.S.C. 154(i) and 303(r), and sec. 553 of the Administrative Procedures Act, 5 U.S.C. 553)

[48 FR 35237, Aug. 3, 1983, as amended at 49 FR 20672, May 16, 1984; 53 FR 47717, Nov. 25, 1988]

§95.133 Modification to station transmitters.

(a) No internal changes may be made in a transmitter used in a station in a GMRS system to make the transmitter different from the FCC type-accepted model (see §95.129).

(b) One FCC type-accepted model may be converted to another FCC type-accepted model if the conversion is done:

(1) By the original manufacturer of the transmitter.

(2) In accordance with the original manufacturer's instructions.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, 47 U.S.C. 154(i) and 303(r), and sec. 553 of the Administrative Procedures Act, 5 U.S.C. 553)

[48 FR 35237, Aug. 3, 1983, as amended at 49 FR 20672, May 16, 1984; 53 FR 47717, Nov. 25, 1988]

§95.135 Maximum authorized transmitting power.

(a) No station may transmit with more than 50 watts output power.

(b) A control station at a point within a large urban area must not transmit with more output power than the licensee determines by a test (see §95.47 and appendix A). The licensee must keep a copy of the measurements and calculations made during this test as part of the GMRS system records (see §95.113).

(c) A small control station at a point north of Line A or east of Line C must transmit with no more than 5 watts ERP.

(d) A fixed station at a point near a large urban area must transmit with

no more than 15 watts output power (see § 95.49).

(e) A small base station must transmit with no more than 5 watts ERP.

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47717, Nov. 25, 1988]

§ 95.137 Moving a small base station or a small control station.

(a) A small base station (see § 95.25(e)) or a small control station (see § 95.25(d)) in a GMRS system may be moved from the point specified on the license to any other point where radio services are regulated by the FCC.

(b) The licensee must file an application to modify the GMRS system (see § 95.71) to show the new point within 30 days after the small base station or the small control station is moved.

[53 FR 47717, Nov. 25, 1988]

§ 95.139 Adding a small base station or a small control station.

(a) Except for a GMRS system licensed to a non-individual, one or more small base stations or a small control station may be added to a GMRS system at any point where radio services are regulated by the FCC.

(b) The licensee must file an application to modify the GMRS system (see § 95.71) within 30 days after each small base station or small control station is added.

(c) Non-individual licensees may not add any small base station or small control stations to their GMRS systems.

[53 FR 47717, Nov. 25, 1988]

§ 95.141 Interconnection prohibited.

No station in a GMRS system may be interconnected to the public switched telephone network except as and in accordance with the requirements and restrictions applied to a wireline control link (see § 95.127).

[53 FR 47717, Nov. 25, 1988]

§ 95.143 Managing a GMRS system in an emergency.

(a) The stations in a GMRS system must cease transmitting when the station operator of any station on the same channel is communicating an *emergency message* (concerning the immediate protection of property or the safety of someone's life).

(b) If necessary to communicate an emergency message from a station in a GMRS system, the licensee may permit:

(1) Anyone to be the station operator (see § 95.179); and

(2) The station operator to communicate the emergency message to any radio station.

OPERATING A GMRS STATION

§ 95.171 Station operator at control point.

When a station in a GMRS system is transmitting, it must have a station operator. The station operator must be at the control point (see § 95.125) for that station. The same person may be the operator for more than one station at the same time.

§ 95.173 Station operator duties.

The *station operator:*

(a) Communicates messages (see § 95.181);

(b) *Controls* the station by:

(1) Causing it to transmit and to cease transmitting;

(2) Taking all necessary and reasonable precautions to assure that unauthorized or improper operations do not occur;

(3) Refraining from making any transmissions that may have the reasonably anticipated effect of causing improper operation of others' equipment; and

(4) In cases of recurrent interference, obeying any Commission-imposed additional requirements or restrictions.

§ 95.175 Cooperation in sharing channels.

The station operator must cooperate in *sharing* each channel with station operators of other stations by:

(a) Monitoring the channel before initiating transmissions;

(b) Waiting until ongoing communications are completed before initiating transmissions;

(c) Engaging in only permissible communications (see § 95.181); and

(d) Limiting transmissions to the minimum practicable transmission time.

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47717, Nov. 25, 1988]

§95.177 Responsibility for station operator's communications.

The licensee is responsible for all communications made by station operators in the GMRS system. (The licensee should be certain every station operator understands and complies with these Rules.)

§95.179 Individuals who may be station operators.

(a) An individual GMRS system licensee may permit his/her immediate family members living in the same household to be station operators in his/her GMRS system. They may communicate messages about the licensee's personal activities and about the licensee's business activities. *Immediate family members* are the:

(1) Licensee;

(2) Licensee's spouse;

(3) Licensee's children, grandchildren, stepchildren;

(4) Licensee's parents, grandparents, stepparents;

(5) Licensee's brothers, sisters;

(6) Licensee's aunts, uncles, nieces, nephews; and

(7) Licensee's in-laws.

(b) In a GMRS system licensed to a non-individual, eligible station operators are limited to the persons listed in paragraph (b)(1) of this section with the conditions listed in paragraph (b)(2) of this section as follows:

(1) Only the following persons may be permitted to operate under the authority of a GMRS system licensed to a non-individual:

If the GMRS system licensee is—	These persons may be station operators—
(i) A partnership	Licensee's partners and employees.
(ii) A corporation	Licensee's officers, directors, members and employees.
(iii) An association	Licensee's members and employees.
(iv) A governmental unit	Licensee's employees.

(2) These persons may only communicate messages about the licensee's business activities. Employees of the licensee may communicate messages while acting within the scope of their employment, and only about the licensee's business activities.

(c) The licensee may permit a telephone answering service employee to be a station operator if:

(1) That employee only communicates messages received for the licensee to the licensee;

(2) The station equipment at the telephone answering point is not shared in any other GMRS system; and

(3) The station at the telephone answering service point is not interconnected to the public switched telephone network.

(d) The station operator of a GMRS system licensed to an individual may be a station operator in any other GMRS system if he/she has permission from the licensee of the other GMRS system.

(e) The provisions of §95.33 regarding cooperative use do not apply to or govern the authority of a GMRS licensee to designate station operators in accordance with the provisions of this section.

(f) Except for emergency communications (see §95.143), only persons specified in paragraphs (a) through (d) may be GMRS station operators.

[48 FR 35237, Aug. 3, 1983, as amended at 53 FR 47717, Nov. 25, 1988; 53 FR 51625, Dec. 22, 1988]

§95.181 Permissible communications.

(a) A station operator for an individual who is licensed in the GMRS (other than an employee of that individual) may communicate two-way voice messages concerning the licensee's personal or business activities (see §95.179).

(b) [Reserved]

(c) A station operator for any entity other than an individual licensed in the GMRS may communicate two-way voice messages concerning the licensee's business activities (see §95.179). An employee for an entity other than an individual licensed in the GMRS may, as a station operator, communicate two-way voice messages while acting within the scope of his/her employment.

(d) A station operator for any GMRS licensee may communicate two-way voice messages concerning:

(1) Emergencies (see §95.143);

(2) Rendering assistance to a motorist; and

(3) Civil defense drills, if the responsible agency requests assistance.

(e) All messages must be in *plain language* (without codes or hidden meanings). They may be in a foreign language, except for call signs (see §95.119).

(f) A station operator may communicate tone messages for purposes of identification or transmitter control in a control link (see §95.127). (The FCC treats a control tone as voice in this case.)

(g) A station operator may communicate a selective calling tone or tone operated squelch only in conjunction with a voice communication. If the tone is *subaudible* (300 Hertz or less) it may be communicated during the entire voice message. If the tone is *audible* (more than 300 Hertz) it may be communicated for no more than 15 seconds at a time.

(h) A station operator may communicate a one-way voice page to a paging receiver. A selective calling tone or tone operated squelch may be used in conjunction with a voice page, as prescribed in paragraph (g) of this section. A station operator may not communicate a *tone-only page* (tones communicated in order to find, summon or notify someone).

(i) A station operator must not communicate:

(1) Messages for hire, whether the remuneration received is direct or indirect;

(2) Messages in connection with any activity which is against Federal, State or local law;

(3) False or deceptive messages;

(4) Coded messages or messages with hidden meanings (''10-codes'' are permitted);

(5) Intentional interference;

(6) Music, whistling, sound effects or material to amuse or entertain;

(7) Sounds only to attract attention;

(8) Obscene, profane or indecent words, language or meaning;

(9) Advertisements or offers for the sale of goods or services;

(10) Advertisements for a political candidate or political campaign (messages about the campaign business may be communicated);

(11) International distress signals, such as the word ''Mayday'' (except when on a ship, aircraft or other vehicle in immediate danger to ask for help);

(12) Programs (live or delayed) intended for radio or television station broadcast (messages about news items or program preparation may be communicated);

(13) Messages which are both conveyed by a wireline control link and transmitted by a GMRS station (see §95.127);

(14) Messages (except emergency messages) to any station in the Amateur Radio Service, to any unauthorized station, or to any foreign station;

(15) Continuous or uninterrupted transmissions, except for communications involving the immediate safety of life or property; or

(16) Messages for public address systems.

(j) A station operator in a GMRS system licensed to a telephone answering service must not transmit any communications to customers of the telephone answering service.

[48 FR 35237, Aug. 3, 1983, as amended at 49 FR 4003, Feb. 1, 1984; 56 FR 13289, Apr. 1, 1991]

APPENDIX A TO SUBPART A—MAKING A CONTROL STATION POWER TEST

(a) A unit of the mobile station is brought to the control station *or* to a point within 402 meters (¼ mile) of the control station.

(b) The strength of the signal received at the terminals of the feedline to the antenna of the remotely controlled station produced by transmissions of the unit of your mobile station must be measured.

(c) The directional antenna of the control station must be aimed so that transmissions from it produce the greatest signal strength at the terminals of the feedline to the antenna of the remotely controlled station.

(d) The transmitter output power of the control station must be adjusted (see §95.135) so that the signal strength produced at the terminals of the feedline to the antenna of the remotely controlled station is no more than 6 decibels more than that produced by the unit of the mobile station. The maximum transmitter output power permitted any GMRS station must not be exceeded (see §95.135).

(e) A record must be made of each control station power test and kept as part of the GMRS system records.

[48 FR 35237, Aug. 3, 1983, as amended at 49 FR 4003, Feb. 1, 1984, 57 FR 40343, Sept. 3, 1992]

APPENDIX B TO SUBPART A—WHERE THE LARGE URBAN AREAS ARE LOCATED

City	North Latitude	West Longitude
	° ′ ″	° ′ ″
Akron, OH	41 05 00	81 30 44
Albany-Schenectady-Troy, NY	42 39 01	73 45 01
Albuquerque, NM	35 05 01	106 39 05
Allentown-Bethlehem-Easton, PA-NJ	40 36 11	75 28 06
Ann Arbor, MI	42 16 59	83 44 52
Atlanta, GA	33 45 10	84 23 37
Augusta, GA-SC	33 28 20	81 58 00
Austin, TX	30 16 09	97 44 37
Bakersfield, CA	35 22 31	119 01 16
Baltimore, MD	39 17 26	76 36 45
Baton Rouge, LA	30 26 58	91 11 00
Birmingham, AL	33 31 01	86 48 36
Boston, MA	42 21 24	71 03 25
Bridgeport, CT	41 10 49	73 11 22
Buffalo, NY	42 52 52	78 52 21
Canton, OH	40 47 50	81 22 37
Charleston, SC	32 46 35	79 55 53
Charlotte, NC	35 13 44	80 50 45
Chattanooga, TN-GA	35 02 41	85 18 32
Chicago, IL-Northwestern IN	41 52 28	87 38 22
Cincinnati, OH-KY	39 06 07	84 30 35
Cleveland, OH	41 29 51	81 41 50
Colorado Springs, CO	38 50 07	104 49 16
Columbia, SC	34 00 02	81 02 00
Columbus, GA-Ala	32 28 07	84 59 24
Columbus, OH	39 57 47	83 00 17
Corpus Christi, TX	27 47 51	97 23 45
Dallas-Fort Worth, TX	32 47 09	96 47 37
Davenport-Rock Island-Moline, IA-IL	41 31 00	90 35 00
Dayton, OH	39 45 32	84 11 43
Denver, CO	39 44 58	104 59 22
Des Moines, IA	41 35 14	93 37 00
Detroit, MI	42 19 48	83 02 57
El Paso, TX	31 45 36	106 29 11
Fayetteville, NC	35 03 00	78 53 00
Flint, MI	43 00 50	83 41 33
Fort Lauderdale-Hollywood, FL	26 07 00	80 09 00
Fort Wayne, IN	41 04 21	85 08 26
Fresno, CA	36 44 12	119 47 11
Grand Rapids, MI	42 58 03	85 40 13
Greenville, SC	34 50 50	82 24 01
Harrisburg, PA	40 15 43	76 52 59
Hartford, CT	41 46 12	72 40 49
Honolulu, HI	21 19 00	157 52 00
Houston, TX	29 45 26	95 21 37
Indianapolis, IN	39 46 07	86 09 46
Jackson, MS	32 17 56	90 11 06
Jacksonville, FL	30 19 44	81 39 42
Kansas City, MO-KS	39 04 56	94 35 20
Knoxville, TN	35 57 39	83 55 07
Lansing, MI	42 44 01	84 33 15
Las Vegas, NV	36 10 20	115 08 37
Lawrence-Haverhill, MA-NH	42 42 16	71 10 08
Little Rock-North Little Rock, AR	34 44 42	92 16 37
Lorain-Elyria, OH	41 28 00	82 11 00
Los Angeles-Long Beach, CA	34 03 15	118 14 28
Louisville, KY-IN	38 14 47	85 45 49
Madison, WI	43 04 23	89 22 55
Melbourne-Cocoa, FL	28 05 00	80 36 00
Memphis, TN-AR-MS	35 08 46	90 03 13
Miami, FL	25 46 37	80 11 32
Milwaukee, WI	43 02 19	87 54 15
Minneapolis-St. Paul, MN	44 58 57	93 15 43
Mobile, AL	30 41 36	88 02 33
Nashville-Davidson, TN	36 09 33	86 46 55
New Haven, CT	41 18 25	72 55 30
New Orleans, LA	29 56 53	90 04 10
Newport News-Hampton, VA	36 59 30	76 26 00
New York, NY-Northeastern NJ	40 45 06	73 59 39
Norfolk-Portsmouth, VA	36 51 10	76 17 21
Ogden, UT	41 13 31	111 58 21
Oklahoma City, OK	35 28 26	97 31 04
Omaha, NE-IA	41 15 42	95 56 14
Orlando, FL	28 32 42	81 22 38
Oxnard-Ventura-Thousand Oaks, CA	34 12 00	119 11 00
Pensacola, FL	30 24 51	87 12 56
Peoria, IL	40 41 42	89 35 33
Philadelphia, PA-NJ	39 56 58	75 09 21
Phoenix, AZ	33 27 12	112 04 28
Pittsburgh, PA	40 26 19	80 00 00
Portland, OR-WA	45 31 06	122 40 35
Providence-Pawtucket-Warwick, RI-MA	41 49 32	71 24 41
Raleigh, NC	35 46 38	78 38 21
Richmond, VA	37 32 15	77 26 09
Rochester, NY	43 09 41	77 36 21
Rockford, IL	42 16 07	89 05 48
Sacramento, CA	38 34 57	121 29 41
St. Louis, MO-IL	38 37 45	90 12 22
St. Petersburg, FL	27 46 18	82 38 19
Salt Lake City, UT	40 45 23	111 53 26
San Antonio, TX	29 25 37	98 29 06
San Bernardino-Riverside, CA	34 06 30	117 17 28
San Diego, CA	32 42 53	117 09 21
San Francisco-Oakland, CA	37 46 39	122 24 40
San Jose, CA	37 20 16	121 53 24
Sarasota-Bradenton, FL	27 20 05	82 32 20
Scranton-Wilkes-Barre, PA	41 24 32	75 39 46
Seattle-Everett, WA	47 36 32	122 20 12
Shreveport, LA	32 30 46	93 44 58
South Bend, IN-MI	41 40 33	86 15 01
Spokane, WA	47 39 32	117 25 33
Springfield-Chicopee-Holyoke, MA-CT	42 06 21	72 35 32
Syracuse, NY	43 03 04	76 09 14
Tacoma, WA	47 14 59	122 26 15
Tampa, FL	27 56 58	82 27 25
Toledo, OH-MI	41 39 14	83 32 39
Trenton, NJ-PA	40 13 30	74 45 00
Tucson, AZ	32 13 15	110 58 08
Tulsa, OK	36 09 12	95 59 34
Washington, DC-MD-VA	38 53 51	77 00 33
West Palm Beach, FL	26 42 36	80 03 07
Wichita, KS	37 41 30	97 20 16
Wilmington, DE-NJ-MD	39 44 46	75 32 51
Worcester, MA	42 15 37	71 48 17
Youngstown-Warren, OH	41 05 57	80 39 02
San Juan, PR	18 28 00	66 07 00

NOTE 1: This appendix lists the urbanized areas of 200,000 or more people as shown in the Bureau of Census News Release of July 27, 1981: ''Provisional Population of Urbanized Areas, 1980.'' The geographical coordinates given are from the Department of Commerce publication of 1947: ''Air-Line Distances Between Cities in the United States'' and from data supplied by the National Geodetic Survey. The coordinates are determined by using the first city mentioned in the urbanized area as the center of the urbanized area.

Subpart B—Family Radio Service (FRS)

SOURCE: 61 FR 28768, June 6, 1996, unless otherwise noted.

GENERAL PROVISIONS

§ 95.191 (FRS Rule 1) Eligibility and responsibility.

(a) Unless you are a representative of a foreign government, you are authorized by this rule to operate an FCC certified FRS unit in accordance with the rules in this subpart. No license will be issued.

(b) You are responsible for all communications that you make with the FRS unit. You must share each channel with other users. No channel is available for the private or exclusive use of any user.

§ 95.192 (FRS Rule 2) Authorized locations.

(a) Provided that you comply with these rules, you are authorized to operate an FRS unit:

(1) Within or over any area of the world where radio services are regulated by the FCC (this area includes the fifty United States and the District of Columbia, the Commonwealth of Puerto Rico, the United States Virgin Islands (50 islets and cays), American Samoa (seven islands), the Commonwealth of Northern Marianna Islands, and Guam Island);

(2) Within or over any other area of the world, except within or over the territorial limits of areas where radio services are regulated by an agency of the United States other than the FCC or any foreign government (you are subject to its rules);

(3) Aboard any vessel or aircraft registered in the United States, with the permission of the captain, that is within or over any area of the world where radio services are regulated by the FCC or upon or over international waters;

(4) or; Aboard any unregistered vessel or aircraft owned or operated by a United States citizen or company that is within or over any area of the world where radio services are regulated by the FCC or upon or over international waters.

(5) You must operate the FRS unit only according to any applicable treaty to which the United States is a party. The FCC will make public notice of any such conditions.

(b) Your use of an FRS unit must not cause harmful interference to a FCC monitoring facility. Doing so could result in imposition of restrictions upon the operation of the FRS unit within 0.8 km (0.5 mile) of the facility by its Engineer-in-Charge. (Geographical coordinates of the facilities that require protection are listed in § 0.121(c) of this chapter.)

(c) The FCC may impose additional restrictions on a FRS station if the station is located at a point within the National Radio Quiet Zone (an area within the States of Maryland, Virginia and West Virginia). The Zone is the area bounded by:

(1) 39° 15′ N. on the North;

(2) 78° 30′ W. on the East;

(3) 37° 30′ N. on the South; and

(4) 80° 30′ W. on the West.

§ 95.193 (FRS Rule 3) Types of communications.

(a) You may use an FRS unit to conduct two-way voice communications with another person. You may use the FRS unit to transmit one-way communications only to establish communications with another person, send an emergency message, provide traveler assistance, make a voice page, or to conduct a brief test.

(b) The FRS unit may transmit tones to make contact or to continue communications with a particular FRS unit. If the tone is audible (more than 300 Hertz), it must last no longer than 15 seconds at one time. If the tone is subaudible (300 Hertz or less), it may be transmitted continuously only while you are talking.

(c) You must not use an FRS unit in connection with any activity which is against federal, state or local law.

(d) You must, at all times and on all channels, give priority to emergency communication messages concerning the immediate safety of life or the immediate protection of property.

(e) No FRS unit may be interconnected to the public switched network.

§95.194 (FRS Rule 4) FRS units.

(a) You may only use an FCC certified FRS unit. (You can identify an FCC certified FRS unit by the label placed on it by the manufacturer.)

(b) You must not make, or have made, any internal modification to an FRS unit. Any internal modification cancels the FCC certification and voids your authority to operate the unit in the FRS.

(c) You may not attach any antenna, power amplifier, or other apparatus to an FRS unit that has not been FCC certified as part of that FRS unit. There are no exceptions to this rule and attaching any such apparatus to a FRS unit cancels the FCC certification and voids everyone's authority to operate the unit in the FRS.

Subpart C—Radio Control (R/C) Radio Service

SOURCE: 48 FR 24890, June 3, 1983, unless otherwise noted.

GENERAL PROVISIONS

§95.201 (R/C Rule 1) What is the Radio Control (R/C) Radio Service?

The R/C Service is a private, one-way, short distance non-voice communications service for the operation of devices at remote locations.

§95.202 (R/C Rule 2) How do I use these rules?

(a) You must comply with rules (see R/C Rule 18, §95.218, for the penalties for violations) when you operate a station in the R/C service from:

(1) Within or over the territorial limits of places where radio services are regulated by the FCC (see R/C Rule 5, §95.205);

(2) Aboard any vessel or aircraft registered in the United States; or

(3) Aboard any unregistered vessel or aircraft owned or operated by a United States citizen or company.

(b) Your R/C station must comply with technical rules found in subpart E of part 95.

(c) Where the rules use the word ''you'', ''you'' means a person operating an R/C station.

(d) Where the rules use the word ''person,'' the rules are concerned with an individual, a corporation, a partnership, an association, a joint stock company, a trust, a state, territorial or local government unit, or other legal entity.

(e) Where the rules use the term ''FCC,'' that means the Federal Communications Commission.

(f) Where the rules use the term ''R/C station,'' that means a radio station transmitting in the R/C Radio Service.

§95.203 (R/C Rule 3) Am I eligible to operate an R/C station?

You are authorized to operate an R/C station unless:

(a) You are a foreign government, a representative of a foreign government, or a federal government agency; or

(b) The FCC has issued a cease and desist order to you, and the order is still in effect.

§95.204 (R/C Rule 4) Do I need a license?

You do not need an individual license to operate an R/C station. You are authorized by this rule to operate your R/C station in accordance with the rules in this subpart.

§95.205 (R/C Rule 5) Where may I operate my R/C station?

You are authorized to operate your R/C station from:

(a) Within or over any area of the world where radio services are regulated by the FCC. Those areas are within the territorial limits of:

(1) The fifty United States

(2) The District of Columbia

Caribbean Insular areas

(3) Commonwealth of Puerto Rico

(4) Navassa Island

(5) United States Virgin Islands (50 islets and cays)

Pacific Insular areas

(6) American Samoa (seven islands)

(7) Baker Island

(8) Commonwealth of Northern Mariana Islands

(9) Guam Island

(10) Howland Island

(11) Jarvis Island

(12) Johnston Island (Islets East, Johnston, North and Sand)

(13) Kingman Reef

(14) Midway Island (Islets Eastern and Sand)

(15) Palmyra Island (more than 50 islets)

(16) Wake Island (Islets Peale, Wake and Wilkes)

(b) Any other area of the world, except within the territorial limits of areas where radio services are regulated by—

(1) An agency of the United States other than the FCC. (You are subject to its rules.)

(2) Any foreign government. (You are subject to its rules.)

(c) An aircraft or ship, with the permission of the captain, within or over any area of the world where radio services are regulated by the FCC or upon or over international waters. You must operate your R/C station according to any applicable treaty to which the United States is a party.

§ 95.206 (R/C Rule 6) Are there any special restrictions on the location of my R/C station?

(a) If your R/C station is located on premises controlled by the Department of Defense, you may be required to comply with additional regulations imposed by the commanding officer of the installation.

(b) If your R/C station will be constructed on an environmental sensitive site, or will be operated in such a manner as to raise environmental problems, under § 1.1307 of this chapter, you must provide an environmental assessment, as set forth in § 1.1311 of this chapter, and undergo environmental review § 1.1312 of this chapter, before commencement of construction.

[48 FR 24890, June 3, 1983, as amended at 55 FR 20398, May 16, 1990]

HOW TO OPERATE AN R/C STATION

§ 95.207 (R/C Rule 7) On what channels may I operate?

(a) Your R/C station may transmit only on the following channels (frequencies):

(1) The following channels may be used to operate any kind of device (any object or apparatus, except an R/C transmitter), including a model aircraft device (any small imitation of an aircraft) or a model surface craft device (any small imitation of a boat, car or vehicle for carrying people or objects, except aircraft): 26.995, 27.045, 27.095, 27.145, 27.195 and 27.255 MHz.

(2) The following channels may only be used to operate a model aircraft device:

MHz	
72.01	72.51
72.03	72.53
72.05	72.55
72.07	72.57
72.09	72.59
72.11	72.61
72.13	72.63
72.15	72.65
72.17	72.67
72.19	72.69
72.21	72.71
72.23	72.73
72.25	72.75
72.27	72.77
72.29	72.79
72.31	72.81
72.33	72.83
72.35	72.85
72.37	72.87
72.39	72.89
72.41	72.91
72.43	72.93
72.45	72.95
72.47	72.97
72.49	72.99

(3) The following channels may only be used to operate a model surface craft devices:

MHz	
75.41	75.71
75.43	75.73
75.45	75.75
75.47	75.77
75.49	75.79
75.51	75.81
75.53	75.83
75.55	75.85
75.57	75.87
75.59	75.89
75.61	75.91
75.63	75.93
75.65	75.95
75.67	75.97
75.69	75.99

(b) You must share the channels with other R/C stations. You must cooperate in the selection and use of the channels. You must share the Channel 27.255

MHz with stations in other radio services. There is no protection from interference on any of these channels.

(c) Your R/C station may not transmit simultaneously on more than one channel in the 72–76 MHz band when your operation would cause harmful interference to the operation of other R/C stations.

(d) Your R/C station must stop transmitting if it interferes with:

(1) Authorized radio operations in the 72–76 MHz band; or

(2) Television reception on TV Channels 4 or 5.

(e) [Reserved]

(f) Stations in the 26–27 MHz range are not afforded any protection from interference caused by the operation of industrial, scientific of medical devices. Such stations also operate on a shared basis with other stations in the Personal Radio Services.

(g) Stations in the 72–76 MHz range are subject to the condition that inteference will not be caused to the remote control of industrial equipment operating on the same or adjacent frequencies or to the reception of television transmissions on Channels 4 and 5. These frequencies are not afforded any protection from interference due to the operation of fixed and mobile stations in other services assigned to the same or adjacent frequencies.

[48 FR 24890, June 3, 1983. Redesignated at 49 FR 6098, Feb. 17, 1984, and amended at 50 FR 37857, Sept. 18, 1985; 52 FR 16263, May 4, 1987; 57 FR 40343, Sept. 3, 1992]

§95.208 (R/C Rule 8) How high may I put my antenna?

(a) *Antenna* means the radiating system (for transmitting, receiving or both) and the structure holding it up (tower, pole or mast). It also means everything else attached to the radiating system and the structure.

(b) If your antenna is mounted on a hand-held portable unit, none of the following limitations apply.

(c) If your antenna is installed at a fixed location, it (whether receiving, transmitting or both) must comply with either one of the following:

(1) The highest point must not be more than 6.10 meters (20 feet) higher than the highest point of the building or tree on which it is mounted; or

(2) The highest point must not be more than 18.3 meters (60 feet) above the ground.

(d) If your R/C station is located near an airport, and if you antenna structure is more than 6.1 meters (20 feet) high, your may have to obey additional restrictions. The highest point of your antenna must not exceed one meter above the airport elevation for every hundred meters of distance from the nearest point of the nearest airport runway. Differences in ground elevation between your antenna and the airport runway may complicate this formula. If your R/C station is near an airport, you may contact the nearest FCC field office for a worksheet to help you figure the maximum allowable height of your antenna. Consult part 17 of the FCC's Rules for more information.

WARNING: Installation and removal of R/C station antennas near powerlines is dangerous. For your safety, follow the installation directions included with your antenna.

[48 FR 24890, June 3, 1983, as amended at 48 FR 41416, Sept. 15, 1983]

§95.209 (R/C Rule 9) What equipment may I use at my R/C station?

(a) Your R/C station may transmit only with:

(1) An FCC type accepted (or type approved) R/C transmitter (Type accepted means the FCC has determined that certain radio equipment is capable of meeting recommended standards for operation); or

(2) A non-type accepted R/C transmitter on Channels 26.995–27.255 MHz if it complies with the technical standards (see part 95, subpart E).

(3) Use of a transmitter outside of the band 26.995–27.255 MHz which is not type accepted (or type approved) voids your authority to operate the station. Use of a transmitter in the band 26.995–27.255 MHz which does not comply with the technical standards voids your authority to operate the station.

(b) You may examine a list of type accepted transmitters at any FCC field office.

(c) Your R/C station may transmit with a transmitter assembled from a kit.

(d) You must not make, or have made, any internal modification to a type-accepted transmitter. (See R/C Rule 22.) Any internal modification to a type-accepted transmitter cancels the type-acceptance, and use of such a transmitter voids your authority to operate the station.

§ 95.210 (R/C Rule 10) How much power may I use?

(a) Your R/C station transmitter power output must not exceed the following value under any conditions:

Channel	Transmitter power (carrier power) (watts)
27.255 MHz	25
26.995–27.195 MHz	4
72–76 MHz	0.75

(b) Use of a transmitter which has power output in excess of that authorized voids your authority to operate the station.

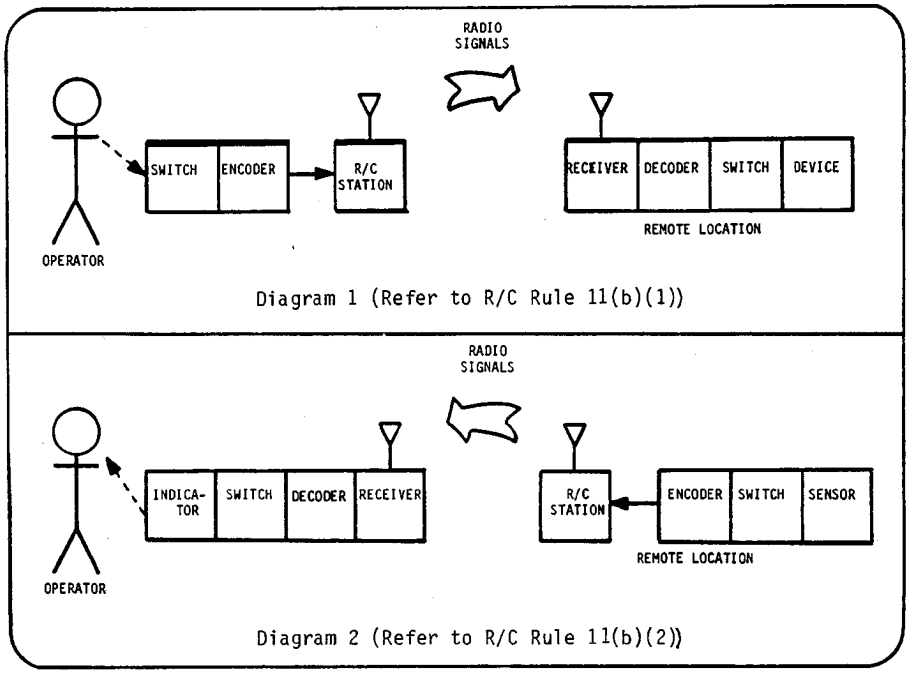
§ 95.211 (R/C Rule 11) What communications may be transmitted?

(a) You may only use your R/C station to transmit one-way communications. (One-way communications are transmissions which are not intended to establish communications with another station.)

(b) You may only use your R/C station for the following purposes:

(1) The operator turns on and/or off a device at a remote location (Refer to Diagram 1); or

(2) A sensor at a remote location turns on and/off an indicating device for the operator. (Refer to Diagram 2). Only Channels 26.995 to 27.255 MHz (see R/C Rule 7, § 95.207(a)(1)) may be used for this purpose. (A remote location means a place distant from the operator.)



(c) Your R/C station may transmit any appropriate non-voice emission.

[48 FR 24890, June 3, 1983, as amended at 50 FR 37857, Sept. 18, 1985; 57 FR 40343, Sept. 3, 1992]

§95.212 (R/C Rule 12) What communications are prohibited?

You must not use an R/C station—

(a) In connection with any activity which is against federal, state or local law;

(b) To transmit any message other than for operation of devices at remote locations (no voice, telegraphy, etc.);

(c) To intentionally interfere with another station's transmissions;

(d) To operate another R/C transmitter by remote control (See R/C Rule 17, §95.217); or

(e) To transmit two-way communications.

(f) To transmit data. Tone or other signal encoding, however, is not considered to be data when only used either for the purpose of identifying the specific device among multiple devices that the operator intends to turn on/off, or the specific sensor among multiple sensors intended to turn on/off indicating device for the operator.

[48 FR 24890, June 3, 1983, as amended at 54 FR 8336, Feb. 28, 1989; 54 FR 20476, May 11, 1989]

§95.213 (R/C Rule 13) May I be paid to use my R/C station?

(a) You may not accept direct or indirect payment for transmitting with an R/C station.

(b) You may use an R/C station to help you provide a service, and be paid for that service, as long as you are paid only for the service and not for the actual use of the R/C station.

§95.214 (R/C Rule 14) Who is responsible for R/C communications I make?

You are responsible for all communications which are made by you from an R/C station.

§95.215 (R/C Rule 15) Do I have to limit the length of my communications?

(a) You must limit your R/C communications to the minimum practical time.

(b) The only time your R/C communications may be a continuous signal for more than 3 minutes is when operation of the device requires at least one or more changes during each minute of the communications.

(c) Your R/C station may transmit a continuous signal without modulation only if:

(1) You are using it to operate a model aircraft device; and

(2) The presence or absence of the signal operates the device.

(d) If you show that you need a continuous signal to insure the immediate safety of life of property, the FCC may make an exception to the limitations in this rule.

§95.216 (R/C Rule 16) Do I identify my R/C communications?

You need not identify your R/C communications.

§95.217 (R/C Rule 17) May I operate my R/C station transmitter by remote control?

(a) You may not operate an R/C transmitter by radio remote control. (See R/C Rule 12, §95.212.)

(b) You may operate an R/C transmitter by wireline remote control if you obtain specific approval in writing from the FCC. To obtain FCC approval, you must show why you need to operate your station by wireline remote control. Send your request and justification to FCC, Gettysburg, Pa. 17325. If you receive FCC approval, you must keep the approval as part of your station records. (See R/C Rule 24, §95.224.)

(c) Remote control means operation of an R/C transmitter from any place other than the location of the R/C transmitter. Direct mechanical control or direct electrical control by wire from some point on the same premises, craft or vehicles as the R/C transmitter is not considered remote control.

OTHER THINGS YOU NEED TO KNOW

§95.218 (R/C Rule 18) What are the penalties for violating these rules?

(a) If the FCC finds that you have willfully or repeatedly violated the Communications Act or the FCC Rules, you may have to pay as much as $10,000 for each violation, up to a total of

$75,000. (See Section 503(b) of the Communications Act.)

(b) If the FCC finds that you have violated any section of the Communications Act or the FCC Rules, you may be ordered to stop whatever action caused the violation. (See section 312(b) of the Communications Act.)

(c) If a federal court finds that you have willfully and knowingly violated any FCC Rule, you may be fined up to $500 for each day you committed the violation. (See section 502 of the Communications Act.)

(d) If a Federal court finds that you have willfully and knowingly violated any provision of the Communications Act, you may be fined up to $10,000, or you may be imprisoned for one year, or both. (See section 501 of the Communications Act.)

[48 FR 24890, June 3, 1983, as amended at 57 FR 40343, Sept. 3, 1992]

§ 95.219 (R/C Rule 19) How do I answer correspondence from the FCC?

(a) If it appears to the FCC that you have violated the Communications Act or FCC rules, the FCC may send you a discrepancy notice.

(b) Within the time period stated in the notice, you must answer with:

(1) A complete written statement about the apparent discrepancy;

(2) A complete written statement about any action you have taken to correct the apparent violation and to prevent it from happening again; and

(3) The name of the person operating at the time of the apparent violation.

(c) If the FCC send you a letter asking you questions about your R/C radio station or its operation, you must answer each of the questions with a complete written statement within the time period stated in the letter.

(d) You must not shorten your answer by references to other communications or notices.

(e) You must send your answer to the FCC office which sent you the notice.

(f) You must keep a copy of your answer in your station records (see R/C Rule 24, § 95.224).

§ 95.220 (R/C Rules 20) What must I do if the FCC tells me that my R/C station is causing interference?

(a) If the FCC tells you that your R/C station is causing interference for technical reasons, you must follow all instructions in the official FCC notice. (This notice may require you to have technical adjustments made to your equipment.)

(b) You must comply with any restricted hours of R/C station operation which may be included in the official FCC notice.

§ 95.221 (R/C Rule 21) How do I have my R/C transmitter serviced?

(a) You may adjust an antenna to your R/C transmitter and you may make radio checks. (A radio check means a one-way transmission for a short time in order to test the transmitter.)

(b) You are responsible for the proper operation of the station at all times and are expected to provide for observations, servicing and maintenance as often as may be necessary to ensure proper operation. Each internal repair and each internal adjustment to an FCC type accepted R/C transmitter (see R/C Rule 9) must be made in accord with the Technical Regulations (see subpart E). The internal repairs or internal adjustments should be performed by or under the immediate supervision and responsibility of a person certified as technically qualified to perform transmitter maintenance and repair duties in the private land mobile services and fixed services by an organization or committee representative of users in those services.

(c) Except as provided in paragraph (d) of this section, each internal repair and each internal adjustment of an R/C transmitter in which signals are transmitted must be made using a non-radiating (''dummy'') antenna.

(d) Brief test signals (signals not longer than one minute during any five minute period) using a radiating antenna may be transmitted in order to:

(1) Adjust a transmitter to an antenna;

(2) Detect or measure radiation of energy other than the intended signal; or

(3) Tune a receiver to your R/C transmitter.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, 47 U.S.C. 154(i) and 303(r), and sec. 553 of the Administrative Procedures Act, 5 U.S.C. 553)

[48 FR 24890, June 3, 1983, as amended at 49 FR 20673, May 16, 1984]

§95.222 (R/C Rule 22) May I make any changes to my R/C station transmitter?

(a) You must not make or have anyone else make an internal modification to your R/C transmitter.

(b) Internal modification does not include:

(1) Repair or servicing of an R/C station transmitter (see R/C Rule 21, §95.221); or

(2) Changing plug-in modules which were type-accepted as part of your R/C transmitter.

(c) You must not operate an R/C transmitter which has been modified by anyone in any way, including modification to operate on unauthorized frequencies or with illegal power. (See R/C Rules 9 and 10, §§95.209 and 95.210.)

§95.223 (R/C Rule 23) Do I have to make my R/C station available for inspection?

(a) If an authorized FCC representative requests to inspect your R/C station, you must make your R/C station and records available for inspection.

(b) An R/C station includes all of the radio equipment you use.

§95.224 (R/C Rule 24) What are my station records?

Your station records include the following documents, as applicable:

(a) A copy of each response to an FCC violation notice or an FCC letter. (See R/C Rule 19, §95.219.)

(b) Each written permission received from the FCC. (See R/C Rule 17.)

§95.225 (R/C Rule 25) How do I contact the FCC?

(a) Write to your nearest FCC Field Office if you:

(1) Want to report an interference complaint; or

(2) Want to know if the FCC has type-accepted a transmitter for R/C.

(b) Write to the FCC, Wireless Telecommunications Bureau, Private Wireless Division, Washington, DC 20554, if you have questions about the R/C Rules.

[48 FR 24890, June 3, 1983, as amended at 48 FR 41416, Sept. 15, 1983; 60 FR 50123, Sept. 28, 1995]

Subpart D—Citizens Band (CB) Radio Service

SOURCE: 48 FR 24894, June 3, 1983, unless otherwise noted.

GENERAL PROVISIONS

§95.401 (CB Rule 1) What are the Citizens Band Radio Services?

The Citizens Band Radio Services are:

(a) The Citizens Band (CB) Radio Service—a private, two-way, short-distance voice communications service for personal or business activities of the general public. The CB Radio Service may also be used for voice paging.

(b) The Family Radio Service (FRS)—a private, two-way, very short-distance voice communications service for facilitating family and group activities. The rules for this service are contained in subpart B of this part.

(c) The Low Power Radio Service (LPRS)—a private, short-distance communication service providing auditory assistance to persons with disabilities, persons who require language translation, and persons in educational settings, health care assistance to the ill, law enforcement tracking services in cooperation with law enforcement, and point-to-point network control communications for Automated Marine Telecommunications System (AMTS) coast stations licensed under part 80 of this chapter. The rules for this service are listed under subpart G of this part. Two-way voice communications are prohibited.

[61 FR 28769, June 6, 1996, as amended at 61 FR 46566, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46566, Sept. 4, 1996, §95.401 was amended by adding paragraph (c), effective Oct. 4, 1996.

§ 95.402 (CB Rule 2) How do I use these rules?

(a) You must comply with these rules (See CB Rule 21 § 95.421, for the penalties for violations) when you operate a station in the CB Service from:

(1) Within or over the territorial limits of places where radio services are regulated by the FCC (see CB Rule 5, § 95.405);

(2) Aboard any vessel or aircraft registered in the United States; or

(3) Aboard any unregistered vessel or aircraft owned or operated by a United States citizen or company.

(b) Your CB station must comply with technical rules found in subpart E of part 95.

(c) Where the rules use the word ''you'', ''you'' means a person operating a CB station.

(d) Where the rules use the word ''person,'' the rules are concerned with an individual, a corporation, a partnership, an association, a joint stock company, a trust, a state, territorial or local government unit, or other legal entity.

(e) Where the rules use the term ''FCC'', that means the Federal Communications Commission.

(f) Where the rules use the term ''CB station'', that means a radio station transmitting in the CB Radio Service.

§ 95.403 (CB Rule 3) Am I eligible to operate a CB station?

You are authorized to operate a CB station unless:

(a) You are a foreign government, a representative of a foreign government, or a federal government agency; or

(b) The FCC has issued a cease and desist order to you, and the order is still in effect.

§ 95.404 (CB Rule 4) Do I need a license?

You do not need an individual license to operate a CB station. You are authorized by this rule to operate your CB station in accordance with the rules in this subpart.

§ 95.405 (CB Rule 5) Where may I operate my CB station?

You are authorized to operate your CB station from:

(a) Within or over any area of the world where radio services are regulated by the FCC. Those areas are within the territorial limits of:

(1) The fifty United States.

(2) The District of Columbia.

Caribbean Insular areas

(3) Commonwealth of Puerto Rico.

(4) Navassa Island.

(5) United States Virgin Islands (50 islets and cays).

Pacific Insular areas

(6) American Samoa (seven islands).

(7) Baker Island.

(8) Commonwealth of Northern Mariana Islands.

(9) Guam Island.

(10) Howland Island.

(11) Jarvis Island.

(12) Johnston Island (Islets East, Johnston, North and Sand).

(13) Kingman Reef.

(14) Midway Island (Islets Eastern and Sand).

(15) Palmyra Island (more than 50 islets).

(16) Wake Island (Islets Peale, Wake and Wilkes).

(b) Any other area of the world, except within the territorial limits of areas where radio services are regulated by—

(1) An agency of the United States other than the FCC. (You are subject to its rules.)

(2) Any foreign government. (You are subject to its rules.)

(c) An aircraft or ship, with the permission of the captain, within or over any area of the world where radio services are regulated by the FCC or upon or over international waters. You must operate your CB station according to any applicable treaty to which the United States is a party.

§ 95.406 (CB Rule 6) Are there any special restrictions on the location of my CB station?

(a) If your CB station is located on premises controlled by the Department of Defense you may be required to comply with additional regulations imposed by the commanding officer of the installation.

(b) If your C/B station will be constructed on an environmentally sensitive site, or will be operated in such a manner as to raise environmental problems, under §1.1307 of this chapter, you must provide an environmental assessment, as set forth in §1.1311 of this chapter, and undergo the environmental review, §1.1312 of this chapter, before commencement of construction.

[48 FR 24894, June 3, 1983, as amended at 55 FR 20398, May 16, 1990]

HOW TO OPERATE A CB STATION

§95.407 (CB Rule 7) On what channels may I operate?

(a) Your CB station may transmit only on the following channels (frequencies):

Channel	Frequency (megahertz—MHz)
1	26.965
2	26.975
3	26.985
4	27.005
5	27.015
6	27.025
7	27.035
8	*27.055*
9	[1]*27.065*
10	27.075
11	27.085
12	27.105
13	27.115
14	27.125
15	27.135
16	27.155
17	27.165
18	27.175
19	27.185
20	27.205
21	27.215
22	27.225
23	27.255
24	27.235
25	27.245
26	27.265
27	27.275
28	27.285
29	27.295
30	27.305
31	27.315
32	27.325
33	27.335
34	27.345
35	27.355
36	27.365
37	27.375
38	27.385
39	27.395
40	27.405

[1] See paragraph (b) of this section.

(b) Channel 9 may be used only for emergency communications or for traveler assistance.

(c) You must, at all times and on all channels, give priority to emergency communication messages concerning the immediate safety of life or the immediate protection of property.

(d) You may use any channel for emergency communications or for traveler assistance.

(e) You must share each channel with other users.

(f) The FCC will not assign any channel for the private or exclusive use of any particular CB station or group of stations.

(g) The FCC will not assign any channel for the private of exclusive use of CB stations transmitting single sideband or AM.

§95.408 (CB Rule 8) How high may I put my antenna?

(a) *Antenna* means the radiating system (for transmitting, receiving or both) and the structure holding it up (tower, pole or mast). It also means everything else attached to the radiating system and the structure.

(b) If your antenna is mounted on a hand-held portable unit, none of the following limitations apply.

(c) If your antenna is installed at a fixed location, it (whether receiving, transmitting or both) must comply with either one of the following:

(1) The highest point must not be more than 6.10 meters (20 feet) higher than the highest point of the building or tree on which it is mounted; or

(2) The highest point must not be more than 18.3 meters (60 feet) above the ground.

(d) If your CB station is located near an airport, and if you antenna structure is more than 6.1 meters (20 feet) high, you may have to obey additional restrictions. The highest point of your antenna must not exceed one meter above the airport elevation for every hundred meters of distance from the nearest point of the nearest airport runway. Differences in ground elevation between your antenna and the airport runway may complicate this formula. If your CB station is near an airport, you may contact the nearest FCC field office for a worksheet to help

you figure the maximum allowable height of your antenna. Consult part 17 of the FCC's Rules for more information.

WARNING: Installation and removal of CB station antennas near powerlines is dangerous. For your safety, follow the installation directions included with your antenna.

[48 FR 24894, June 3, 1983, as amended at 48 FR 41416, Sept. 15, 1983]

§ 95.409 (CB Rule 9) What equipment may I use at my CB station?

(a) You must use an FCC type-accepted CB transmitter at your CB station. You can identify an FCC type-accepted transmitter by the type-acceptance label placed on it by the manufacturer. You may examine a list of type-accepted equipment at any FCC Field Office or at FCC Headquarters. Use of a transmitter which is not FCC type-accepted voids your authority to operate the station.

(b) You must not make, or have made, any internal modification to a type-accepted CB transmitter. (See CB Rule 25, § 95.425). Any internal modification to a type-accepted CB transmitter cancels the type-acceptance, and use of such a transmitter voids your authority to operate the station.

§ 95.410 (CB Rule 10) How much power may I use?

(a) Your CB station transmitter power output must not exceed the following values under any conditions:

AM (A3)—4 watts (carrier power) SSB—12 watts (peak envelope power)

(b) If you need more information about the power rule, see the technical rules in subpart E of part 95.

(c) Use of a transmitter which has carrier or peak envelope power in excess of that authorized voids your authority to operate the station.

§ 95.411 (CB Rule 11) May I use power amplifiers?

(a) You may not attach the following items (power amplifiers) to your type-accepted CB transmitter in any way:

(1) External radio frequency (RF) power amplifiers (sometimes called linears or linear amplifiers); or

(2) Any other devices which, when used with a radio transmitter as a signal source, are capable of amplifying the signal.

(b) There are no exceptions to this rule and use of a power amplifier voids your authority to operate the station.

(c) The FCC will presume you have used a linear or other external RF power amplifier if—

(1) It is in your possession or on your premises; and

(2) There is other evidence that you have operated your CB station with more power than allowed by CB Rule 10, § 95.410.

(d) Paragraph (c) of this section does not apply if you hold a license in another radio service which allows you to operate an external RF power amplifier.

§ 95.412 (CB Rule 12) What communications may be transmitted?

(a) You may use your CB station to transmit two-way plain language communications. Two-way plain language communications are communications without codes or coded messages. Operating signals such as ''ten codes'' are not considered codes or coded messages. You may transmit two-way plain language communications only to other CB stations, to units of your own CB station or to authorized government stations on CB frequencies about—

(1) Your personal or business activities or those of members of your immediate family living in your household;

(2) Emergencies (see CB Rule 18, § 95.418);

(3) Traveler assistance (see CB Rule 18, § 95.418); or

(4) Civil defense activities in connection with official tests or drills conducted by, or actual emergencies announced by, the civil defense agency with authority over the area in which your station is located.

(b) You may use your CB station to transmit a tone signal only when the signal is used to make contact or to continue communications. (Examples of circuits using these signals are tone operated squelch and selective calling circuits.) If the signal is an audible tone, it must last no longer than 15 seconds at one time. If the signal is a

subaudible tone, it may be transmitted continuously only as long as you are talking.

(c) You may use your CB station to transmit one-way communications (messages which are not intended to establish communications between two or more particular CB stations) only for emergency communications, traveler assistance, brief tests (radio checks) or voice paging.

§95.413 (CB Rule 13) What communications are prohibited?

(a) You must not use a CB station—

(1) In connection with any activity which is against federal, state or local law;

(2) To transmit obscence, indecent or profane words, language or meaning;

(3) To interfere intentionally with the communications of another CB station;

(4) To transmit one-way communications, except for emergency communications, traveler assistance, brief tests (radio checks), or voice paging;

(5) To advertise or solicit the sale of any goods or services;

(6) To transmit music, whistling, sound effects or any material to amuse or entertain;

(7) To transmit any sound effect solely to attract attention;

(8) To transmit the word ''MAYDAY'' or any other international distress signal, except when your station is located in a ship, aircraft or other vehicle which is threatened by grave and imminent danger and your are requesting immediate assistance;

(9) To communicate with, or attempt to communicate with, any CB station more than 250 kilometers (155.3 miles) away;

(10) To advertise a political candidate or political campaign; (you may use your CB radio for the business or organizational aspects of a campaign, if you follow all other applicable rules);

(11) To communicate with stations in other countries, except General Radio Service stations in Canada; or

(12) To transmit a false or deceptive communication.

(b) You must not use a CB station to transmit communications for live or delayed rebroadcast on a radio or television broadcast station. You may use your CB station to gather news items or to prepare programs.

§95.414 (CB Rule 14) May I be paid to use my CB station?

(a) You may not accept direct or indirect payment for transmitting with a CB station.

(b) You may use a CB station to help you provide a service, and be paid for that service, as long as you are paid only for the service and not for the actual use of the CB station.

§95.415 (CB Rule 15) Who is responsible for communications I make?

You are responsible for all communications which are made by you from a CB station.

§95.416 (CB Rule 16) Do I have to limit the length of my communications?

(a) You must limit your CB communications to the minimum practical time.

(b) If you are communicating with another CB station or stations, you, and the stations communicating with you, must limit each of your conversations to no more than five continuous minutes.

(c) At the end of your conversation, you, and the stations communicating with you, must not transmit again for at least one minute.

§95.417 (CB Rule 17) Do I identify my CB communications?

(a) You need not identify your CB communications.

(b) [You are encouraged to identify your CB communications by any of the following means:

(1) Previously assigned CB call sign;

(2) K prefix followed by operator initials and residence zip code;

(3) Name; or

(4) Organizational description including name and any applicable operator unit number.]

(c) [You are encouraged to use your ''handle'' only in conjuction with the methods of identification listed in paragraph (b) of this section.]

§ 95.418 (CB Rule 18) How do I use my CB station in an emergency or to assist a traveler?

(a) You must at all times and on all channels, give priority to emergency communications.

(b) When you are directly participating in emergency communications, you do not have to comply with the rule about length of transmissions (CB Rule 16, § 95.416). You must obey all other rules.

(c) You may use your CB station for communications necessary to assist a traveler to reach a destination or to receive necessary services. When you are using your CB station to assist a traveler, you do not have to obey the rule about length of transmissions (CB Rule 16, § 95.416). You must obey all other rules.

(d) You may use your CB station to transmit one-way communications concerning highway conditions to assist travelers.

[48 FR 24894, June 3, 1983, as amended at 57 FR 22442, May 28, 1992]

§ 95.419 (CB Rule 19) May I operate my CB station transmitter by remote control?

(a) You may not operate a CB station transmitter by radio remote control.

(b) You may operate a CB transmitter by wireline remote control if you obtain specific approval in writing from the FCC. To obtain FCC approval, you must show why you need to operate your station by wireline remote control. Send your request and justification to FCC, 1270 Fairfield Road, Gettysburg, PA 17325–7245. If you receive FCC approval, you must keep the approval as part of your station records. (See CB Rule 27, § 95.427.)

(c) Remote control means operation of a CB transmitter from any place other than the location of the CB transmitter. Direct mechanical control or direct electrical control by wire from some point on the same premises, craft or vehicle as the CB transmitter is not considered remote control.

[48 FR 24894, June 3, 1983, as amended at 57 FR 40343, Sept. 3, 1992]

§ 95.420 (CB Rule 20) May I connect my CB station transmitter to a telephone?

(a) You may connect your CB station transmitter to a telephone if you comply with all of the following:

(1) You or someone else must be present at your CB station and must—

(i) Manually make the connection (the connection must not be made by remote control);

(ii) Supervise the operation of the transmitter during the connection;

(iii) Listen to each communication during the connection; and

(iv) Stop all communications if there are operations in violation of these rules.

(2) Each communication during the telephone connection must comply with all of these rules.

(3) You must obey any restriction that the telephone company places on the connection of a CB transmitter to a telephone.

(b) The CB transmitter you connect to a telephone must not be shared with any other CB station.

(c) If you connect your CB transmitter to a telephone, you must use a phone patch device with has been registered with the FCC.

OTHER THINGS YOU NEED TO KNOW

§ 95.421 (CB Rule 21) What are the penalties for violating these rules?

(a) If the FCC finds that you have willfully or repeatedly violated the Communications Act or the FCC Rules, you may have to pay as much as $10,000 for each violation, up to a total of $75,000. (See section 503(b) of the Communications Act.)

(b) If the FCC finds that you have violated any section of the Communications Act or the FCC Rules, you may be ordered to stop whatever action caused the violation. (See section 312(b) of the Communications Act.)

(c) If a Federal court finds that you have willfully and knowingly violated any FCC Rule, you may be fined up to $500 for each day you committed the violation. (See section 502 of the Communications Act.)

(d) If a Federal court finds that you have willfully and knowingly violated any provision of the Communications

Act, you may be fined up to $10,000 or you may be imprisoned for one year, or both. (See section 501 of the Communications Act.)

[48 FR 24894, June 3, 1983, as amended at 57 FR 40343, Sept. 3, 1992]

§95.422 (CB Rule 22) How do I answer correspondence from the FCC?

(a) If it appears to the FCC that you have violated the Communications Act or these rules, the FCC may send you a discrepancy notice.

(b) Within the time period stated in the notice, you must answer with:

(1) A complete written statement about the apparent discrepancy;

(2) A complete written statement about any action you have taken to correct the apparent violation and to prevent it from happening again; and

(3) The name of the person operating at the time of the apparent violation.

(c) If the FCC sends you a letter asking you questions about your CB radio station or its operation, you must answer each of the questions with a complete written statement within the time period stated in the letter.

(d) You must not shorten your answer by references to other communications or notices.

(e) You must send your answer to the FCC office which sent you the notice.

(f) You must keep a copy of your answer in your station records. (See CB Rule 27, §95.427.)

§95.423 (CB Rule 23) What must I do if the FCC tells me that my CB station is causing interference?

(a) If the FCC tells you that your CB station is causing interference for technical reasons you must follow all instructions in the official FCC notice. (This notice may require you to have technical adjustments made to your equipment.)

(b) You must comply with any restricted hours of CB station operation which may be included in the official notice.

§95.424 (CB Rule 24) How do I have my CB station transmitter serviced?

(a) You may adjust an antenna to your CB transmitter and you may make radio checks. (A radio check means a one way transmission for a short time in order to test the transmitter.)

(b) You are responsible for the proper operation of the station at all times and are expected to provide for observations, servicing and maintenance as often as may be necessary to ensure proper operation. You must have all internal repairs or internal adjustments to your CB transmitter made in accordance with the Technical Regulations (see subpart E). The internal repairs or internal adjustments should be performed by or under the immediate supervision and responsibility of a person certified as technically qualified to perform transmitter maintenance and repair duties in the private land mobile services and fixed services by an organization or committee representative of users in those services.

(c) Except as provided in paragraph (d) of this section, each internal repair and each internal adjustment of a CB transmitter in which signals are transmitted must be made using a non-radiating (''dummy'') antenna.

(d) Brief test signals (signals not longer than one minute during any five minute period) using a radiating antenna may be transmitted in order to:

(1) Adjust an antenna to a transmitter;

(2) Detect or measure radiation of energy other than the intended signal; or

(3) Tune a receiver to your CB transmitter.

(Secs. 4(i) and 303(r), Communications Act of 1934, as amended, 47 U.S.C. 154(i) and 303(r), and sec. 553 of the Administrative Procedures Act, 5 U.S.C. 553)

[48 FR 24894, June 3, 1983, as amended at 49 FR 20673, May 16, 1984]

§95.425 (CB Rule 25) May I make any changes to my CB station transmitter?

(a) You must not make or have any one else make any internal modification to your CB transmitter.

(b) Internal modification does not include:

(1) Repair or servicing of a CB station transmitter (see CB Rule 24, §95.424); or

(2) Changing plug-in modules which were type accepted as part of your CB transmitter.

(c) You must not operate a CB transmitter which has been modified by anyone in any way, including modification to operate on unauthorized frequencies or with illegal power. (See CB Rules 9 and 11, §§95.409 and 95.411.)

§ 95.426 (CB Rule 26) Do I have to make my CB station available for inspection?

(a) If an authorized FCC representative requests to inspect your CB station, you must make your CB station and records available for inspection.

(b) A CB station includes all of the radio equipment you use.

§ 95.427 (CB Rule 27) What are my station records?

Your station records include the following documents, as applicable.

(a) A copy of each response to an FCC violation notice or an FCC letter. (See CB Rule 22, §95.422.)

(b) Each written permission received from the FCC. (See CB Rule 19, §95.419.)

§ 95.428 (CB Rule 28) How do I contact the FCC?

(a) Write to your nearest FCC Field Office if you:

(1) Want to report an interference complaint; or

(2) Want to know if the FCC has type-accepted a transmitter for CB.

(b) Write to the FCC, Wireless Telecommunications Bureau, Private Wireless Division, Washington, DC 20554, if you have questions about the RC Rules.

[48 FR 24894, June 3, 1983, as amended at 48 FR 41416, Sept. 15, 1983; 60 FR 50123, Sept. 28, 1995]

Subpart E—Technical Regulations

SOURCE: 53 FR 36789, Sept. 22, 1988, unless otherwise noted.

GENERAL PROVISIONS

§ 95.601 Basis and purpose.

This section provides the technical standards to which each *transmitter* (apparatus that converts electrical energy received from a source into RF (radio frequency) energy capable of being radiated) used or intended to be used in a station authorized in any of the Personal Radio Services must comply. This section also provides requirements for obtaining type acceptance or type certification for such transmitters. The Personal Radio Services are the GMRS (General Mobile Radio Service)—subpart A, the Family Radio Service (FRS)—subpart B, the R/C (Radio Control Radio Service)—subpart C, the CB (Citizens Band Radio Service)—subpart D, and the Low Power Radio Service (LPRS)—subpart G.

[61 FR 46566, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46566, Sept. 4, 1996, §95.601 was revised, effective Oct. 4, 1996. For the convenience of the user, the superseded text is set forth as follows:

§ 95.601 Basis and purpose.

These rules provide the technical standards to which each transmitter (apparatus that converts electrical energy received from a source into RF (radio frequency) energy capable of being radiated) used or intended to be used in a station authorized in any of the Personal Radio Services must comply. They also provide requirements for obtaining type acceptance of such transmitters. The Personal Radio Services are the GMRS (General Mobile Radio Service), the Family Radio Service (FRS), the R/C (Radio Control Radio Service), and the CB (Citizens Band Radio Service). For operating rules, see part 95, subpart A–GMRS; subpart B–FRS; subpart C–R/C; and subpart D–CB.

[61 FR 28769, June 6, 1996]

§ 95.603 Type acceptance or certification required.

(a) Each *GMRS transmitter* (a transmitter that operates or is intended to operate at a station authorized in the GMRS) must be type accepted.

(b) Each *R/C transmitter* (a transmitter that operates or is intended to operate at a station authorized in the R/C) must be type accepted, except one that transmits only in the 26–27 MHz frequency band and is *crystal controlled* (where the transmitted frequency is established by a *crystal* (a quartz piezoelectric element)).

(c) Each *CB transmitter* (a transmitter that operates or is intended to operate at a station authorized in the CB) must be type accepted. No CB transmitter type accepted pursuant to an application filed prior to September 10, 1976, shall be manufactured or marketed.

(d) Each FRS unit (a transmitter that operates or is intended to operate

in the FRS) must be certified for use in the FRS in accordance with Subpart J of Part 2 of this chapter.

(e) Each Low Power Radio Service transmitter (a transmitter that operates or is intended to operate in the LPRS) must be type accepted.

[53 FR 36789, Sept. 22, 1988, as amended at 61 FR 28769, June 6, 1996; 61 FR 46567, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, Sept. 4, 1996, §95.603 was amended by adding paragraph (e), effective Oct. 4, 1996.

§95.605 Type acceptance and certification procedures.

Any entity may request type acceptance for its transmitter when the transmitter is used in the GMRS, R/C, CB, IVDS, or LPRS following the procedures in part 2 of this chapter.

Any entity may request certification for its transmitter when the transmitter is used in the FRS following the procedures in part 2 of this chapter.

[61 FR 46567, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, Sept. 4, 1996, §95.605 was revised, effective Oct. 4, 1996. For the convenience of the user, the superseded text is set forth as follows:

§95.605 Type acceptance and certification procedures.

Any entity must request type acceptance for its transmitter when the transmitter is used in the GMRS, R/C or CB Radio Service, or IVDS following the procedures in part 2 of this chapter. Any entity must request certification for its transmitter when the transmitter is used in the FRS following the procedures in subpart J of part 2 of this chapter.

[61 FR 28769, June 6, 1996]

§95.607 CB transmitter modification.

Only the holder of the grant of authorization of the particular type accepted CB transmitter may make the modifications permitted under the provisions for type acceptance (see part 2 of this chapter.) No grantee shall make any of the following modifications to the transmitter without prior written permission from the *FCC* (Federal Communications Commission):

(a) The addition of any accessory or device not specified in the application for type acceptance and authorized by the FCC in granting the type acceptance;

(b) The addition of any switch, control or external connection;

(c) Any modification to provide for additional transmitting frequencies, increased modulation level, a different form of modulation, or increased *TP* (RF transmitter power expressed in *W* (watts), either *mean power* (TP averaged over at least 30 cycles of the lowest modulating frequency, typically 0.1 seconds at maximum power) or *peak envelope power* (TP averaged during 1 RF cycle at the highest crest of the modulation envelope), as measured at the transmitter output antenna terminals.)

TECHNICAL STANDARDS

§95.621 GMRS transmitter channel frequencies.

(a) The GMRS transmitter *channel frequencies* (reference frequencies from which the carrier frequency, suppressed or otherwise, may not deviate by more than the specified frequency tolerance) are 462.5500, 462.5625, 462.5750, 462.5875, 462.6000, 462.6125, 462.6250, 462.6375, 462.6500, 462.6625, 462.6750, 462.6875, 462.7000, 462.7125, 462.7250, 467.5500, 467.5750, 467.6000, 467.6250, 467.6500, 467.6750, 467.7000, and 467.7250.

NOTE: Certain GMRS transmitter channel frequencies are authorized only for certain station classes and station locations. *See* part 95, subpart A.

(b) Each GMRS transmitter for mobile station, small base station and control station operation must be maintained within a frequency tolerance of 0.0005%. Each GMRS transmitter for base station (except small base), mobile relay station or fixed station operation must be maintained within a frequency tolerance of 0.00025%.

[53 FR 47718, Nov. 25, 1988]

§95.623 R/C transmitter channel frequencies.

(a) The R/C transmitter channel frequencies are:

MHz	
26.995	72.03
27.045	72.05
27.095	72.07
27.145	72.09
27.195	72.11
27.255	72.13
72.01	72.15

72.17	72.89
72.19	72.91
72.21	72.93
72.23	72.95
72.25	72.97
72.27	72.99
72.29	75.41
72.31	75.43
72.33	75.45
72.35	75.47
72.37	75.49
72.39	75.51
72.41	75.53
72.43	75.55
72.45	75.57
72.47	75.59
72.49	75.61
72.51	75.63
72.53	75.65
72.55	75.67
72.57	75.69
72.59	75.71
72.61	75.73
72.63	75.75
72.65	75.77
72.67	75.79
72.69	75.81
72.71	75.83
72.73	75.85
72.75	75.87
72.77	75.89
72.79	75.91
72.81	75.93
72.83	75.95
72.85	75.97
72.87	75.99

NOTE: Certain R/C transmitter channel frequencies are authorized to operate only certain kinds of devices (see part 95, subpart C.)

(b) Each R/C transmitter that transmits in the 26–27 MHz frequency band with a mean TP of 2.5 W or less and that is used solely by the operator to turn on and/or off a device at a remote location, other than a device used solely to attract attention, must be maintained within a fequency tolerance of 0.01%. All other R/C transmitters that transmit in the 26–27 MHz frequency band must be maintained within a frequency tolerance of 0.005%. Except as noted in paragraph (c) of this section, R/C transmitters capable of operation in the 72–76 MHz band must be maintained within a frequency tolerance of 0.005%.

(c) All R/C transmitters capable of operation in the 72–76 MHz band that are manufactured in or imported into the United States, on or after March 1, 1992, or are marketed on or after March 1, 1993, must be maintained within a frequency tolerance of 0.002%. R/C transmitters operating in the 72–76 MHz band and marketed before March 1, 1993, may continue to be operated with a frequency tolerance of 0.005% until March 1, 1998.

[53 FR 36789, Sept. 22, 1988; 53 FR 52713, Dec. 29, 1988; 56 FR 15837, Apr. 18, 1991]

§ 95.625 CB transmitter channel frequencies.

(a) The CB transmitter channel frequencies are:

Channel No.	(MHz)
1	26.965
2	26.975
3	26.985
4	27.005
5	27.015
6	27.025
7	27.035
8	27.055
9	27.065
10	27.075
11	27.085
12	27.105
13	27.115
14	27.125
15	27.135
16	27.155
17	27.165
18	27.175
19	27.185
20	27.205
21	27.215
22	27.225
23	27.255
24	27.235
25	27.245
26	27.265
27	27.275
28	27.285
29	27.295
30	27.305
31	27.315
32	27.325
33	27.335
34	27.345
35	27.355
36	27.365
37	27.375
38	27.385
39	27.395
40	27.405

(b) Each CB transmitter must be maintained within a frequency tolerance of 0.005%.

§ 95.627 FRS unit channel frequencies.

(a) The FRS unit channel frequencies are:

Channel No.	(MHz)
1	462.5625
2	462.5875
3	462.6125

Channel No.	(MHz)
4	462.6375
5	462.6625
6	462.6875
7	462.7125
8	467.5625
9	467.5875
10	467.6125
11	467.6375
12	467.6625
13	467.6875
14	467.7125

(b) Each FRS unit must be maintained within a frequency tolerance of 0.00025%.

[61 FR 28769, June 6, 1996]

§95.629 LPRS transmitter frequencies.

(a) LPRS transmitters may operate on any frequency listed in paragraphs (b), (c), and (d) of this section. Channels 19, 20, 50, and 151–160 are available exclusively for law enforcement tracking purposes. AMTS transmissions are limited to the 216.750–217.000 MHz band for low power point-to-point network control communications by AMTS coast stations. Other AMTS transmissions in the 216–217 MHz band are prohibited.

(b) *Standard band channels.* (1) The following table indicates standard band frequencies. The channel bandwidth is 25 kHz.

Channel No.	Center frequency (MHz)
1	216.0125
2	216.0375
3	216.0625
4	216.0875
5	216.1125
6	216.1375
7	216.1625
8	216.1875
9	216.2125
10	216.2375
11	216.2625
12	216.2875
13	216.3125
14	216.3375
15	216.3625
16	216.3875
17	216.4125
18	216.4375
19	216.4625
20	216.4875
21	216.5125
22	216.5375
23	216.5625
24	216.5875
25	216.6125
26	216.6375
27	216.6625
28	216.6875
29	216.7125
30	216.7375
31	216.7625
32	216.7875
33	216.8125
34	216.8375
35	216.8625
36	216.8875
37	216.9125
38	216.9375
39	216.9625
40	216.9875

(2) LPRS transmitters operating on standard band channels must be maintained within a frequency stability of 50 parts per million.

(c) *Extra band channels.* (1) The following table indicates extra band frequencies. The channel bandwidth is 50 kHz.

Channel No.	Center frequency (MHz)
41	216.025
42	216.075
43	216.125
44	216.175
45	216.225
46	216.275
47	216.325
48	216.375
49	216.425
50	216.475
51	216.525
52	216.575
53	216.625
54	216.675
55	216.725
56	216.775
57	216.825
58	216.875
59	216.925
60	216.975

(2) LPRS transmitters operating on extra band channels must be maintained within a frequency stability of 50 parts per million.

(d) *Narrowband channels.* (1) The following table indicates narrowband frequencies. The channel bandwidth is 5 kHz and the authorized bandwidth is 4 kHz.

Channel No.	Center frequency (MHz)
61	216.0025
62	216.0075
63	216.0125
64	216.0175
65	216.0225
66	216.0275
67	216.0325

Channel No.	Center frequency (MHz)
68	216.0375
69	216.0425
70	216.0475
71	216.0525
72	216.0575
73	216.0625
74	216.0675
75	216.0725
76	216.0775
77	216.0825
78	216.0875
79	216.0925
80	216.0975
81	216.1025
82	216.1075
83	216.1125
84	216.1175
85	216.1225
86	216.1275
87	216.1325
88	216.1375
89	216.1425
90	216.1475
91	216.1525
92	216.1575
93	216.1625
94	216.1675
95	216.1725
96	216.1775
97	216.1825
98	216.1875
99	216.1925
100	216.1975
101	216.2025
102	216.2075
103	216.2125
104	216.2175
105	216.2225
106	216.2275
107	216.2325
108	216.2375
109	216.2425
110	216.2475
111	216.2525
112	216.2575
113	216.2625
114	216.2675
115	216.2725
116	216.2775
117	216.2825
118	216.2875
119	216.2925
120	216.2975
121	216.3025
122	216.3075
123	216.3125
124	216.3175
125	216.3225
126	216.3275
127	216.3325
128	216.3375
129	216.3425
130	216.3475
131	216.3525
132	216.3575
133	216.3625
134	216.3675
135	216.3725
136	216.3775
137	216.3825
138	216.3875
139	216.3925
140	216.3975
141	216.4025
142	216.4075
143	216.4125
144	216.4175
145	216.4225
146	216.4275
147	216.4325
148	216.4375
149	216.4425
150	216.4475
151	216.4525
152	216.4575
153	216.4625
154	216.4675
155	216.4725
156	216.4775
157	216.4825
158	216.4875
159	216.4925
160	216.4975
161	216.5025
162	216.5075
163	216.5125
164	216.5175
165	216.5225
166	216.5275
167	216.5325
168	216.5375
169	216.5425
170	216.5475
171	216.5525
172	216.5575
173	216.5625
174	216.5675
175	216.5725
176	216.5775
177	216.5825
178	216.5875
179	216.5925
180	216.5975
181	216.6025
182	216.6075
183	216.6125
184	216.6175
185	216.6225
186	216.6275
187	216.6325
188	216.6375
189	216.6425
190	216.6475
191	216.6525
192	216.6575
193	216.6625
194	216.6675
195	216.6725
196	216.6775
197	216.6825
198	216.6875
199	216.6925
200	216.6975
201	216.7025
202	216.7075
203	216.7125
204	216.7175
205	216.7225
206	216.7275
207	216.7325
208	216.7375
209	216.7425
210	216.7475
211	216.7525

Channel No.	Center frequency (MHz)
212	216.7575
213	216.7625
214	216.7675
215	216.7725
216	216.7775
217	216.7825
218	216.7875
219	216.7925
220	216.7975
221	216.8025
222	216.8075
223	216.8125
224	216.8175
225	216.8225
226	216.8275
227	216.8325
228	216.8375
229	216.8425
230	216.8475
231	216.8525
232	216.8575
233	216.8625
234	216.8675
235	216.8725
236	216.8775
237	216.8825
238	216.8875
239	216.8925
240	216.8975
241	216.9025
242	216.9075
243	216.9125
244	216.9175
245	216.9225
246	216.9275
247	216.9325
248	216.9375
249	216.9425
250	216.9475
251	216.9525
252	216.9575
253	216.9625
254	216.9675
255	216.9725
256	216.9775
257	216.9825
258	216.9875
259	216.9925
260	216.9975

(2) LPRS transmitters operating on narrowband channels must be maintained within a frequency stability of 1.5 parts per million.

[61 FR 46567, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, Sept. 4, 1996, §95.629 was redesignated as §95.631 and new §95.629 was added, effective Oct. 4, 1996.

§95.631 Emission types.

(a) A GMRS transmitter must transmit only emission types A1D, F1D, G1D, H1D, J1D, R1D, A3E, F3E, G3E, H3E, J3E or R3E. A non-voice emission is limited to selective calling or tone-operated squelch tones to establish or continue voice communications. See §95.181 (g) and (h).

(b) An R/C transmitter may transmit any appropriate non-voice emission which meets the emission limitations of §95.633.

(c) A CB transmitter may transmit only emission types A1D, H1D, J1D, R1D, A3E, H3E, J3E, R3E. A non-voice emission is limited to selective calling or tone-operated squelch tones to establish or continue voice communications. See §95.412 (b) and (c).

(d) An FRS unit may transmit only emission type F3E. A non-voice emission is limited to selective calling or tone-operated squelch tones to establish or continue voice communications.

(e) No GMRS or CB transmitter shall employ a digital modulation or emission.

(f) No GMRS, CB or R/C transmitter shall transmit non-voice data.

(g) An LPRS station may transmit any emission type appropriate for communications in this service. Two-way voice communications, however, are prohibited.

[53 FR 36789, Sept. 22, 1988. Redesignated and amended at 61 FR 28769, June 6, 1996, and further redesignated and amended at 61 FR 46567, 46568, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, 46568, Sept. 4, 1996, §95.631 was redesignated as §95.633 and new §95.631 was redesignated from §95.629 and amended by adding paragraph (g), effective Oct. 4, 1996.

§95.633 Emission bandwidth.

(a) The *authorized bandwidth* (maximum permissible bandwidth of a transmission) for emission type H1D, J1D, R1D, H3E, J3E or R3E is 4 kHz. The authorized bandwidth for emission type A1D or A3E is 8 kHz. The authorized bandwidth for emission type F1D, G1D, F3E or G3E is 20 kHz.

(b) The authorized bandwidth for any emission type transmitted by an R/C transmitter is 8 kHz.

(c) The authorized bandwidth for emission type F3E transmitted by a FRS unit is 12.5 kHz.

(d) For transmitters in the LPRS:

(1) The authorized bandwidth for narrowband frequencies is 4 kHz and the channel bandwidth is 5 kHz

(2) The channel bandwidth for standard band frequencies is 25 kHz.

(3) The channel bandwidth for extra band frequencies is 50 kHz.

(4) AMTS stations may use the 216.750–217.000 MHz band as a single 250 kHz channel so long as the signal is attenuated as specified in § 95.635(c).

[53 FR 36789, Sept. 22, 1988. Redesignated and amended at 61 FR 28769, June 6, 1996, and further redesignated and amended at 61 FR 46567, 46568, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, 46568, Sept. 4, 1996, § 95.633 was redesignated as § 95.635 and new § 95.633 was redesignated from § 95.631 and amended by adding paragraph (d), effective Oct. 4, 1996.

§ 95.635 Unwanted radiation.

(a) In addition to the procedures in part 2, the following requirements apply to each transmitter both with and without the connection of all attachments acceptable for use with the transmitter, such as an external speaker, microphone, power cord, antenna, etc.

(b) The power of each unwanted emission shall be less than TP as specified in the applicable paragraph:

Transmitter	Emission type	Applicable paragraphs
GMRS	A1D, A3E, F1D, G1D, F3E, G3E with filtering	(1), (3), (7)
	A1D, A3E, F1D, G1D, F3E, G3E without filtering	(5), (6), (7)
	H1D, J1D, R1D, H3E, J3E, R3E	(2), (4), (7)
FRS	F3E with filtering	(1), (3), (7)
	Note: Filtering refers to the requirement in § 95.635(b) R/C:	
27 MHz band	As specified in § 95.629(b)	(1), (3), (7)
72–76 MHz band	As specified in § 95.629(b)	(1), (3), (7), (10), (11), (12)
CB	A1D, A3E	(1), (3), (8), (9)
	H1D, J1D, R1D, H3E, J3E, R3E	(2), (4), (8), (9)
	A1D, A3E type accepted before September 10, 1976	(1), (3), (7)
	H1D, J1D, R1D, H3E, J3E, R3E type accepted before September 10, 1986.	(2), (4), (7)

(c) For transmitters designed to operate in the LPRS, emissions shall be attenuated in accordance with the following:

(1) Emissions for LPRS transmitters operating on standard band channels (25 kHz) shall be attenuated below the unmodulated carrier in accordance with the following:

(i) Emissions 12.5 kHz to 22.5 kHz away from the channel center frequency: at least 30 dB; and

(ii) Emissions more than 22.5 kHz away from the channel center frequency: at least 43 + 10log(carrier power in watts) dB.

(2) Emissions for LPRS transmitters operating on extra band channels (50 kHz) shall be attenuated below the unmodulated carrier in accordance with the following:

(i) Emissions 25 kHz to 35 kHz from the channel center frequency: at least 30 dB; and

(ii) Emissions more than 35 kHz away from the channel center frequency: at least 43 + 10log(carrier power in watts) dB.

(3) Emissions for LPRS transmitters operating on narrowband channels (5 kHz) shall be attenuated below the power (P) of the highest emission, measured in peak values, contained within the authorized bandwidth (4 kHz) in accordance with the following:

(i) On any frequency within the authorized bandwidth: Zero dB;

(ii) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 2 kHz up to and including 3.75 kHz: The lesser of 30 + 20(f_d-2) dB, or 55 + 10 log(P), or 65 dB; and

(iii) On any frequency beyond 3.75 kHz removed from the center of the authorized bandwidth: At least 55 + 10 log(P) dB.

(4) Emissions from AMTS transmitters using a single 250 kHz channel shall be attenuated below the unmodulated carrier in accordance with the following:

(i) Emissions from 125 kHz to 135 kHz away from the channel center frequency; at least 30 dB; and

(ii) Emissions more than 135 kHz away from the channel center frequency; at least 43 + 10log(carrier power in watts) dB.

[53 FR 36789, Sept. 22, 1988, as amended at 56 FR 15837, Apr. 18, 1991. Redesignated and amended at 61 FR 28769, 28770, June 6, 1996, and further redesignated and amended at 61 FR 46567, 46568, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, 46568, Sept. 4, 1996, §95.635 was redesignated as §95.637 and new §95.635 was redesignated from §95.633 and amended by adding paragraph (c), effective Oct. 4, 1996.

§95.637 Modulation standards.

(a) A GMRS transmitter that transmits emission types F1D, G1D, or G3E must not exceed a peak frequency deviation of plus or minus 5 kHz. A GMRS transmitter that transmits emission type F3E must not exceed a peak frequency deviation of plus or minus 5 kHz. A FRS unit that transmits emission type F3E must not exceed a peak frequency deviation of plus or minus 2.5 kHz, and the audio frequency response must not exceed 3.125 kHz .

(b) Each GMRS transmitter, except a mobile station transmitter with a power output of 2.5 W or less, must automatically prevent a greater than normal audio level from causing overmodulation. The transmitter also must include audio frequency low pass filtering, unless it complies with the applicable paragraphs of §95.631 (without filtering.) The filter must be between the modulation limiter and the modulated stage of the transmitter. At any frequency (f in kHz) between 3 and 20 kHz, the filter must have an attenuation of at least 60 $\log_{10}$ (f/3) dB greater than the attenuation at 1 kHz. Above 20 kHz, it must have an attenuation of at least 50 dB greater than the attenuation at 1 kHz.

(c) When emission type A3E is transmitted, the modulation must be greater than 85% but must not exceed 100%. Simultaneous amplitude modulation and frequency or phase modulation of a transmitter are not permitted.

(d) When emission type A3E is transmitted by a CB transmitter having a TP of greater than 2.5 W, the CB transmitter must automatically prevent the modulation from exceeding 100%.

(e) Each CB transmitter that transmits emission type H3E, J3E or R3E must be capable of transmitting the upper sideband. The capability of also transmitting the lower sideband is permitted.

[53 FR 36789, Sept. 22, 1988. Redesignated and amended at 61 FR 28769, 28770, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, Sept. 4, 1996, §95.637 was redesignated as §95.639 and new §95.637 was redesignated from §95.635, effective Oct. 4, 1996.

§95.639 Maximum transmitter power.

(a) No GMRS transmitter, under any condition of modulation, shall exceed:

(1) 50 W *Carrier power* (average TP during one unmodulated RF cycle) when transmitting emission type A1D, F1D, G1D, A3E, F3E or G3E.

(2) 50 W peak envelope TP when transmitting emission type H1D, J1D, R1D, H3E, J3E or R3E.

(b) No R/C transmitter, under any condition of modulation, shall exceed a carrier power or peak envelope TP (single-sideband only) of:

(1) 4 W in the 26–27 MHz frequency band, except on channel frequency 27.255 MHz;

(2) 25 W on channel frequency 27.255 MHz;

(3) 0.75 W in the 72–76 MHz frequency band.

(c) No CB transmitter, under any condition of modulation, shall exceed:

(1) 4 W Carrier power when transmitting emission type A1D or A3E;

(2) 12 W peak envelope TP when transmitting emission type H1D, J1D, R1D, H3E, J3E or R3E. Each CB transmitter which transmits emission type H3E, J3E or R3E must automatically prevent the TP from exceeding 12 W peak envelope TP or the manufacturer's rated peak envelope TP, whichever is less.

(d) No FRS unit, under any condition of modulation, shall exceed 0.500 W effective radiated power (ERP).

(e) The maximum transmitter output power authorized for LPRS stations is 100 mW.

[53 FR 36789, Sept. 22, 1988; 53 FR 44144, Nov. 1, 1988. Redesignated and amended at 61 FR 28769, 28770, June 6, 1996, and further redesignated and amended at 61 FR 46567, 46569, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, 46569, Sept. 4, 1996, § 95.639 was redesignated from § 95.637 and amended by adding paragraph (e), effective Oct. 4, 1996.

TYPE ACCEPTANCE REQUIREMENTS

§ 95.645 Control accessibility.

(a) No control, switch or other type of adjustment which, when manipulated, can result in a violation of the rules shall be accessible from the transmitter operating panel or from exterior of the transmitter enclosure.

(b) An R/C transmitter which incorporates plug-in frequency determining modules which are changed by the user must be type accepted with the modules. Each module must contain all of the frequency determining circuitry including the oscillator. Plug-in crystals are not considered modules and must not be accessible to the user.

[53 FR 36789, Sept. 22, 1988. Redesignated at 61 FR 28769, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, Sept. 4, 1996, § 95.645 was redesignated as § 95.647 and new § 95.645 was redesignated from § 95.643, effective Oct. 4, 1996.

§ 95.647 FRS unit and R/C transmitter antennas.

The antenna of each FRS unit, and the antenna of each R/C station transmitting in the 72–76 MHz band, must be an integral part of the transmitter. The antenna must have no gain (as compared to a half-wave dipole) and must be vertically polarized.

[61 FR 28770, June 6, 1996. Redesignated at 61 FR 46567, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, Sept. 4, 1996, § 95.647 was redesignated as § 95.649 and new § 95.647 was redesignated from § 95.645, effective Oct. 4, 1996.

§ 95.649 Power capability.

No CB, R/C, LPRS transmitter, or FRS unit shall incorporate provisions for increasing its transmitter power to any level in excess of the limits specified in § 95.639.

[61 FR 46569, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, 46569, Sept. 4, 1996, § 95.649 was redesignated as § 95.651 and new § 95.649 was redesignated from § 95.647 and revised, effective Oct. 4, 1996. For the convenience of the user, the superseded text is set forth as follows:

§ 95.649 Power capability.

No CB or R/C station transmitter or FRS unit shall incorporate provisions for increasing its transmitter power to any level in excess of the limit specified in § 95.637.

[61 FR 28770, June 6, 1996]

§ 95.651 Crystal control required.

All transmitters used in the Personal Radio Services must be crystal controlled, except an R/C station that transmits in the 26–27 MHz frequency band, a FRS unit, and a LPRS unit.

[61 FR 46569, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, 46569, Sept. 4, 1996, § 95.651 was redesignated as § 95.653 and new § 95.651 was redesignated from § 95.649 and revised, effective Oct. 4, 1996. For the convenience of the user, the superseded text is set forth as follows:

§ 95.651 Crystal control required.

All transmitters used in the Personal Radio Services must be crystal controlled, except an R/C station that transmits in the 26–27 MHz frequency band, and a FRS unit.

[61 FR 28770, June 6, 1996]

§ 95.653 Instructions and warnings.

(a) A user's instruction manual must be supplied with each transmitter marketed, and one copy (a draft or preliminary copy is acceptable provided a final copy is provided when completed) must be forwarded to the FCC with each request for type acceptance.

(b) The instruction manual must contain all information necessary for the proper installation and operation of the transmitter including:

(1) Instructions concerning all controls, adjustments and switches that may be operated or adjusted without resulting in a violation of the rules.

(2) Warnings concerning any adjustment that could result in a violation of the rules or that is recommended to be performed by or under the immediate

supervision and responsibility of a person certified as technically qualified to perform transmitter maintenance and repair duties in the private land mobile services and fixed services by an organization or committee representative of users of those services.

(3) Warnings concerning the replacement of any transmitter component (crystal, semiconductor, etc.) that could result in a violation of the rules.

(4) For a CMRS transmitter, warnings concerning licensing requirements and information concerning license application procedures.

[53 FR 36789, Sept. 22, 1988. Redesignated at 61 FR 28769, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, Sept. 4, 1996, §95.653 was redesignated as §95.655 and new §95.653 was redesignated from §95.651, effective Oct. 4, 1996.

§95.655 Frequency capability.

(a) No transmitter will be type accepted for use in the CB service if it is equipped with a frequency capability not listed in §95.625, and no transmitter will be type accepted for use in the GMRS if it is equipped with a frequency capability not listed in §95.621, unless such transmitter is also type accepted for use in another radio service for which the frequency is authorized and for which type acceptance is also required. (Transmitters with frequency capability for the Amateur Radio Services, Military Affiliate Radio System and Civil Air Patrol will not be type accepted.)

(b) All frequency determining circuitry (including crystals) and programming controls in each CB transmitter and in each GMRS transmitter must be internal to the transmitter and must not be accessible from the exterior of the transmitter operating panel or from the exterior of the transmitter enclosure.

(c) No add-on device, whether internal or external, the function of which is to extend the transmitting frequency capability of a CB transmitter beyond its original capability, shall be manufactured, sold or attached to any CB station transmitter.

[53 FR 47718, Nov. 25, 1988. Redesignated at 61 FR 28769, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, Sept. 4, 1996, §95.655 was redesignated from §95.653, effective Oct. 4, 1996.

ADDITIONAL TYPE ACCEPTANCE REQUIREMENTS FOR CB TRANSMITTERS

§95.665 [Reserved]

§95.667 CB transmitter power.

The dissipation rating of all the semiconductors or electron tubes which supply RF power to the antenna terminals of each CB transmitter must not exceed 10 W. For semiconductors, the dissipation rating is the greater of the collector or device dissipation value established by the manufacturer of the semiconductor. These values may be temperature de-rated by no more than 50° C. For an electron tube, the dissipation rating is the Intermittent Commercial and Amateur Service plate dissipation value established by the manufacturer of the electron tube.

[53 FR 36789, Sept. 22, 1988. Redesignated at 61 FR 28769, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, Sept. 4, 1996, §95.667 was redesignated as §95.669 and new §95.667 was redesignated from §95.665, effective Oct. 4, 1996.

§95.669 External controls.

(a) Only the following external transmitter controls, connections or devices will normally be permitted in a CB transmitter:

(1) Primary power connection. (Circuitry or devices such as rectifiers, transformers, or inverters which provide the nominal rated transmitter primary supply voltage may be used without voiding the transmitter type acceptance.)

(2) Microphone connection.

(3) Antenna terminals.

(4) Audio frequency power amplifier output connector and selector switch.

(5) On-off switch for primary power to transmitter. This switch may be combined with receiver controls such as the receiver on-off switch and volume control.

(6) Upper/lower sideband selector switch (for a transmitter that transmits emission type H3E, J3E or R3E).

(7) Carrier level selector control (for a transmitter that transmits emission type H3E, J3E or R3E.) This control

may be combined with the sideband selector switch.

(8) Channel frequency selector switch.

(9) Transmit/receive selector switch.

(10) Meter(s) and selector switch(es) for monitoring transmitter performance.

(11) Pilot lamp(s) or meter(s) to indicate the presence of RF output power or that the transmitter control circuits are activated to transmit.

(b) The FCC may authorize additional controls, connections or devices after considering the functions to be performed by such additions.

[53 FR 36789, Sept. 22, 1988. Redesignated at 61 FR 28769, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, Sept. 4, 1996, § 95.669 was redesignated as § 95.671 and new § 95.669 was redesignated from § 95.667, effective Oct. 4, 1996.

§ 95.671 Serial number.

The serial number of each CB transmitter must be engraved on the transmitter chassis.

[53 FR 36789, Sept. 22, 1988. Redesignated at 61 FR 28769, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, Sept. 4, 1996, § 95.671 was redesignated as § 95.673 and new § 95.671 was redesignated from § 95.669, effective Oct. 4, 1996.

§ 95.673 Copy of rules.

A copy of part 95, subpart D, of the FCC Rules, current at the time of packing of the transmitter, must be furnished with each CB transmitter marketed.

[53 FR 36789, Sept. 22, 1988. Redesignated at 61 FR 28769, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996]

EFFECTIVE DATE NOTE: At 61 FR 46567, Sept. 4, 1996, § 95.673 was redesignated from § 95.671, effective Oct. 4, 1996.

APPENDIX 1 TO SUBPART E—GLOSSARY OF TERMS

The definitions used in part 95, subpart E are:

Authorized bandwidth. Maximum permissible bandwidth of a transmission.

Carrier power. Average TP during one unmodulated RF cycle.

CB. Citizens Band Radio Service.

CB transmitter. A transmitter that operates or is intended to operate at a station authorized in the CB.

Channel frequencies. Reference frequencies from which the carrier frequency, suppressed or otherwise, may not deviate by more than the specified frequency tolerance.

Crystal. Quartz piezo-electric element.

Crystal controlled. Use of a crystal to establish the transmitted frequency.

dB. Decibels.

FCC. Federal Communications Commission.

Filtering. Refers to the requirement in § 95.633(b).

FRS. Family Radio Service.

GMRS. General Mobile Radio Service.

GMRS transmitter. A transmitter that operates or is intended to operate at a station authorized in the GMRS.

Harmful interference. Any transmission, radiation or induction that endangers the functioning of a radionavigation or other safety service or seriously degrades, obstructs or repeatedly interrupts a radiocommunication service operating in accordance with applicable laws, treaties and regulations.

Mean power. TP averaged over at least 30 cycles of the lowest modulating frequency, typically 0.1 seconds at maximum power.

Peak envelope power. TP averaged during 1 RF cycle at the highest crest of the modulation envelope.

R/C. Radio Control Radio Service.

R/C transmitter. A transmitter that operates or is intended to operate at a station authorized in the R/C.

RF. Radio frequency.

Transmitter. Apparatus that converts electrical energy received from a source into RF energy capable of being radiated.

TP. RF transmitter power expressed in W, either mean or peak envelope, as measured at the transmitter output antenna terminals.

W. Watts.

[53 FR 36789, Sept. 22, 1988, as amended at 61 FR 28770, June 6, 1996]

Subpart F—Interactive Video and Data Service (IVDS)

GENERAL PROVISIONS

SOURCE: 57 FR 8275, Mar. 9, 1992, unless otherwise noted.

§ 95.801 Scope.

This subpart sets out the regulations governing the licensing and operation of an Interactive Video and Data Service (IVDS) system. The rules in this subpart are to be read in conjunction

with applicable requirements contained elsewhere in the Commission's Rules.

§95.803 IVDS description.

(a) An IVDS system is a point-to-multipoint, multipoint-to-point, short distance communications service for its licensees to provide information, products, or services to, and allow interactive responses from, subscribers in the licensee's service area.

(b) The components of each IVDS system are its administrative apparatus, its response transmitter units (RTUs), and one or more cell transmitter stations (CTSs). RTUs may be used in any location within the service area. Each IVDS system is authorized for a specific service area and frequency segment. There can be a maximum of two IVDS systems per service area. There are two frequency segments available for each service area.

(c) Each IVDS system service area is one of the cellular system service areas as defined by the Commission.

[57 FR 8275, Mar. 9, 1992, as amended at 61 FR 32711, June 25, 1996]

§95.805 Permissible communications.

(a) Each IVDS system may conduct CTS-to-RTU and RTU-to-CTS communications between the system licensee and its subscriber's locations.

(b) Direct CTS-to-CTS communications within the same IVDS system are permitted.

(c) Direct RTU-to-RTU communications are prohibited. No mobile RTU in an IVDS system may be interconnected with the public switched network or any commercial mobile radio service.

(d) The licensee may use the IVDS system to interact with its subscribers concerning products and services offered, polls conducted, educational classes taught, and other activities in conjunction with video and data delivery systems.

(e) An IVDS system may provide fixed and mobile service to subscribers within its service area.

(f) No IVDS system may render a common carrier service.

[57 FR 8275, Mar. 9, 1992, as amended at 57 FR 36373, Aug. 13, 1992; 61 FR 32711, June 25, 1996]

SYSTEM LICENSE REQUIREMENTS

§95.811 License requirements.

(a) Each IVDS system must be licensed.

(b) Each CTS where the antenna does not exceed 6.1 meters (m) (20 feet) above ground or an existing man-made structure (other than an antenna structure) is authorized under the IVDS system license. All other CTSs must be individually licensed to the system licensee.

(c) Each component RTU in an IVDS system is authorized under the IVDS system license or if associated with an individually licensed CTS, under that CTS license.

(d) The term of each IVDS system license and each CTS license is five years.

[57 FR 8275, Mar. 9, 1992, as amended at 57 FR 36373, Aug. 13, 1992]

§95.813 Eligibility.

(a) An entity is eligible to hold an IVDS system license and its associated individual CTS licenses if:

(1) The entity is an individual who is not a representative of a foreign government; or

(2) The entity is a partnership and no partner is a representative of a foreign government; or

(3) The entity is a corporation organized under the laws of the United States of America; or

(4) The entity is a trust and no beneficiary is a representative of a foreign government.

(b) No entity is eligible to hold an IVDS system license if:

(1) The entity already holds an IVDS system license or has an interest in an IVDS system license for the same service area.

(2) The entity had an IVDS system license canceled within the past three years for failure to meet the construction requirements specified in §95.831.

(c) Each individually licensed CTS must also be held by the IVDS system license for the service area in which the CTS is located.

[57 FR 8275, Mar. 9, 1992, as amended at 58 FR 25952, Apr. 29, 1993]

§ 95.815 License application.

(a) An application for an IVDS system license may be filed by an eligible applicant for a service area only when there are less than two existing IVDS system licenses.

(b) Each application for an IVDS system license must be made on a separate FCC Form 600, and must be submitted to the Federal Communications Commission, Interactive Video and Data Service, P.O. Box 358365, Pittsburgh, PA 15251–5365. Each application for a CTS license where the CTS antenna exceeds 6.1m (20 feet) (see § 95.811(b)) must be made on a separate FCC Form 574, and must be submitted to the address set forth in § 1.1102 of this chapter.

(c) Each application shall be personally signed by the applicant, if the applicant is an individual; by one of the partners, if the applicant is a partnership; or by an officer or duly authorized employee, if the applicant is a corporation.

(d) Each application for an IVDS system license must include the following:

(1) A cover sheet specifying the applicant's name and address and the specific service area number and name as defined in § 95.803.

(2) A completed application (FCC Form 600).

(3) A plan showing how the applicant intends to minimize co-channel interference and interference to adjacent channel users and a showing that the proposed system will provide coverage (39 dbu) to at least 50 percent of the population (1990 census) or land area within the service area.

(e) Each IVDS system license is licensed for an unlimited number of CSTs that meet the 6.1 meter (20 foot) criteria.

(f) Each request by an IVDS system licensee to add, delete, or modify an individually licensed CTS (the CTS antenna exceeds 6.1m (20 feet) (See § 95.811(b))) must include the following:

(1) A cover sheet specifying the licensee's name and address and the specific service area number and name where the IVDS system is located.

(2) A description of the system after the proposed addition, deletion, or modification, including the population in the service area, the number of component CTSs, and an explanation of how the system will satisfy the service requirements specified in § 95.831.

(3) A separate application (FCC Form 600) for each CTS that is being added or modified.

(4) The license for each CTS that is being deleted.

(g) Any application not complying with the Commission's Rules will be dismissed.

(h) Each application will be processed on a first-come-first-served basis.

[57 FR 8275, Mar. 9, 1992, as amended at 57 FR 36373, Aug. 13, 1992; 58 FR 25952, Apr. 29, 1993; 61 FR 49075, Sept. 18, 1996]

EFFECTIVE DATE NOTE: At 61 FR 49075, Sept. 18, 1996, § 95.815 was amended by revising paragraphs (b), (d)(2), and (f)(3), effective Nov. 18, 1996. For the convenience of the user, the superseded text is set forth as follows:

§ 95.815 License application.

* * * * *

(b) Each application for an IVDS system license and each application for a CTS license where the CTS antenna exceeds 6.1m (20 feet) (see § 95.811(b)) must be made on a separate FCC Form 574. Each application for an IVDS system license must be submitted to the Federal Communications Commission, Interactive Video and Data Service, P.O. Box 358365, Pittsburgh, PA 15251–5365. Each application for the CTS must be submitted to the address set forth in § 1.1102 of the Commission's Rules.

* * * * *

(d) * * *

(2) A completed application (FCC Form 574).

* * * * *

(f) * * *

(3) A separate application (FCC Form 574) for each CTS that is being added or modified.

* * * * *

§ 95.816 Competitive bidding proceedings.

(a) Mutually exclusive IVDS initial applications are subject to competitive bidding.

(b) The General Procedures set forth in 47 CFR part 1, subpart Q are applicable to competitive bidding proceedings

used to select among mutually exclusive applicants for initial IVDS licenses.

(c) The specific procedures applicable to auctioning particular IVDS licenses will be set forth by Public Notice. Generally, the following competitive bidding procedures will be used to auction mutually exclusive IVDS licenses. The Commission, however, may design and test alternative procedures.

(1) *Competitive bidding design options and mechanisms.* The Wireless Telecommunications Bureau will select competitive bidding design(s) and mechanisms in accordance with §§ 1.2103 and 1.2104 of this chapter. If simultaneous multiple round bidding is used, the Wireless Telecommunications Bureau has the discretion to vary the duration of the bidding rounds or the interval at which bids are accepted at any time before or during the course of the auction.

(2) *Forms.* (i) Applicants must submit short-form applications (FCC Form 175) as specified in Commission Public Notices. Minor deficiencies may be corrected prior to the auction. Major modifications such as changes in ownership, failure to sign an application or failure to submit required certifications will result in the dismissal of the application. *See* 1.2105(a) and (b) of this chapter.

(ii) Applicants must submit a long-form application (FCC Form 600) within ten (10) business days after being notified that it is the winning bidder for a license. *See* 1.2107(c) and (d) of this chapter.

(3) *Upfront payments.* For oral outcry bidding, applicants will be required to show the Commission or its representative, immediately prior to the auction, a cashiers check for at least $2500 in order to get a bidding number and secure a place in the room where the bidding will take place. Bidders will be required to have $2500 upfront money for every five licenses they win. No upfront payment will be required from applicants in single-round sealed bid auctions. See 47 CFR 1.2106.

(4) *Down payments. See* § 1.2107(b) of this chapter.

(5) *Full payment.* Auction winners, except for small businesses eligible for installment payments, must pay the balance of their winning bids in a lump sum within five (5) business days following the grant of their license(s). The grant of a license(s) to an auction winner(s) will be conditioned on the timely payment of all monies due the Commission. See 47 CFR 1.2109(a).

(6) *Withdrawal, default or disqualification. See* §§ 1.2104(g) and 1.2109 of this chapter.

(d) *Designated entities.* Designated entities are small businesses, and businesses owned by members of minority groups and/or women, as defined in 47 CFR 1.2110(b).

(1) *Bidding credits.* A winning bidder that qualifies as a business owned by women and/or minorities may use a bidding credit of twenty five (25) percent to lower the cost of its winning bid.

(2) *Installment payments.* Each licensee that qualifies as a small business may pay the remaining 80 percent of the net auction price in quarterly installment payments pursuant to § 1.2110(e) of this chapter. Licensees who qualify for installment payments are entitled to pay their winning bid amount in installments over the term of the license, with interest charges to be fixed at the time of licensing at a rate equal to the rate for five-year U.S. Treasury obligations. Payments shall include interest only for the first two years and payments of interest and principal amortized over the remaining three years of the license term. A license issued to an eligible small business that elects installment payments shall be conditioned on the full and timely performance of the license holder's quarterly payments.

(3) *Audits.* (i) Applicants and licensees claiming eligibility under this section shall be subject to audits by the Commission, using in-house and contract resources. Selection for audit may be random, on information, or on the basis of other factors.

(ii) Consent to such audits is part of the certification included in the short-form application (Form 175). Such consent shall include consent to the audit of the applicant's or licensee's books, documents, and other material (including accounting procedures and practices) regardless of form or type, sufficient to confirm that such applicant's

or licensee's representations are, and remain, accurate. Such consent shall include inspection at all reasonable times of the facilities, or parts thereof, engaged in providing and transacting business, or keeping records regarding licensed IVDS and shall also include consent to the interview of principals, employees, customers and suppliers of the applicant or licensee.

(e) *Unjust enrichment.* Any business owned by minorities and/or women that obtains a IVDS license through the benefit of tax certificates shall not assign or transfer control of its license within one year of its license grant date. If the assignee or transferee is a business owned by minorities and/or women, this paragraph shall not apply; Provided, however, that the assignee or transferee shall not assign or transfer control of the license within one year of the grant date of the assignment or transfer.

[59 FR 24957, May 13, 1994, as amended at 61 FR 49075, Sept. 18, 1996]

EFFECTIVE DATE NOTE: At 61 FR 49075, Sept. 18, 1996, § 95.816 was amended by revising paragraphs (c)(1), (c)(2), (c)(4), (c)(6), and (d)(1); removing paragraph (d)(2); redesignating paragraph (d)(3) as (d)(2) and revising it; and adding new paragraph (d)(3), effective Nov. 18, 1996. For the convenience of the user, the superseded text is set forth as follows:

§ 95.816 Competitive bidding proceedings.

* * * * *

(c) * * *

(1) *Competitive bidding design.* Sequential oral (oral outcry) auctions will be used to assign licenses in and around large urban areas and single-round sealed bidding will be used for rural areas unless otherwise specified by the Commission. See 47 CFR 1.2103 and 1.2104.

(2) *Forms.* (i) Applicants must submit short-form applications (FCC Form 175) as specified in Commission Public Notices. Minor deficiencies may be corrected prior to the auction. Major modifications such as changes in ownership, failure to sign an application or failure to submit required certifications will result in the dismissal of the application. See 47 CFR 1.2105(a) and (b).

(ii) Applicants must submit a long-form application (FCC Form 574) within ten (10) business days after being notified that it is the winning bidder for a license. See 47 CFR 1.2107 (c) and (d).

* * * * *

(4) *Down payments.* Within five (5) business days after an oral outcry auction is over, or within five (5) business days after being notified that it is the high bidder in a single round sealed bid auction, a high bidder on a particular license(s) must submit to the Commission's lockbox bank such additional funds as are necessary to bring total deposits (upfront payment plus down payment) up to twenty (20) percent of the high bid(s). Small businesses eligible and electing to use installment payments pursuant to § 95.816(d)(3) are required to bring their total deposits up to ten (10) percent of their winning bid. The remainder of the twenty (20) percent down payment must be submitted within five (5) business days of the grant of their license(s). See 47 CFR 1.2107(b).

* * * * *

(6) Default or disqualification, see 47 CFR 1.2104(g).

(i) *Sequential oral auctions.* If a high bidder, after signing a bid confirmation form, fails to make the required down payment, fails to pay for a license, or is otherwise disqualified, it will be assessed a penalty equal to the difference between its winning bid and the winning bid the next time the license is auctioned by the Commission, plus three (3) percent of the lower of these two amounts.

(ii) *Single round sealed bid auctions.* If a high bidder withdraws its bid prior to making the required down payment, it will be assessed a penalty equal to the difference between its bid and the next highest bid. If a high bidder, after having made the required down payment for a license, fails to pay the remaining amount for the license, or is otherwise disqualified, it will be assessed a penalty equal to the difference between its winning bid and the winning bid the next time the license is auctioned by the Commission plus three (3) percent of the lower of these two amounts.

(d) * * *

(1) *Bidding credits.* A winning bidder that qualifies as a business owned by women and/or minorities may use a bidding credit of twenty-five (25) percent to lower the cost of its winning bid. A bidding credit is available for a license for either frequency segment A or frequency segment B in each service area. A bidding credit, however, may be applied to only one of the two licenses available in each service area.

(2) *Tax certificates.* Any initial investor in a business owned by minorities and/or women and who provides ''start-up'' financing, which allows such business to acquire a

IVDS license(s), and any investor who purchases ownership in an interest in a IVDS license owned by minorities and/or women within the first year after license issuance, which allows for the stabilization of the entity's capital base, may, upon the sale of such investment or interest, request from the Commission a tax certificate, so long as such investor transaction does not reduce minority or female ownership or control in the entity below 50.1 percent. Any IVDS licensee who assigns or transfers control of its license to a business owned by minorities and/or women may request that the Commission issue it a tax certificate.

(3) *Installment payments.* Small businesses, including small businesses owned by women and/or minorities may elect to pay the full amount of their bid in installments over the term of their licenses. See 47 CFR 1.2110(d).

* * * * *

§95.817 Application for renewal of license.

(a) Each application for renewal of an IVDS system license and for renewal of each individually licensed CTS shall be submitted on a Commission-generated FCC Form 574–R when the licensee has received that form in the mail from the Commission. If the licensee has not received the Form 574–R within sixty days of expiration, application for renewal shall be submitted on FCC Form 405–A.

(b) Each application for renewal must be submitted as part of a renewal package to the address set forth in §1.1102 of the Commission's Rules.

(c) The renewal package must include a cover sheet specifying the licensee's name and address and the service area number and name.

§95.819 License transferability.

(a) IVDS system licenses acquired through competitive bidding procedures may be transferred, assigned, sold, or given away only in accordance with the provisions and procedures set forth in 47 CFR 1.2111.

(b) Except for licenses acquired through competitive bidding procedures, the licensees may not transfer, assign, sell, or give the IVDS system licenses or any component CTS licenses to any other entity until the five year construction benchmark (50 percent coverage) has been met.

(c) Once the five year construction benchmark has been met, licensees of IVDS systems that were not acquired through competitive bidding may transfer, sell, assign, or give the IVDS system licenses together with all of its component CTS licenses to any other entity in accordance with the provisions of §95.821. If the licensee sells or gives away the apparatus the new owner must obtain a new IVDS system license and CTS licenses before placing it in operation.

[59 FR 24958, May 13, 1994]

§95.821 Application for transfer of control.

If an IVDS system licensee agrees to a change in control of the station, the holder must request Commission consent for change of control by filing a Form 703. The licensee shall mail the request, together with the filing fee, to the address specified in §1.1102 of this chapter. The document granting such consent must be kept as part of the IVDS system authorization. An applicant for voluntary transfer of control or assignment under this section where the subject license was acquired by the transferor or assignor through a system of random selection shall, together with its application for transfer of control or assignment, file with the Commission the associated contracts for sale, option agreements, management agreements, or other documents disclosing the total consideration that the applicant would receive in return for the transfer or assignment of its license. This information should include not only a monetary purchase price, but also any future, contingent, in-kind, or other consideration (e.g., management or consulting contracts either with or without an option to purchase; below-market financing).

[48 FR 35237, Aug. 3, 1983, as amended at 59 FR 9102, Feb. 25, 1994]

SYSTEM REQUIREMENTS

§95.831 Service requirements.

Subject to the initial construction requirements of Section 95.833, each IVDS system licensee must make the service available to at least 50 percent

of the population or land area located within the service area.

[61 FR 1288, Jan. 19, 1996]

§ 95.833 Construction requirements.

(a) Each IVDS system licensee must make the service available to at least 30 percent of the population or land area within the service area within three years of grant of the IVDS system license, and 50 percent of the population or land area within five years of grant of the IVDS system license. Failure to do so will cancel the IVDS system license automatically. For the purposes of this section, a CTS is not considered as providing service unless that CTS and two associated RTUs are placed in operation.

(b) Each IVDS system licensee must file a progress report at the conclusion of each of the two benchmark periods to inform the Commission of the construction status of the system. The report must be addressed to: Federal Communications Commission. Wireless Telecommunications Bureau, Special Services Branch, 1270 Fairfield Road, Gettysburg, PA 17325–7245. The report must include:

(1) A showing of how the system meets the benchmark; and

(2) A list, including addresses, of all component CTSs constructed.

[61 FR 1288, Jan. 19, 1996]

§ 95.835 Station identification.

No RTU or CTS is required to transmit a station identification announcement.

§ 95.837 Station inspection.

Upon request by an authorized Commission representative, the IVDS system licensee must make any component CTS available for inspection.

§ 95.839 Operation in the National Radio Quiet Zone.

(a) Before constructing a CTS in any area within the National Radio Quiet Zone (see § 95.41) or before changing frequency segment, transmitter power, antenna height or directivity, or the coverage area of an existing CTS or RTU located within any area within the National Radio Quiet Zone, the licensee must give written notification thereof to the Interference Office, National Radio Astronomy Observatory, P.O. Box 2, Green Bank, WV 24944.

(b) The notification must include the geographical coordinates of all component CTS antennas, antenna ground elevation above mean sea level, antenna center of radiation above ground level, antenna directivity, proposed frequency, type of emission, and transmitter power.

(c) If an objection to the proposed CTS is received by the Commission from the National Radio Astronomy Observatory at Green Bank, Pocahontas County, WV, for itself or on behalf of the Naval Research Laboratory at Sugar Grove Pendleton County, WV, within 20 days from the date of notification, the Commission will consider all aspects of the problem and take whatever action is deemed appropriate.

§ 95.841 Operation near a Commission monitoring facility.

Each CTS and each RTU transmitting from a location within 1.6 km (1 mile) of a Commission monitoring facility must protect that facility from harmful interference. Failure to do so could result in imposition of restrictions upon the operation of the CTS or RTU by the Engineer-in-Charge of the facility. (Geographical coordinates of the facilities that require protection are listed in § 0.121(c) of this chapter.)

TECHNICAL STANDARDS

§ 95.851 Type acceptance.

Each CTS and RTU transmitter must be typed-accepted for use in the IVDS in accordance with subpart J of part 2 of this chapter.

§ 95.853 Frequency segments.

(a) Frequency segment A is 218.0–218.500 MHz. Frequency segment B is 218.501–219.0 MHz.

(b) Each CTS and each RTU in the same IVDS system shall transmit in the same assigned frequency segment.

§ 95.855 Transmitter effective radiated power limitation.

(a) The effective radiated power (ERP) of each CTS and RTU shall be limited to the minimum necessary for successful communications. RTUs with

powers in excess of 100 milliwatts must incorporate automatic power control to ensure the minimum ERP is used. No CTS may transmit with an ERP exceeding 20 watts. No fixed RTU may transmit with an ERP exceeding 20 watts. No mobile RTU may transmit with an ERP exceeding 100 milliwatts mean power.

(b) For an IVDS system located in a TV Channel 13 station Grade B predicted contour, the maximum ERP shall be limited as follows:

TV channel 13 service area	Maximum CTS ERP (watts)
City Grade	20
Grade A	7
Grade B	1
Grade B +2 miles	1
Grade B +3 miles	3
Grade B +4 miles	10
Grade B +5 miles and beyond	20

[57 FR 8275, Mar. 9, 1992, as amended at 61 FR 32711, June 25, 1996]

§95.857 Emission standards.

(a) All transmissions by each CTS and by each RTU shall use an emission type that complies with the following standard for unnecessary radiation.

(b) All spurious and out-of-band emissions shall be attenuated:

(1) Zero dB on any frequency within the authorized frequency segment.

(2) At least 28 dB on any frequency removed from the midpoint of the assigned frequency segment by more than 250 kHz up to and including 750 kHz;

(3) At least 35 dB on any frequency removed from the midpoint of the assigned frequency segment by more than 750 kHz up to and including 1250 kHz;

(4) At least 43 plus 10 log (base 10) (mean power in watts) dB on any frequency removed from the midpoint of the assigned frequency segment by more than 1250 kHz.

(c) When testing for type acceptance, all measurements of unnecessary radiation are performed using a carrier frequency as close to the edge of the authorized frequency segment as the transmitter is designed to be capable of operating.

(d) The resolution bandwidth of the instrumentation used to measure the emission power shall be 100 Hz for measuring emissions up to and including 250 kHz from the edge of the authorized frequency segment, and 10 kHz for measuring emissions more than 250 kHz from the edge of the authorized frequency segment. If a video filter is used, its bandwidth shall not be less than the resolution bandwidth. The power level of the highest emission within the frequency segment, to which the attenuation is referenced, shall be remeasured for each change in resolution bandwidth.

§95.859 Antennas.

(a) The CTS antenna includes the radiating element(s), tower, supports and all appurtenances. No CTS antenna shall be elevated higher than necessary to assure adequate service.

(1) A CTS antenna located within a boundary line 16 km (10 miles) outside the Grade B contour of a TV Channel 13 station may not exceed a maximum Height Above Average Terrain (HAAT), as defined in §90.309, and maximum ERP as set forth below:

HAAT		Maximum ERP (watts)
(m)	(feet)	
0–36.6	0–120	20.0
36.6–73.2	121–240	5.0
73.3–152.4	241–500	1.2
152.5–304.8	501–1000	0.29
304.9–609.6	1001–2000	0.073

(2) A CTS antenna located beyond a boundary line 16 km (10 miles) outside the Grade B contour of a TV Channel 13 station may not exceed a maximum HAAT, as defined in §90.309, and maximum ERP as set forth below:

HAAT		Maximum ERP (watts)
(m)	(feet)	
0–152.4	0–500	20.0
152.5–304.8	501–1000	5.0
304.9–609.6	1001–2000	1.2

(b) No CTS antenna shall be located within 61 m (200 feet) of a residential dwelling unless the IVDS system licensee has reduced power such that the field strength of the CTS antenna at the residential dwelling does not increase relative to the field strength of the CTS antenna at 61 m or obtained the written concurrence of the resident(s) within 61 m of the CTS antenna. The written concurrence must be kept as part of the IVDS system authorization.

(c) The RTU may be connected to an external antenna not more than 6.1 m (20 feet) above ground or above an existing man-made structure (other than an antenna structure). Connectors that are used to connect RTUs to an external antenna shall not be of the types generally known as ''F-type'' or ''BNC type.'' Use of an external antenna is subject to § 95.861.

[57 FR 36373, Aug. 13, 1992]

§ 95.861 Interference.

(a) When an IVDS system suffers harmful interference within its service area from or causes harmful interference to another IVDS system, the licensees of both systems must cooperate and resolve the problem by mutually satisfactory arrangements. If the licensees are unable to do so, the Commission may impose restrictions including, but not limited to, specifying the transmitter power, antenna height, or area or hours of operation of the stations concerned.

(b) The use of any frequency segment at a given geographical location may be denied when, in the judgment of the Commission, its use in that location is not in the public interest; the use of a frequency segment specified for the IVDS system may be restricted as to specified geographical areas, maximum power, or other operating conditions.

(c) Unless the IVDS system licensee obtains written consent from the TV Channel 13 station licensee to dispense with this notification, each IVDS system licensee must notify all households located both within a TV Channel 13 station Grade B predicted contour and the IVDS system service area of the potential for interference from an IVDS system. The IVDS system licensee must also inform those potentially affected households that it will eliminate any objectionable interference to television reception caused by its IVDS system. This notification shall be made no earlier than two weeks before and no later than two weeks after initiation of IVDS in the TV Channel 13 station Grade B predicted contour. The written consent must be kept as part of the IVDS system authorization.

(d) Each IVDS system licensee must provide upon request, and install free of charge, an interference reduction device to any household within a TV Channel 13 station Grade B predicted contour that experiences interference due to a component CTS or RTU.

(e) Each IVDS system licensee must investigate and eliminate interference to television broadcasting and reception, from its component CTSs and RTUs, within 30 days of the time it is notified in writing, by either an affected television station, an affected viewer, or the Commission, of an interference complaint. Should the licensee fail to eliminate the interference within the 30 day period, the CTS or RTU causing the interference must discontinue operation.

(f) The boundaries for each IVDS service area, as defined in § 95.803, are the limit of interference protection for an IVDS system.

[57 FR 8275, Mar. 9, 1992, as amended at 57 FR 36374, Aug. 13, 1992]

§ 95.863 Duty cycle.

(a) Except as provided in paragraph (b) of this section, the maximum duty cycle of each RTU, either fixed or mobile, shall not exceed 5 seconds-per-hour, or, alternatively, not exceed one percent within any 100 millisecond interval.

(b) The duty cycle limitation specified above for RTUs does not apply in the following situations:

(1) To fixed and mobile RTUs when there is no TV channel 13 predicted Grade B contour overlap in the licensed service area; or

(2) To fixed RTUs in areas where there is Grade B contour overlap and the RTU is located outside the TV

channel 13 predicted Grade B contour but within the licensed service area.

[61 FR 32711, June 25, 1996]

Subpart G—Low Power Radio Service (LPRS)

SOURCE: 61 FR 46569, Sept. 4, 1996, unless otherwise noted.

EFFECTIVE DATE NOTE: At 61 FR 46569, Sept. 4, 1996, subpart G, consisting of §§95.1001—95.1019, was added to part 95, effective Oct. 4, 1996.

GENERAL PROVISIONS

§ 95.1001 Eligibility.

An entity is authorized by rule to operate a LPRS transmitter and is not required to be individually licensed by the FCC if it is not a representative of a foreign government and if it uses the transmitter only in accordance with §95.1009. Each entity operating a LPRS transmitter for AMTS purposes must hold an AMTS license under part 80 of this chapter.

§ 95.1003 Authorized locations.

LPRS operation is authorized:

(a) Anywhere CB station operation is permitted under §95.405(a); and

(b) Aboard any vessel or aircraft of the United States, with the permission of the captain, while the vessel or aircraft is either travelling domestically or in international waters or airspace.

§ 95.1005 Station identification.

An LPRS station is not required to transmit a station identification announcement.

§ 95.1007 Station inspection.

All LPRS system apparatus must be made available for inspection upon request by an authorized FCC representative.

§ 95.1009 Permissible communications.

LPRS stations may transmit voice, data, or tracking signals as permitted in this section. Two-way voice communications are prohibited.

(a) Auditory assistance communications (including but not limited to applications such as assistive listening devices, audio description for the blind, and simultaneous language translation) for:

(1) Persons with disabilities. In the context of the LPRS, the term ''disability'' has the meaning given to it by section 3(2)(A) of the Americans with Disabilities Act of 1990 (42 U.S.C. 12102(2)(A)), *i.e,* persons with a physical or mental impairment that substantially limits one or more of the major life activities of such individuals;

(2) Persons who require language translation; or

(3) Persons who may otherwise benefit from auditory assistance communications in educational settings.

(b) Health care related communications for the ill.

(c) Law enforcement tracking signals (for homing or interrogation) including the tracking of persons or stolen goods under authority or agreement with a law enforcement agency (federal, state, or local) having jurisdiction in the area where the transmitters are placed.

(d) AMTS point-to-point network control communications.

§ 95.1011 Channel use policy.

(a) The channels authorized to LPRS systems by this part are available on a shared basis only and will not be assigned for the exclusive use of any entity.

(b) Those using LPRS transmitters must cooperate in the selection and use of channels in order to reduce interference and make the most effective use of the authorized facilities. Channels must be selected in an effort to avoid interference to other LPRS transmissions.

(c) Operation is subject to the conditions that no harmful interference is caused to the United States Navy's SPASUR radar system (216.88–217.08 MHz) or to TV reception within the Grade B contour of any TV channel 13 station or within the 68 dBu predicted contour of any low power TV or TV translator station operating on channel 13.

§ 95.1013 Antennas.

(a) The maximum allowable ERP for a station in the LPRS is 100 mW.

(b) AMTS stations must employ directional antennas.

(c) Antennas used with LPRS units must comply with the following:

(1) For LPRS units operating entirely within an enclosed structure, e.g., a building, there is no limit on antenna height;

(2) For LPRS units not operating entirely within an enclosed structure, the tip of the antenna shall not exceed 30.5 meters (100 feet) above ground. In cases where harmful interference occurs the FCC may require that the antenna height be reduced; and

(3) The height limitation in paragraph (c)(2) of this section does not apply to LPRS units in which the antenna is an integral part of the unit.

§ 95.1015 Disclosure policies.

(a) Manufacturers of LPRS transmitters used for auditory assistance, health care assistance, and law enforcement tracking purposes must include with each transmitting device the following statement: ''This transmitter is authorized by rule under the Low Power Radio Service (47 C.F.R. Part 95) and must not cause harmful interference to TV reception or United States Navy SPASUR installations. You do not need an FCC license to operate this transmitter. This transmitter may only be used to provide: auditory assistance to persons with disabilities, persons who require language translation, or persons in educational settings; health care services to the ill; law enforcement tracking services under agreement with a law enforcement agency; or automated maritime telecommunications system (AMTS) network control communications. Two-way voice communications and all other types of uses not mentioned above are expressly prohibited.''

(b) Prior to operating a LPRS transmitter for AMTS purposes, an AMTS licensee must notify, in writing, each television station that may be affected by such operations, as defined in § 80.215(h) of this chapter. The notification provided with the station's license application is sufficient to satisfy this requirement if no new television stations would be affected.

§ 95.1017 Labeling requirements.

(a) Each LPRS transmitting device shall bear the following statement in a conspicuous location on the device: ''This device may not interfere with TV reception or federal government radar, and must accept any interference received, including interference that may cause undesired operation.''

(b) Where an LPRS device is constructed in two or more sections connected by wires and marketed together, the statement specified in this section is required to be affixed only to the main control unit.

(c) When the LPRS device is so small or for such use that it is not practicable to place the statement specified in the section on it, the statement must be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed.

§ 95.1019 Marketing limitations.

Transmitters intended for operation in the LPRS may be marketed and sold only for those uses described in § 95.1109.

PART 97—AMATEUR RADIO SERVICE

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APPENDIX 1 TO PART 97—PLACES WHERE THE AMATEUR SERVICE IS REGULATED BY THE FCC

APPENDIX 2 TO PART 97—VEC REGIONS

AUTHORITY: 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. 151–155, 301–609, unless otherwise noted.

SOURCE: 54 FR 25857, June 20, 1989, unless otherwise noted.

Subpart A—General Provisions

§97.1 Basis and purpose.

The rules and regulations in this part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:

(a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.

(b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.

(c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communication and technical phases of the art.

(d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.

(e) Continuation and extension of the amateur's unique ability to enhance international goodwill.

§97.3 Definitions.

(a) The definitions of terms used in part 97 are:

(1) *Amateur operator.* A person holding a written authorization to be the control operator of an amateur station.

(2) *Amateur radio services.* The amateur service, the amateur-satellite service and the radio amateur civil emergency service.

(3) *Amateur-satellite service.* A radiocommunication service using stations on Earth satellites for the same purpose as those of the amateur service.

(4) *Amateur service.* A radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.

(5) *Amateur station.* A station in an amateur radio service consisting of the apparatus necessary for carrying on radiocommunications.

(6) *Automatic control.* The use of devices and procedures for control of a

station when it is transmitting so that compliance with the FCC Rules is achieved without the control operator being present at a control point.

(7) *Auxiliary station.* An amateur station, other than in a message forwarding system, that is transmitting communications point-to-point within a system of cooperating amateur stations.

(8) *Bandwidth.* The width of a frequency band outside of which the mean power of the transmitted signal is attenuated at least 26 dB below the mean power of the transmitted signal within the band.

(9) *Beacon.* An amateur station transmitting communications for the purposes of observation of propagation and reception or other related experimental activities.

(10) *Broadcasting.* Transmissions intended for reception by the general public, either direct or relayed.

(11) *Call sign system.* The method used to select a call sign for amateur station over-the-air identification purposes. The call sign systems are:

(i) *Sequential call sign system.* The call sign is selected by the FCC from an alphabetized list corresponding to the geographic region of the licensee's mailing address and operator class. The call sign is shown on the license. The FCC will issue public announcements detailing the procedures of the sequential call sign system.

(ii) *Vanity call sign system.* The call sign is selected by the FCC from a list of call signs requested by the licensee. The call sign is shown on the license. The FCC will issue public announcements detailing the procedures of the vanity call sign system.

(12) *Control operator.* An amateur operator designated by the licensee of a station to be responsible for the transmissions from that station to assure compliance with the FCC Rules.

(13) *Control point.* The location at which the control operator function is performed.

(14) *CSCE.* Certificate of successful completion of an examination.

(15) *Earth station.* An amateur station located on, or within 50 km of, the Earth's surface intended for communications with space stations or with other Earth stations by means of one or more other objects in space.

(16) *EIC.* Engineer in Charge of an FCC Field Facility.

(17) *External RF power amplifier.* A device capable of increasing power output when used in conjunction with, but not an integral part of, a transmitter.

(18) *External RF power amplifier kit.* A number of electronic parts, which, when assembled, is an external RF power amplifier, even if additional parts are required to complete assembly.

(19) *FAA.* Federal Aviation Administration.

(20) *FCC.* Federal Communications Commission.

(21) *Frequency coordinator.* An entity, recognized in a local or regional area by amateur operators whose stations are eligible to be auxiliary or repeater stations, that recommends transmit/receive channels and associated operating and technical parameters for such stations in order to avoid or minimize potential interference.

(22) *Harmful interference.* Interference which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs or repeatedly interrupts a radiocommunication service operating in accordance with the Radio Regulations.

(23) *Indicator.* Words, letters or numerals appended to and separated from the call sign during the station identification.

(24) *Information bulletin.* A message directed only to amateur operators consisting solely of subject matter of direct interest to the amateur service.

(25) *International Morse code.* A dot-dash code as defined in International Telegraph and Telephone Consultative Committee (CCITT) Recommendation F.1 (1984), Division B, I. Morse code.

(26) *ITU.* International Telecommunication Union.

(27) *Line A.* Begins at Aberdeen, WA, running by great circle arc to the intersection of 48°N, 120°W, thence along parallel 48°N, to the intersection of 95°W, thence by great circle arc through the southernmost point of Duluth, MN, thence by great circle arc to 45°N, 85°W, thence southward along meridian 85°W, to its intersection with

parallel 41°N, thence along parallel 41°N, to its intersection with meridian 82°W, thence by great circle arc through the southernmost point of Bangor, ME, thence by great circle arc through the southernmost point of Searsport, ME, at which point it terminates.

(28) *Local control.* The use of a control operator who directly manipulates the operating adjustments in the station to achieve compliance with the FCC Rules.

(29) *Message forwarding system.* A group of amateur stations participating in a voluntary, cooperative, interactive arrangement where communications are sent from the control operator of an originating station to the control operator of one or more destination stations by one or more forwarding stations.

(30) *National Radio Quiet Zone.* The area in Maryland, Virginia and West Virginia Bounded by 39° 15′N on the north, 78° 30′W on the east, 37° 30′N on the south and 80° 30′W on the west.

(31) *Physician.* For the purpose of this part, a person who is licensed to practice in a place where the amateur service is regulated by the FCC, as either a Doctor of Medicine (M.D.) or a Doctor of Osteophathy (D.O.)

(32) *Question pool.* All current examination questions for a designated written examination element.

(33) *Question set.* A series of examination on a given examination selected from the question pool.

(34) *Radio Regulations.* The latest ITU *Radio Regulations* to which the United States is a party.

(35) *RACES* (radio amateur civil emergency service). A radio service using amateur stations for civil defense communications during periods of local, regional or national civil emergencies.

(36) *Remote control.* The use of a control operator who indirectly manipulates the operating adjustments in the station through a control link to achieve compliance with the FCC Rules.

(37) *Repeater.* An amateur station that simultaneously retransmits the transmission of another amateur station on a different channel or channels.

(38) *Space station.* An amateur station located more than 50 km above the Earth's surface.

(39) *Space telemetry.* A one-way transmission from a space station of measurements made from the measuring instruments in a spacecraft, including those relating to the functioning of the spacecraft.

(40) *Spurious emission.* An emission, or frequencies outside the necessary bandwidth of a transmission, the level of which may be reduced without affecting the information being transmitted.

(41) *Telecommand.* A one-way transmission to initiate, modify, or terminate functions of a device at a distance.

(42) *Telecommand station.* An amateur station that transmits communications to initiate, modify or terminate functions of a space station.

(43) *Telemetry.* A one-way transmission of measurements at a distance from the measuring instrument.

(44) *Third party communications.* A message from the control operator (first party) of an amateur station to another amateur station control operator (second party) on behalf of another person (third party).

(45) *VE.* Volunteer examiner.

(46) *VEC.* Volunteer-examiner coordinator.

(b) The definitions of technical smybols used in this part are:

(1) *EHF* (extremely high frequency). The frequency range 30–300 GHz.

(2) *HF* (high frequency). The frequency range 3–30 MHz.

(3) *Hz.* Hertz.

(4) *m.* Meters.

(5) *MF* (medium frequency). The frequency range 300–3000 kHz.

(6) *PEP* (peak envelope power). The average power supplied to the antenna transmission line by a transmitter during one RF cycle at the crest of the modulation envelope taken under normal operating conditions.

(7) *RF.* Radio frequency.

(8) *SHF* (super-high frequency). The frequency range 3–30 GHz.

(9) *UHF* (ultra-high frequency). The frequency range 300–3000 MHz.

(10) *VHF* (very-high frequency). The frequency range 30–300 MHz.

(11) *W.* Watts.

(c) The following terms are used in this part to indicate emission types. Refer to §2.201 of the FCC Rules, *Emission, modulation and transmission characteristics,* for information on emission type designators.

(1) *CW.* International Morse code telegraphy emissions having designators with A, C, H, J or R as the first symbol; 1 as the second symbol; A or B as the third symbol; and emissions J2A and J2B.

(2) *Data.* Telemetry, telecommand and computer communications emissions having designators with A, C, D, F, G, H, J or R as the first symbol; 1 as the second symbol; D as the third symbol; and emission J2D. Only a digital code of a type specifically authorized in this part may be transmitted.

(3) *Image.* Facsimile and television emissions having designators with A, C, D, F, G, H, J or R as the first symbol; 1, 2 or 3 as the second symbol; C or F as the third symbol; and emissions having B as the first symbol; 7, 8 or 9 as the second symbol; W as the third symbol.

(4) *MCW.* Tone-modulated international Morse code telegraphy emissions having designators with A, C, D, F, G, H or R as the first symbol; 2 as the second symbol; A or B as the third symbol.

(5) *Phone.* Speech and other sound emissions having designators with A, C, D, F, G, H, J or R as the first symbol; 1, 2 or 3 as the second symbol; E as the third symbol. Also speech emissions having B as the first symbol; 7, 8 or 9 as the second symbol; E as the third symbol. MCW for the purpose of performing the station identification procedure, or for providing telegraphy practice interspersed with speech. Incidental tones for the purpose of selective calling or alerting or to control the level of a demodulated signal may also be considered phone.

(6) *Pulse.* Emissions having designators with K, L, M, P, Q, V or W as the first symbol; 0, 1, 2, 3, 7, 8, 9 or X as the second symbol; A, B, C, D, E, F, N, W or X as the third symbol.

(7) *RTTY.* Narrow-band direct-printing telegraphy emissions having designators with A, C, D, F, G, H, J or R as the first symbol; 1 as the second symbol; B as the third symbol; and emission J2B. Only a digital code of a type specifically authorized in this part may be transmitted.

(8) *SS.* Spread-spectrum emissions using bandwidth-expansion modulation emissions having designators with A, C, D, F, G, H, J or R as the first symbol; X as the second symbol; X as the third symbol. Only a SS emission of a type specifically authorized in this part may be transmitted.

(9) *Test.* Emissions containing no information having the designators with N as the third symbol. Test does not include pulse emissions with no information or modulation unless pulse emissions are also authorized in the frequency band.

[54 FR 25857, June 20, 1989, as amended at 56 FR 29, Jan. 2, 1991; 56 FR 56171, Nov. 1, 1991; 59 FR 18975, Apr. 21, 1994; 60 FR 7460, Feb. 8, 1995]

§ 97.5 Station license required.

(a) The person having physical control of the station apparatus must have been granted a station license of the type listed in paragraph (b) of this section, or hold an unexpired document of the type listed in paragraph (c) of this section, before the station may transmit on any amateur service frequency from any place that is:

(1) Within 50 km of the Earth's surface and at a place where the amateur service is regulated by the FCC;

(2) Within 50 km of the Earth's surface and aboard any vessel or craft that is documented or registered in the United States; or

(3) More than 50 km above the Earth's surface aboard any craft that is documented or registered in the United States.

(b) The types of station licenses are:

(1) An operator/primary station license. One, but only one, operator/primary station license is granted to each person who is qualified to be an amateur operator. The primary station license is granted together with the amateur operator license. Except for a representative of a foreign government, any person who qualifies by examination is eligible to apply for an operator/primary station license. The operator/primary station license document is printed on FCC Form 660.

(2) A club station license. A club station license is granted only to the person who is the license trustee designated by an officer of the club. The trustee must be a person who has been granted an Amateur Extra, Advanced, General, Technician Plus, or Technician operator license. The club must be composed of at least two persons and must have a name, a document of organization, management, and a primary purpose devoted to amateur service activities consistent with this part. The club station license document is printed on FCC Form 660.

(3) A military recreation station license. A military recreation station license is granted only to the person who is the license custodian designated by the official in charge of the United States military recreational premises where the station is situated. The person must not be a representative of a foreign government. The person need not have been granted an amateur operator license. The military recreation station license document is printed on FCC Form 660.

(4) A RACES station license. A RACES station license is granted only to the person who is the license custodian designated by the official responsible for the governmental agency served by that civil defense organization. The custodian must be the civil defense official responsible for coordination of all civil defense activities in the area concerned. The custodian must not be a representative of a foreign government. The custodian need not have been granted an amateur operator license. The RACES station license document is printed on FCC Form 660.

(c) The types of documents are:

(1) A *reciprocal permit for alien amateur licensee* (FCC Form 610–AL) issued to the person by the FCC.

(2) An amateur service license issued to the person by the Government of Canada. The person must be a Canadian citizen.

(d) A person who has been granted a station license of the type listed in paragraph (b) of this section, or who holds an unexpired document of the type listed in paragraph (c) of this section, is authorized to use in accordance with the FCC Rules all transmitting apparatus under the physical control of the station licensee at points where the amateur service is regulated by the FCC.

[59 FR 54831, Nov. 2, 1994]

§97.7 Control operator required.

When transmitting, each amateur station must have a control operator. The control operator must be a person who has been granted an amateur operator/primary station license, or who holds an unexpired document of the following types:

(a) A *reciprocal permit for alien amateur licensee* (FCC Form 610–AL) issued to the person by the FCC, or

(b) An amateur service license issued to the person by the Government of Canada. The person must be a Canadian citizen.

[59 FR 54832, Nov. 2, 1994]

§97.9 Operator license.

(a) The classes of amateur operator licenses are: Novice, Technician, Technician Plus (until such licenses expire, a Technician Class license granted before February 14, 1991, is considered a Technician Plus Class license), General, Advanced, and Amateur Extra. A person who has been granted an operator license is authorized to be the control operator of an amateur station with the privileges of the operator class specified on the license.

(b) A person who has been granted an operator license of Novice, Technician, Technician Plus, General, or Advanced class and who has properly submitted to the administering VEs an application document, FCC Form 610, for an operator license of a higher class, and who holds a CSCE indicating that the person has completed the necessary examinations within the previous 365 days, is authorized to exercise the rights and privileges of the higher operator class until final disposition of the application or until 365 days following the passing of the examination, whichever comes first.

[59 FR 54832, Nov. 2, 1994]

§ 97.11 Stations aboard ships or aircraft.

(a) The installation and operation of an amateur station on a ship or aircraft must be approved by the master of the ship or pilot in command of the aircraft.

(b) The station must be separate from and independent of all other radio apparatus installed on the ship or aircraft, except a common antenna may be shared with a voluntary ship radio installation. The station's transmissions must not cause interference to any other apparatus installed on the ship or aircraft.

(c) The station must not constitute a hazard to the safety of life or property. For a station aboard an aircraft, the apparatus shall not be operated while the aircraft is operating under Instrument Flight Rules, as defined by the FAA, unless the station has been found to comply with all applicable FAA Rules.

§ 97.13 Restrictions on station location.

(a) Before placing an amateur station on land of environmental importance or that is significant in American history, architecture or culture, the licensee may be required to take certain actions prescribed by § 1.1301–1.1319 of the FCC Rules.

(b) A station within 1600 m (1 mile) of an FCC monitoring facility must protect that facility from harmful interference. Failure to do so could result in imposition of operating restrictions upon the amateur station by an EIC pursuant to § 97.121 of this part. Geographical coordinates of the facilities that require protection are listed in § 0.121(c) of the FCC Rules.

(c) Before causing or allowing an amateur station to transmit from any place where the operation of the station could cause human exposure to levels of radiofrequency (RF) radiation in excess of that allowed under § 1.1310 of this chapter, the licensee is required to take certain actions. A routine RF radiation evaluation, as discussed in § 1.1307(b) of this chapter, is required if the transmitter power exceeds 50 watts peak envelope power; otherwise the operation is categorically excluded from routine RF radiation evaluation except as specified in § 1.1307(c) and § 1.1307(d) of this chapter. Where the routine evaluation indicates that the RF radiation could be in excess of the limits contained in § 1.1310 of this chapter, the licensee must take action to prevent such an occurrence. Further information on evaluating compliance with these limits can be found in the FCC's OST/OET Bulletin Number 65, ''Evaluation Compliance with FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation.''

[54 FR 25857, June 20, 1989, as amended at 55 FR 20398, May 16, 1990; 61 FR 41019, Aug. 7, 1996]

§ 97.15 Station antenna structures.

(a) Unless the amateur station license has received prior approval from the FCC, no antenna structure, including the radiating elements, tower, supports and all appurtenances, may be higher than 61 m (200 feet) above ground level at its site.

(b) Unless the amateur station licensee has received prior approval from the FCC, no antenna structure, at an airport or heliport that is available for public use and is listed in the *Airport Directory* of the current *Airman's Information Manual* or in either the *Alaska* or *Pacific Airman's Guide and Chart Supplement;* or at an airport or heliport under construction that is the subject of a notice or proposal on file with the FAA, and except for military airports, it is clearly indicated that the airport will be available for public use; or at an airport or heliport that is operated by the armed forces of the United States; or at a place near any of these airports or heliports, may be higher than:

(1) 1 m above the airport elevation for each 100 m from the nearest runway longer than 1 km within 6.1 km of the antenna structure.

(2) 2 m above the airport elevation for each 100 m from the nearest runway shorter than 1 km within 3.1 km of the antenna structure.

(3) 4 m above the airport elevation for each 100 m from the nearest landing pad within 1.5 km of the antenna structure.

(c) An amateur station antenna structure no higher than 6.1 m (20 feet) above ground level at its site or no higher than 6.1 m above any natural

object or existing manmade structure, other than an antenna structure, is exempt from the requirements of paragraphs (a) and (b) of this section.

(d) Further details as to whether an aeronautical study is required or if the structure must be registered, painted, or lighted are contained in part 17 of this chapter, Construction, Marking, and Lighting of Antenna Structures. To request approval to place an antenna structure higher than the limits specified in paragraphs (a), (b), and (c) of this section, the licensee must notify the FAA using FAA Form 7460–1 and the structure owner must register the structure using FCC Form 854.

(e) Except as otherwise provided herein, a station antenna structure may be erected at heights and dimensions sufficient to accommodate amateur service communications. [State and local regulation of a station antenna structure must not preclude amateur service communications. Rather, it must reasonably accommodate such communications and must constitute the minimum practicable regulation to accomplish the state or local authority's legitimate purpose. [*See* PRB–1, 101 FCC 2d 952 (1985) for details.]

[54 FR 25857, June 20, 1989; 54 FR 39535, Sept. 27, 1989, as amended at 60 FR 50123, Sept. 28, 1995; 61 FR 4369, Feb. 6, 1996]

§97.17 Application for new license or reciprocal permit for alien amateur licensee.

(a) Any qualified person is eligible to apply for an amateur service license.

(b) Each application for a new amateur service license must be made on the proper document:

(1) FCC Form 610 for a new operator/primary station license;

(2) FCC Form 610–A for a *reciprocal permit for alien amateur licensee;* and

(3) FCC Form 610–B for a new amateur service club or military recreation station license.

(c) Each application for a new operator/primary station license must be submitted to the VEs administering the qualifying examination.

(d) Any eligible person may apply for a *reciprocal permit for alien amateur licensee.* The application document, FCC Form 610–A, must be submitted to the FCC, 1270 Fairfield Road, Gettysburg, PA 17325–7245.

(1) The person must be a citizen of a country with which the United States has arrangements to grant reciprocal operating permits to visiting alien amateur operators is eligible to apply for a *reciprocal permit for alien amateur licensee.*

(2) The person must be a citizen of the same country that issued the amateur service license.

(3) No person who is a citizen of the United States, regardless of any other citizenship also held, is eligible for a *reciprocal permit for alien amateur licensee.*

(4) No person who has been granted an amateur operator license is eligible for a *reciprocal permit for alien amateur licensee.*

(e) No person shall obtain or attempt to obtain, or assist another person to obtain or attempt to obtain, an amateur service license or *reciprocal permit for alien amateur licensee* by fraudulent means.

(f) One unique call sign will be shown on the license of each new primary, club, and military recreation station. The call sign will be selected by the sequential call sign system.

(g) Each application for a new club or military recreation station license must be submitted to the FCC, 1270 Fairfield Road, Gettysburg, PA 17325–7245. No new license for a RACES station will be issued.

[59 FR 54832, Nov. 2, 1994, as amended at 60 FR 7460, Feb. 8, 1995; 60 FR 53132, Oct. 12, 1995]

§97.19 Application for a vanity call sign.

(a) A person who has been granted an operator/primary station license or a license trustee who has been granted a club station license is eligible to make application for modification of the license, or the renewal thereof, to show a call sign selected by the vanity call sign system. RACES and military recreation stations are not eligible for a vanity call sign.

(b) Each application for a modification of an operator/primary or club station license, or the renewal thereof, to show a call sign selected by the vanity call sign system must be made on FCC

Form 610–V. The form must be submitted with the appropriate fee to the address specified in the Wireless Telecommunications Bureau Fee Filing Guide.

(c) Only unassigned call signs that are available to the sequential call sign system are available to the vanity call sign system with the following exceptions:

(1) A call sign shown on an expired license is not available to the vanity call sign system for 2 years following the expiration of the license.

(2) A call sign shown on a surrendered, revoked, set aside, cancelled, or voided license is not available to the vanity call sign system for 2 years following the date such action is taken.

(3) Except for an applicant who is the spouse, child, grandchild, stepchild, parent, grandparent, stepparent, brother, sister, stepbrother, stepsister, aunt, uncle, niece, nephew, or in-law, and except for an applicant who is a club station license trustee acting with the written consent of at least one relative, as listed above, of a person now deceased, the call sign shown on the license of a person now deceased is not available to the vanity call sign system for 2 years following the person's death, or for 2 years following the expiration of the license, whichever is sooner.

(d) The vanity call sign requested by an applicant must be selected from the group of call signs corresponding to the same or lower class of operator license held by the applicant as designated in the sequential call sign system.

(1) The applicant must request that the call sign shown on the current license be vacated and provide a list of up to 25 call signs in order of preference.

(2) The first assignable call sign from the applicant's list will be shown on the license grant. When none of those call signs are assignable, the call sign vacated by the applicant will be shown on the license grant.

(3) Vanity call signs will be selected from those call signs assignable at the time the application is processed by the FCC.

(4) A call sign designated under the sequential call sign system for Alaska, Hawaii, Caribbean Insular Areas, and Pacific Insular areas will be assigned only to a primary or club station whose licensee's mailing address is in the corresponding state, commonwealth, or island. This limitation does not apply to an applicant for the call sign as the spouse, child, grandchild, stepchild, parent, grandparent, stepparent, brother, sister, stepbrother, stepsister, aunt, uncle, niece, nephew, or in-law, of the former holder now deceased.

[60 FR 7460, Feb. 8, 1995, as amended at 60 FR 50123, Sept. 28, 1995; 60 FR 53132, Oct. 12, 1995]

§ 97.21 Application for a modified or renewed license.

(a) A person who has been granted an amateur station license that has not expired:

(1) Must apply for a modification of the license as necessary to show the correct mailing address, licensee name, club name, license trustee name, or license custodian name. The application document must be submitted to: FCC, 1270 Fairfield Road, Gettysburg, PA 17325–7245. For an operator/primary station license, the application must be made on FCC Form 610. For a club, military recreation, or RACES station license, the application must be made on FCC Form 610–B.

(2) May apply for a modification of the license to show a higher operator class. The application must be made on FCC Form 610 and must be submitted to the VEs administering the qualifying examination.

(3) May apply for renewal of the license for another term. (The FCC may mail to the licensee an FCC Form 610–R that may be used for this purpose.)

(i) When the license does not show a call sign selected by the vanity call sign system, the application may be made on FCC Form 610–R if it is received from the FCC. If the Form 610–R is not received from the FCC within 30 days of the expiration date of the license for an operator/primary station license, the application may be made on FCC Form 610. For a club, military recreation, or RACES station license, the application may be made on FCC Form 610–B. The application may be submitted no more than 90 days before its expiration to: FCC, 1270 Fairfield Road, Gettysburg, PA 17325–7245. When

the application for renewal of the license has been received by the FCC at 1270 Fairfield Road, Gettysburg, PA 17325–7245 on or before the license expiration date, the license operating authority is continued until the final disposition of the application.

(ii) When the license shows a call sign selected by the vanity call sign system, the application must be filed as specified in Section 97.19(b). When the application has been received at the proper address specified in the Wireless Telecommunications Bureau Fee Filing Guide on or before the license expiration date, the license operating authority is continued until final disposition of the application.

(4) May apply for a modification of the license to show a different call sign selected by the sequential call sign system. The application document must be submitted to: FCC, 1270 Fairfield Road, Gettysburg, PA 17325–7245. The application must be made on FCC Form 610. This modification is not available to club, military recreation, or RACES stations.

(b) A person who had been granted an amateur station license, but the license has expired, may apply for renewal of the license for another term during a 2 year filing grace period. The application document must be received by the FCC at 1270 Fairfield Road, Gettysburg, PA 17325–7245 prior to the end of the grace period. For an operator/primary station license, the application must be made on FCC Form 610. For a club, military recreation, or RACES station license, the application must be made on FCC Form 610–B. Unless and until the license is renewed, no privileges in this part are conferred.

(c) Each application for a modified or renewed amateur service license must be accompanied by a photocopy (or the original) of the license document unless an application for renewal using FCC Form 610–R is being made, or unless the original document has been lost, mutilated or destroyed.

(d) Unless the holder of a station license requests a change in call sign, the same call sign will be assigned to the station upon renewal or modification of a station license.

(e) A reciprocal permit for alien amateur licensee cannot be renewed. A new reciprocal permit for alien amateur licensee may be issued upon proper application.

[59 FR 54832, Nov. 2, 1994, as amended at 60 FR 7461, Feb. 8, 1995; 60 FR 53133, Oct. 12, 1995; 60 FR 54409, Oct. 23, 1995; 61 FR 21386, May 10, 1996]

§97.23 Mailing address.

(a) Each application for a license and each application for a *reciprocal permit for alien amateur licensee* must show a mailing address in an area where the amateur service is regulated by the FCC and where the licensee or permittee can receive mail delivery by the United States Postal Service. Each application for a *reciprocal permit for alien amateur licensee* must also show the permittee's mailing address in the country of citizenship.

(b) When there is a change in the mailing address for a person who has been granted an amateur operator/primary station license, the person must file a timely application for a modification of the license. Revocation of the station license or suspension of the operator license may result when correspondence from the FCC is returned as undeliverable because the person failed to provide the correct mailing address.

(c) When a person who has been granted a *reciprocal permit for alien amateur licensee* changes the mailing address where he or she can receive mail delivery by the United States Postal Service, the person must file an application for a new permit. Cancellation of the *reciprocal permit for alien amateur licensee* may result when correspondence from the FCC is returned as undeliverable because the permittee failed to provide the correct mailing address.

[59 FR 54833, Nov. 2, 1994]

§97.25 License term.

(a) An amateur service license is normally granted for a 10-year term.

(b) A *reciprocal permit for alien amateur licensee* is normally granted for a 1-year term.

[59 FR 54833, Nov. 2, 1994]

§ 97.27 FCC modification of station license.

(a) The FCC may modify a station license, either for a limited time or for the duration of the term thereof, if it determines:

(1) That such action will promote the public interest, convenience, and necessity; or

(2) That such action will promote fuller compliance with the provisions of the Communications Act of 1934, as amended, or of any treaty ratified by the United States.

(b) When the FCC makes such a determination, it will issue an order of modification. The order will not become final until the licensee is notified in writing of the proposed action and the grounds and reasons therefor. The licensee will be given reasonable opportunity of no less than 30 days to protest the modification; except that, where safety of life or property is involved, a shorter period of notice may be provided. Any protest by a licensee of an FCC order of modification will be handled in accordance with the provisions of 47 U.S.C. 316.

[59 FR 54833, Nov. 2, 1994]

§ 97.29 Replacement license document.

Each person who has been granted an amateur station license or *reciprocal permit for alien amateur licensee* whose original license document or permit document is lost, mutilated or destroyed must request a replacement. The request must be made to: FCC, 1270 Fairfield Road, Gettysburg, PA 17325–7245. A statement of how the document was lost, mutilated, or destroyed must be attached to the request. A replacement document must bear the same expiration date as the document that it replaces.

[59 FR 54833, Nov. 2, 1994]

Subpart B—Station Operation Standards

§ 97.101 General standards.

(a) In all respects not specifically covered by FCC Rules each amateur station must be operated in accordance with good engineering and good amateur practice.

(b) Each station licensee and each control operator must cooperate in selecting transmitting channels and in making the most effective use of the amateur service frequencies. No frequency will be assigned for the exclusive use of any station.

(c) At all times and on all frequencies, each control operator must give priority to stations providing emergency communications, except to stations transmitting communications for training drills and tests in RACES.

(d) No amateur operator shall willfully or maliciously interfere with or cause interference to any radio communication or signal.

§ 97.103 Station licensee responsibilities.

(a) The station licensee is responsible for the proper operation of the station in accordance with the FCC Rules. When the control operator is a different amateur operator than the station licensee, both persons are equally responsible for proper operation of the station.

(b) The station licensee must designate the station control operator. The FCC will presume that the station licensee is also the control operator, unless documentation to the contrary is in the station records.

(c) The station licensee must make the station and the station records available for inspection upon request by an FCC representative. When deemed necessary by an EIC to assure compliance with the FCC Rules, the station licensee must maintain a record of station operations containing such items of information as the EIC may require in accord with § 0.314(x) of the FCC Rules.

§ 97.105 Control operator duties.

(a) The control operator must ensure the immediate proper operation of the station, regardless of the type of control.

(b) A station may only be operated in the manner and to the extent permitted by the privileges authorized for the class of operator license held by the control operator.

§97.107 Alien control operator privileges.

(a) The privileges available to a control operator holding an amateur service license issued by the Government of Canada are:

(1) The terms of the *Convention Between the United States and Canada (TIAS No. 2508) Relating to the Operation by Citizens of Either Country of Certain Radio Equipment or Stations in the Other Country;*

(2) The operating terms and conditions of the amateur service license issued by the Government of Canada; and

(3) The applicable provisions of the FCC Rules, but not to exceed the control operator privileges of an FCC-issued Amateur Extra Class operator license.

(b) The privileges available to a control operator holding an FCC-issued reciprocal permit for alien amateur licensee are:

(1) The terms of the agreement between the alien's government and the United States;

(2) The operating terms and conditions of the amateur service license issued by the alien's government;

(3) The applicable provisions of the FCC Rules, but not to exceed the control operator privileges of an FCC-issued Amateur Extra Class operator license; and

(4) None, if the holder of the reciprocal permit has obtained an FCC-issued operator/primary station license.

(c) At any time the FCC may, in its discretion, modify, suspend, or cancel the amateur service privileges within or over any area where radio services are regulated by the FCC of any Canadian amateur service licensee or alien reciprocal permittee.

§97.109 Station control.

(a) Each amateur station must have at least one control point.

(b) When a station is being locally controlled, the control operator must be at the control point. Any station may be locally controlled.

(c) When a station is being remotely controlled, the control operator must be at the control point. Any station may be remotely controlled.

(d) When a station is being automatically controlled, the control operator need not be at the control point. Only stations specifically designated elsewhere in this part may be automatically controlled. Automatic control must cease upon notification by an EIC that the station is transmitting improperly or causing harmful interference to other stations. Automatic control must not be resumed without prior approval of the EIC.

(e) No station may be automatically controlled while transmitting third party communications, except a station transmitting a RTTY or data emission. All messages that are retransmitted must originate at a station that is being locally or remotely controlled.

[54 FR 39535, Sept. 27, 1989, as amended at 60 FR 26001, May 16, 1995]

§97.111 Authorized transmissions.

(a) An amateur station may transmit the following types of two-way communications:

(1) Transmissions necessary to exchange messages with other stations in the amateur service, except those in any country whose administration has given notice that it objects to such communications. The FCC will issue public notices of current arrangements for international communications;

(2) Transmissions necessary to exchange messages with a station in another FCC-regulated service while providing emergency communications;

(3) Transmissions necessary to exchange messages with a United States government station, necessary to providing communications in RACES; and

(4) Transmissions necessary to exchange messages with a station in a service not regulated by the FCC, but authorized by the FCC to communicate with amateur stations. An amateur station may exchange messages with a participating United States military station during an Armed Forces Day Communications Test.

(b) In addition to one-way transmissions specifically authorized elsewhere in this part, an amateur station may transmit the following types of one-way communications:

(1) Brief transmissions necessary to make adjustments to the station;

(2) Brief transmissions necessary to establishing two-way communications with other stations;

(3) Telecommand;

(4) Transmissions necessary to providing emergency communications;

(5) Transmissions necessary to assisting persons learning, or improving proficiency in, the international Morse code; and

(6) Transmissions necessary to disseminate information bulletins.

(7) Transmissions of telemetry.

[54 FR 25857, June 20, 1989, as amended at 56 FR 56171, Nov. 1, 1991]

§ 97.113 Prohibited transmissions.

(a) No amateur station shall transmit:

(1) Communications specifically prohibited elsewhere in this part;

(2) Communications for hire or for material compensation, direct or indirect, paid or promised, except as otherwise provided in these rules;

(3) Communications in which the station licensee or control operator has a pecuniary interest, including communications on behalf of an employer. Amateur operators may, however, notify other amateur operators of the availability for sale or trade of apparatus normally used in an amateur station, provided that such activity is not conducted on a regular basis;

(4) Music using a phone emission except as specifically provided elsewhere in this section; communications intended to facilitate a criminal act; messages in codes or ciphers intended to obscure the meaning thereof, except as otherwise provided herein; obscene or indecent words or language; or false or deceptive messages, signals or identification;

(5) Communications, on a regular basis, which could reasonably be furnished alternatively through other radio services.

(b) An amateur station shall not engage in any form of broadcasting, nor may an amateur station transmit one-way communications except as specifically provided in these rules; nor shall an amateur station engage in any activity related to program production or news gathering for broadcasting purposes, except that communications directly related to the immediate safety of human life or the protection of property may be provided by amateur stations to broadcasters for dissemination to the public where no other means of communication is reasonably available before or at the time of the event.

(c) A control operator may accept compensation as an incident of a teaching position during periods of time when an amateur station is used by that teacher as a part of classroom instruction at an educational institution.

(d) The control operator of a club station may accept compensation for the periods of time when the station is transmitting telegraphy practice or information bulletins, provided that the station transmits such telegraphy practice and bulletins for at least 40 hours per week; schedules operations on at least six amateur service MF and HF bands using reasonable measures to maximize coverage; where the schedule of normal operating times and frequencies is published at least 30 days in advance of the actual transmissions; and where the control operator does not accept any direct or indirect compensation for any other service as a control operator.

(e) No station shall retransmit programs or signals emanating from any type of radio station other than an amateur station, except propagation and weather forecast information intended for use by the general public and originated from United States Government stations and communications, including incidental music, originating on United States Government frequencies between a space shuttle and its associated Earth stations. Prior approval for shuttle retransmissions must be obtained from the National Aeronautics and Space Administration. Such retransmissions must be for the exclusive use of amateur operators. Propagation, weather forecasts, and shuttle retransmissions may not be conducted on a regular basis, but only occasionally, as an incident of normal amateur radio communications.

(f) No amateur station, except an auxiliary, repeater, or space station, may automatically retransmit the radio signals of other amateur station.

[58 FR 43072, Aug. 13, 1993; 58 FR 47219, Sept. 8, 1993]

§97.115 Third party communications.

(a) An amateur station may transmit messages for a third party to:

(1) Any station within the jurisdiction of the United States.

(2) Any station within the jurisdiction of any foreign government whose administration has made arrangements with the United States to allow amateur stations to be used for transmitting international communications on behalf of third parties. No station shall transmit messages for a third party to any station within the jurisdiction of any foreign government whose administration has not made such an arrangement. This prohibition does not apply to a message for any third party who is eligible to be a control operator of the station.

(b) The third party may participate in stating the message where:

(1) The control operator is present at the control point and is continuously monitoring and supervising the third party's participation; and

(2) The third party is not a prior amateur service licensee whose license was revoked; suspended for less than the balance of the license term and the suspension is still in effect; suspended for the balance of the license term and relicensing has not taken place; or surrendered for cancellation following notice of revocation, suspension or monetary forfeiture proceedings. The third party may not be the subject of a cease and desist order which relates to amateur service operation and which is still in effect.

(c) At the end of an exchange of international third party communications, the station must also transmit in the station identification procedure the call sign of the station with which a third party message was exchanged.

[54 FR 25857, June 20, 1989; 54 FR 39535, Sept. 27, 1989]

§97.117 International communications.

Transmissions to a different country, where permitted, shall be made in plain language and shall be limited to messages of a technical nature relating to tests, and, to remarks of a personal character for which, by reason of their unimportance, recourse to the public telecommunications service is not justified.

§97.119 Station identification.

(a) Each amateur station, except a space station or telecommand station, must transmit its assigned call sign on its transmitting channel at the end of each communication, and at least every 10 minutes during a communication, for the purpose of clearly making the source of the transmissions from the station known to those receiving the transmissions. No station may transmit unidentified communications or signals, or transmit as the station call sign, any call sign not authorized to the station.

(b) The call sign must be transmitted with an emission authorized for the transmitting channel in one of the following ways:

(1) By a CW emission. When keyed by an automatic device used only for identification, the speed must not exceed 20 words per minute;

(2) By a phone emission in the English language. Use of a phonetic alphabet as an aid for correct station identification is encouraged;

(3) By a RTTY emission using a specified digital code when all or part of the communications are transmitted by a RTTY or data emission;

(4) By an image emission conforming to the applicable transmission standards, either color or monochrome, of §73.682(a) of the FCC Rules when all or part of the communications are transmitted in the same image emission; or

(5) By a CW or phone emission during SS emission transmission on a narrow bandwidth frequency segment. Alternatively, by the changing of one or more parameters of the emission so that a conventional CW or phone emission receiver can be used to determine the station call sign.

(c) An indicator may be included with the call sign. It must be separated from the call sign by the slant mark or by any suitable word that denotes the slant mark. If the indicator is self-assigned, it must be included after the call sign and must not conflict with any other indicator specified by the FCC Rules or with any prefix assigned to another country.

(d) When the operator license class held by the control operator exceeds that of the station licensee, an indicator consisting of the call sign assigned to the control operator's station must be included after the call sign.

(e) When the control operator is a person who is exercising the rights and privileges authorized by § 97.9(b) of this part, an indicator must be included after the call sign as follows:

(1) For a control operator who has requested a license modification from Novice Class to Technical Class: KT;

(2) For a control operator who has requested a license modification from Novice or Technical Class to General Class: AG;

(3) For a control operator who has requested a license modification from Novice, Technician, or General Class operator to Advanced Class: AA; or

(4) For a control operator who has requested a license modification from Novice, Technician, General, or Advanced Class operator to Amateur Extra Class: AE.

(f) When the station is transmitting under the authority of a reciprocal permit for alien amateur licensee, an indicator consisting of the appropriate letter-numeral designating the station location must be included before the call sign issued to the station by the licensing country. When the station is transmitting under the authority of an amateur service license issued by the Government of Canada, a station location indicator must be included after the call sign. At least once during each intercommunication, the identification announcement must include the geographical location as nearly as possible by city and state, commonwealth or possession.

[54 FR 25857, June 20, 1989, as amended at 54 FR 39535, Sept. 27, 1989; 55 FR 30457, July 26, 1990; 56 FR 28, Jan. 2, 1991]

§ 97.121 Restricted operation.

(a) If the operation of an amateur station causes general interference to the reception of transmissions from stations operating in the domestic broadcast service when receivers of good engineering design, including adequate selectivity characteristics, are used to receive such transmissions, and this fact is made known to the amateur station licensee, the amateur station shall not be operated during the hours from 8 p.m. to 10:30 p.m., local time, and on Sunday for the additional period from 10:30 a.m. until 1 p.m., local time, upon the frequency or frequencies used when the interference is created.

(b) In general, such steps as may be necessary to minimize interference to stations operating in other services may be required after investigation by the FCC.

Subpart C—Special Operations

§ 97.201 Auxiliary station.

(a) Any amateur station licensed to a holder of a Technician, General, Advanced or Amateur Extra Class operator license may be an auxiliary station. A holder of a Technician, General, Advanced or Amateur Extra Class operator license may be the control operator of an auxiliary station, subject to the privileges of the class of operator license held.

(b) An auxiliary station may transmit only on the 1.25 m and shorter wavelength bands, except the 219–220 MHz, 222.000–222.150 MHz, 431–433 MHz, and 435–438 MHz segments.

(c) Where an auxiliary station causes harmful interference to another auxiliary station, the licensees are equally and fully responsible for resolving the interference unless one station's operation is recommended by a frequency coordinator and the other station's is not. In that case, the licensee of the non-coordinated auxiliary station has primary responsibilty to resolve the interference.

(d) An auxiliary station may be automatically controlled.

(e) An auxiliary station may transmit one-way communications.

[54 FR 25857, June 20, 1989, as amended at 56 FR 56171, Nov. 1, 1991; 60 FR 15687, Mar. 27, 1995]

§ 97.203 Beacon station.

(a) Any amateur station licensed to a holder of a Technician, General, Advanced or Amateur Extra Class operator license may be a beacon. A holder of a Technician, General, Advanced or Amateur Extra Class operator license

may be the control operator of a beacon, subject to the privileges of the class of operator license held.

(b) A beacon must not concurrently transmit on more than 1 channel in the same amateur service frequency band, from the same station location.

(c) The transmitter power of a beacon must not exceed 100 W.

(d) A beacon may be automatically controlled while it is transmitting on the 28.20–28.30 MHz, 50.06–50.08 MHz, 144.275–144.300 MHz, 222.05–222.06 MHz or 432.300–432.400 MHz segments, or on the 33 cm and shorter wavelength bands.

(e) Before establishing an automatically controlled beacon in the National Radio Quiet Zone or before changing the transmitting frequency, transmitter power, antenna height or directivity, the station licensee must give written notification thereof to the Interference Office, National Radio Astronomy Observatory, P.O. Box 2, Green Bank, WV 24944.

(1) The notification must include the geographical coordinates of the antenna, antenna ground elevation above mean sea level (AMSL), antenna center of radiation above ground level (AGL), antenna directivity, proposed frequency, type of emission, and transmitter power.

(2) If an objection to the proposed operation is received by the FCC from the National Radio Astronomy Observatory at Green Bank, Pocahontas County, WV, for itself or on behalf of the Naval Research Laboratory at Sugar Grove, Pendleton County, WV, within 20 days from the date of notification, the FCC will consider all aspects of the problem and take whatever action is deemed appropriate.

(f) A beacon must cease transmissions upon notification by an EIC that the station is operating improperly or causing undue interference to other operations. The beacon may not resume transmitting without prior approval of the EIC.

(g) A beacon may transmit one-way communications.

[54 FR 25857, June 20, 1989, as amended at 55 FR 9323, Mar. 13, 1990; 56 FR 19610, Apr. 29, 1991; 56 FR 32517, July 17, 1991]

§97.205 Repeater station.

(a) Any amateur station licensed to a holder of a Technician, General, Advanced or Amateur Extra Class operator license may be a repeater. A holder of a Technician, General, Advanced or Amateur Extra Class operator license may be the control operator of a repeater, subject to the privileges of the class of operator license held.

(b) A repeater may receive and retransmit only on the 10 m and shorter wavelength frequency bands except the 28.0–29.5 MHz, 50.0–51.0 MHz, 144.0–144.5 MHz, 145.5–146.0 MHz, 222.00–222.15 MHz, 431.0–433.0 Mhz, and 435.0–438.0 Mhz segments.

(c) Where the transmissions of a repeater cause harmful interference to another repeater, the two station licensees are equally and fully responsible for resolving the interference unless the operation of one station is recommended by a frequency coordinator and the operation of the other station is not. In that case, the licensee of the non-coordinated repeater has primary responsibility to resolve the interference.

(d) A repeater may be automatically controlled.

(e) Ancillary functions of a repeater that are available to users on the input channel are not considered remotely controlled functions of the station. Limiting the use of a repeater to only certain user stations is permissible.

(f) Before establishing a repeater in the National Radio Quiet Zone or before changing the transmitting frequency, tramsitter power, antenna height or directivity, or the location of an existing repeater, the station licensee must give written notification thereof to the Interference Office, National Radio Astronomy Observatory, P.O. Box 2, Green Bank, WV 24944.

(1) The notification must include the geographical coordinates of the station antenna, antenna ground elevation above mean sea level (AMSL), antenna center of radiation above ground level (AGL), antenna directivity, proposed frequency, type of emission, and transmitter power.

(2) If an objection to the proposed operation is received by the FCC from the National Radio Astronomy Observatory at Green Bank, Pocahontas

County, WV, for itself or on behalf of the Naval Research Laboratory at Sugar Grove, Pendleton County, WV, within 20 days from the date of notification, the FCC will consider all aspects of the problem and take whatever action is deemed appropriate.

(g) The control operator of a repeater that retransmits inadvertently communications that violate the rules in this part is not accountable for the violative communications.

[54 FR 25857, June 20, 1989, as amended at 55 FR 4613, Feb. 9, 1990; 56 FR 32517, July 17, 1991; 58 FR 64385, Dec. 7, 1993; 59 FR 18975, Apr. 21, 1994]

§ 97.207 Space station.

(a) Any amateur station may be a space station. A holder of any class operator license may be the control operator of a space station, subject to the privileges of the class of operator license held by the control operator.

(b) A space station must be capable of effecting a cessation of transmissions by telecommand whenever such cessation is ordered by the FCC.

(c) The following frequency bands and segments are authorized to space stations:

(1) The 17 m, 15 m, 12 m, and 10 m bands, 6 mm, 4 mm, 2 mm and 1 mm bands; and

(2) The 7.0–7.1 MHz, 14.00–14.25 MHz, 144–146 MHz, 435–438 MHz, 1260–1270 MHz, and 2400–2450 MHz, 3.40–3.41 GHz, 5.83–5.85 GHz, 10.45–10.50 GHz, and 24.00–24.05 GHz segments.

(d) A space station may automatically retransmit the radio signals of Earth stations and other space stations.

(e) A space station may transmit one-way communications.

(f) Space telemetry transmissions may consist of specially coded messages intended to facilitate communications or related to the function of the spacecraft.

(g) The licensee of each space station must give two written, pre-space station notifications to the Wireless Telecommunications Bureau, FCC, Washington, DC 20554. Each notification must be in accord with the provisions of Articles 11 and 13 of the Radio Regulations.

(1) The first notification is required no less than 27 months prior to initiating space station transmissions and must specify the information required by Appendix 4 and Resolution No. 642 of the Radio Regulations.

(2) The second notification is required no less than 5 months prior to initiating space station transmissions and must specify the information required by Appendix 3 and Resolution No. 642 of the Radio Regulations.

(h) The licensee of each space station must give a written, in-space station notification to the Wireless Telecommunications Bureau, FCC, Washington, DC 20554, no later than 7 days following imitation of space station transmissions. The notification must update the information contained in the pre-space notification.

(i) The licensee of each space station must give a written, post-space notification to the Wireless Telecommuncations Bureau, FCC, Washington, DC 20554, no later than 3 months after termination of the space station transmissions. When the termination is ordered by the FCC, notification is required no later than 24 hours after termination.

[54 FR 25857, June 20, 1989, as amended at 54 FR 39535, Sept. 27, 1989; 56 FR 56171, Nov. 1, 1991; 57 FR 32736, July 23, 1992; 60 FR 50124, Sept. 28, 1995]

§ 97.209 Earth station.

(a) Any amateur station may be an Earth station. A holder of any class operator license may be the control operator of an Earth station, subject to the privileges of the class of operator license held by the control operator.

(b) The following frequency bands and segments are authorized to Earth stations:

(1) The 17 m, 15 m, 12 m, and 10 m bands, 6 mm, 4 mm, 2 mm and 1 mm bands; and

(2) The 7.0–7.1 MHz, 14.00–14.25 MHz, 144–146 MHz, 435–438 MHz, 1260–1270 MHz and 2400–2450 MHz, 3.40–3.41 GHz, 5.65–5.67 GHz, 10.45–10.50 GHz and 24.00–24.05 GHz segments.

[54 FR 25857, June 20, 1989, as amended at 54 FR 39535, Sept. 27, 1989]

§97.211 Space telecommand station.

(a) Any amateur station designated by the licensee of a space station is eligible to transmit as a telecommand station for that space station, subject to the privileges of the class of operator license held by the control operator.

(b) A telecommand station may transmit special codes intended to obscure the meaning of telecommand messages to the station in space operation.

(c) The following frequency bands and segments are authorized to telecommand stations:

(1) The 17 m, 15 m, 12 m and 10 m bands, 6 mm, 4 mm, 2 mm and 1 mm bands; and

(2) The 7.0–7.1 MHz, 14.00–14.25 MHz, 144–146 MHz, 435–438 MHz, 1260–1270 MHz and 2400–2450 MHz, 3.40–3.41 GHz, 5.65–5.67 GHz, 10.45–10.50 GHz and 24.00–24.05 GHz segments.

(d) A telecommand station may transmit one-way communications.

[54 FR 25857, June 20, 1989, as amended at 54 FR 39535, Sept. 27, 1989; 56 FR 56171, Nov. 1, 1991]

§97.213 Telecommand of an amateur station.

An amateur station on or within 50 km of the Earth's surface may be under telecommand where:

(a) There is a radio or wireline control link between the control point and the station sufficient for the control operator to perform his/her duties. If radio, the control link must use an auxiliary station. A control link using a fiber optic cable or another telecommunication service is considered wireline.

(b) Provisions are incorporated to limit transmission by the station to a period of no more than 3 minutes in the event of malfunction in the control link.

(c) The station is protected against making, willfully or negligently, unauthorized transmissions.

(d) A photocopy of the station license and a label with the name, address, and telephone number of the station licensee and at least one designated control operator is posted in a conspicuous place at the station location.

[54 FR 25857, June 20, 1989, as amended at 56 FR 56171, Nov. 1, 1991]

§97.215 Telecommand of model craft.

An amateur station transmitting signals to control a model craft may be operated as follows:

(a) The station identification procedure is not required for transmissions directed only to the model craft, provided that a label indicating the station call sign and the station licensee's name and address is affixed to the station transmitter.

(b) The control signals are not considered codes or ciphers intended to obscure the meaning of the communication.

(c) The transmitter power must not exceed 1 W.

[54 FR 25857, June 20, 1989, as amended at 56 FR 56171, Nov. 1, 1991]

§97.217 Telemetry.

Telemetry transmitted by an amateur station on or within 50 km of the Earth's surface is not considered to be codes or ciphers intended to obscure the meaning of communications.

[56 FR 56172, Nov. 1, 1991. Redesignated at 59 FR 18975, Apr. 21, 1994]

§97.219 Message forwarding system.

(a) Any amateur station may participate in a message forwarding system, subject to the privileges of the class of operator license held.

(b) For stations participating in a message forwarding system, the control operator of the station originating a message is primarily accountable for any violation of the rules in this part contained in the message.

(c) Except as noted in (d) of this section, for stations participating in a message forwarding system, the control operators of forwarding stations that retransmit inadvertently communications that violate the rules in this part are not accountable for the violative communications. They are, however, responsible for discontinuing such communications once they become aware of their presence.

(d) For stations participating in a message forwarding system, the control operator of the first forwarding station must:

(1) Authenticate the identity of the station from which it accepts communications on behalf of the system; or

(2) Accept accountability for any violation of the rules in this part contained in messages it retransmits to the system.

[59 FR 18975, Apr. 21, 1994]

§ 97.221 Automatically controlled digital station.

(a) This rule section does not apply to an auxiliary station, a beacon station, a repeater station, an earth station, a space station, or a space telecommand station.

(b) A station may be automatically controlled while transmitting a RTTY or data emission on the 6 m or shorter wavelength bands, and on the 28.120–28.189 MHz, 24.925–24.930 MHz, 21.090–21.100 MHz, 18.105–18.110 MHz, 14.0950–14.0995 MHz, 14.1005–14.112 MHz, 10.140–10.150 MHz, 7.100–7.105 MHz, or 3.620–3.635 MHz segments.

(c) A station may be automatically controlled while transmitting a RTTY or data emission on any other frequency authorized for such emission types provided that:

(1) The station is responding to interrogation by a station under local or remote control; and

(2) No transmission from the automatically controlled station occupies a bandwidth of more than 500 Hz.

[60 FR 26001, May 16, 1995]

Subpart D—Technical Standards

§ 97.301 Authorized frequency bands.

The following transmitting frequency bands are available to an amateur station located within 50 km of the Earth's surface, within the specified ITU Region, and outside any area where the amateur service is regulated by any authority other than the FCC.

(a) For a station having a control operator who has been granted an operator license of Technician, Technician Plus, General, Advanced, or Amateur Extra Class:

Wavelength band	ITU—Region 1	ITU—Region 2	ITU—Region 3	Sharing requirements see § 97.303 (Paragraph)
VHF	MHz	MHz	MHz	
6 m		50–54	50–54	(a)
2 m	144–146	144–148	144–148	(a)
1.25 m		219–220		(a), (e)
Do		222–225		(a)
UHF	MHz	MHz	MHz	
70 cm	430–440	420–450	420–450	(a), (b), (f).
33 cm		902–928		(a), (b), (g).
23 cm	1240–1300	1240–1300	124–1300	(j).
13 cm	2300–2310	2300–2310	2300–2310	(a), (b), (j).
do	2390–2450	2390–2450	2390–2450	(a), (b), (j).
SHF	GHz	GHz	GHz	
9 cm		3.3–3.5	3.3–.5	(a), (b), (k), (l).
5 cm	5.650–5.850	5.650–5.925	5.650–5.850	(a), (b), (m).
3 cm	10.00–10.50	10.00–10.50	10.00–10.50	(a), (c), (i), (n).
1.2 cm	24.00–24.25	24.00–24.25	24.00–24.25	(a), (b), (i), (o).
EHF	GHz	GHz	GHz	
6 mm	47.0–47.2	47.0–47.2	47.0–47.2.	
4 mm	75.5–81.0	75.5–81.0	75.5–81.0	(b), (c), (h).
2.5 mm	119.98–120.02	119.98–120.02	119.98–120.02	(k), (p).
2 mm	142–149	142–149	142–149	(b), (c), (h), (k).
1 mm	241–250	241–250	241–250	(b), (c), (h), (q).
	above 300	above 300	above 300	(k).

(b) For a station having a control operator who has been granted an operator license of Amateur Extra Class:

Wavelength band	ITU—Region 1	ITU—Region 2	ITU—Region 3	Sharing requirements. See § 97.303 (Paragraph)
MF	kHz	kHz	kHz	
160 m	1810–1850	1800–2000	1800–2000	(a), (b), (c).
HF	MHz	MHz	MHz	
80 m	3.50–3.75	3.50–3.75	3.50–3.75	(a).
75 m	3.75–3.80	3.75–4.00	3.75–3.90	(a).
40 m	7.0–7.1	7.0–7.3	7.0–7.1	(a).
30 m	10.10–10.15	10.10–10.15	10.10–10.15	(d).
20 m	14.00–14.35	14.00–14.35	14.00–14.35	
17 m	18.068–18.168	18.068–18.168	18.068–18.168	
15 m	21.00–21.45	21.00–21.45	21.00–21.45	
12 m	24.89–24.99	24.89–24.99	24.89–24.99	
10 m	28.0–29.7	28.0–29.7	28.0–29.7	

(c) For a station having a control operator who has been granted an operator license of Advanced Class:

Wavelength band	ITU—Region 1	ITU—Region 2	ITU—Region 3	Sharing requirements See § 97.303, (Paragraph)
MF	kHz	kHz	kHz	
160 m	1810–1850	1800–2000	1800–2000	(a), (b), (c).
HF	MHz	MHz	MHz	
80 m	3.525–3.750	3.525–3.750	3.525–3.750	(a).
75 m	3.775–3.800	3.775–4.000	3.775–3.900	(a).
40 m	7.025–7.100	7.025–7.300	7.025–7.100	(a).
30 m	10.10–10.15	10.10–10.15	10.10–10.15	(d).
20 m	14.025–14.150	14.025–14.150	14.025–14.150	
Do	14.175–14.350	14.175–14.350	14.175–14.350	
17 m	18.068–18.168	18.068–18.168	18.068–18.168	
15 m	21.025–21.200	21.025–21.200	21.025–21.200	
Do	21.225–21.450	21.225–21.450	21.225–21.450	
12 m	24.89–24.99	24.89–24.99	24.89–24.99	
10 m	28.0–29.7	28.0–29.7	28.0–29.7	

(d) For a station having a control operator who has been granted an operator license of General Class:

Wavelength band	ITU–Region 1	ITU–Region 2	ITU–Region 3	Sharing requirements. See § 97.303 (Paragraph)
MF	kHz	kHz	kHz	
160 m	1810–1850	1800–2000	1800–2000	(a), (b), (c).
HF	MHz	MHz	MHz	

Wavelength band	ITU–Region 1	ITU–Region 2	ITU–Region 3	Sharing requirements. See § 97.303 (Paragraph)
80 m	3.525–3.750	3.525–3.750	3.525–3.750	(a).
75 m		3.85–4.00	3.85–3.90	(a).
40 m	7.025–7.100	7.025–7.150	7.025–7.100	(a).
Do		7.225–7.300		(a).
30 m	10.10–10.15	10.10–10.15	10.10–10.15	(d).
20 m	14.025–14.150	14.025–14.150	14.025–14.150	
Do	14.225–14.350	14.225–14.350	14.225–14.350	
17 m	18.068–18.168	18.068–18.168	18.068–18.168	
15 m	21.025–21.200	21.025–21.200	21.025–21.200	
Do	21.30–21.45	21.30–21.45	21.30–21.45	
12 m	24.89–24.99	24.89–24.99	24.89–24.99	
10 m	28.0–29.7	28.0–29.7	28.0–29.7	

(e) For a station having a control operator who has been granted an operator license of Novice or Technician Plus Class:

Wavelength band	ITU—Region 1	ITU—Region 2	ITU—Region 3	Sharing requirements. See § 97.303 (Paragraph)
HF	MHz	MHz	MHz	
80 m	3.675–3.725	3.675–3.725	3.675–3.725	(a).
40 m	7.050–7.075	7.10–7.15	7.050–7.075	(a).
15 m	21.10–21.20	21.10–21.20	21.10–21.20	
10 m	28.1–28.5	28.1–28.5	28.1–28.5	

(f) For a station having a control operator who has been granted an operator license of Novice Class:

Wavelength band	ITU–Region 1	ITU–Region 2	ITU–Region 3	Sharing requirements. See § 97.303 (Paragraph)
VHF	MHz	MHz	MHz	
1.25 m		222–225		(a).
UHF	MHz	MHz	MHz	
23 cm	1270–1295	1270–1295	1270–1295	(i).

[54 FR 25857, June 20, 1989; 54 FR 39535, Sept. 27, 1989, as amended at 55 FR 30457, July 26, 1990; 56 FR 28, Jan. 2, 1991; 56 FR 3043, Jan. 28, 1991; 56 FR 19610, Apr. 29, 1991; 56 FR 32518, July 17, 1991; 57 FR 32450, July 22, 1992; 58 FR 64385, Dec. 7, 1993; 59 FR 54833, Nov. 2, 1994; 60 FR 15687, Mar. 27, 1995]

§ 97.303 Frequency sharing requirements.

The following is a summary of the frequency sharing requirements that apply to amateur station transmissions on the frequency bands specified in § 97.301 of this part. (For each ITU Region, each frequency band allocated to the amateur service is designated as either a secondary service or a primary service. A station in a secondary service must not cause harmful interference to, and must accept interference from, stations in a primary service. See §§ 2.105 and 2.106 of the FCC Rules, *United States Table of Frequency Allocations* for complete requirements.)

(a) Where, in adjacent ITU Regions or Subregions, a band of frequencies is allocated to different services of the

same category, the basic principle is the equality of right to operate. The stations of each service in one region must operate so as not to cause harmful interference to services in the other Regions or Subregions. (See ITU *Radio Regulations,* No. 346 (Geneva, 1979).)

(b) An auxiliary station may transmit only on shorter wavelength bands, except the 431–433 MHz and 435–438 MHz segments.

(c) No amateur station transmitting in the 1900–2000 kHz segment, the 3 cm band, the 76–81 GHz segment, the 144–149 GHz segment and the 241–248 GHz segment shall cause harmful interference to, nor is protected from interference due to the operation of, stations in the non-Government radiolocation service.

(d) No amateur station transmitting in the 30 meter band shall cause harmful interference to stations authorized by other nations in the fixed service. The licensee of the amateur station must make all necessary adjustments, including termination of transmissions, if harmful interference is caused.

(e) In the 1.25 m band:

(1) Use of the 219–220 MHz segment is limited to amateur stations participating, as forwarding stations, in point-to-point fixed digital message forwarding systems, including intercity packet backbone networks. It is not available for other purposes.

(2) No amateur station transmitting in the 219–220 MHz segment shall cause harmful interference to, nor is protected from interference due to operation of Automated Maritime Telecommunications Systems (AMTS), television broadcasting on channels 11 and 13, Interactive Video and Data Service systems, Land Mobile Services systems, or any other service having a primary allocation in or adjacent to the band.

(3) No amateur station may transmit in the 219–220 MHz segment unless the licensee has given written notification of the station's specific geographic location for such transmissions in order to be incorporated into a data base that has been made available to the public. The notification must be given at least 30 days prior to making such transmissions. The notification must be given to: The American Radio Relay, Inc., 225 Main Street, Newington, CT 06111–1494.

(4) No amateur station may transmit in the 219–220 MHz segment from a location that is within 640 km of an AMTS Coast Station that uses frequencies in the 217–218/219–220 MHz AMTS bands unless the amateur station licensee has given written notification of the station's specific geographic location for such transmissions to the AMTS licensee. The notification must be given at least 30 days prior to making such transmissions. The location of AMTS Coast Stations using the 217–218/219–220 MHz channels may be obtained from either:

The American Radio Relay League, Inc., 225 Main Street, Newington, CT 06111–1494;

or

Interactive Systems, Inc., Suite 1103, 1601 North Kent Street, Arlington, VA 22209; Fax: (703) 812–8275; Phone: (703) 812–8270.

(5) No amateur station may transmit in the 219–220 MHz segment from a location that is within 80 km of an AMTS Coast Station that uses frequencies in the 217–218/219–220 MHz AMTS bands unless that amateur station licensee holds written approval from that AMTS licensee. The location of AMTS Coast Stations using the 217–218/219–220 MHz channels may be obtained as noted in paragraph (e)(4) of this section.

(f) In the 70 cm band:

(1) No amateur station shall transmit from north of Line A in the 420–430 MHz segment.

(2) The 420–430 MHz segment is allocated to the amateur service in the United States on a secondary basis, and is allocated in the fixed and mobile (except aeronautical mobile) services in the International Table of allocations on a primary basis. No amateur station transmitting in this band shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed and mobile (except aeronautical mobile) services.

(3) The 430–440 MHz segment is allocated to the amateur service on a secondary basis in ITU Regions 2 and 3. No amateur station transmitting in this band in ITU Regions 2 and 3 shall cause

harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the radiolocation service. In ITU Region 1, the 430–440 MHz segment is allocated to the amateur service on a co-primary basis with the radiolocation service. As between these two services in this band in ITU Region 1, the basic principle that applies is the equality of right to operate. Amateur stations authorized by the United States and radiolocation stations authorized by other nations in ITU Region 1 shall operate so as not to cause harmful interference to each other.

(4) No amateur station transmitting in the 449.75–450.25 MHz segment shall cause interference to, nor is protected from itnerference due to the operation of stations in, the space operation service and the space research service or Government or non-Government stations for space telecommand.

(g) In the 33 cm band:

(1) No amateur station shall transmit from within the States of Colorado and Wyoming, bounded on the south by latitude 39°N., on the north by latitude 42°N., on the east by longitude 105°W., and on the west by longitude 108°W. This band is allocated on a secondary basis to the amateur service subject to not causing harmful interference to, and not receiving protection from any interference due to the operation of, industrial, scientific and medical devices, automatic vehicle monitoring systems or Government stations authorized in this band.

(2) No amateur station shall transmit from those portions of the States of Texas and New Mexico bounded on the south by latitude 31°41′N., on the north by latitude 34°30′N., on the east by longitude 104°11′W., and on the west by longitude 107°30′W.

(h) No amateur station transmitting in the 23 cm band, the 3 cm band, the 24.05–24.25 GHz segment, the 76–81 GHz segment, the 144–149 GHz segment and the 241–248 GHz segment shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the radiolocation service.

(i) In the 1240–1260 MHz segment, no amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations in the radionavigation-satellite service, the aeronautical radionavigation service, or the radiolocation service.

(j) In the 13 cm band:

(1) The amateur service is allocated on a secondary basis in all ITU Regions. In ITU Region 1, no amateur station shall cause harmful interference to, and is not protected from interference due to the operation of, stations authorized by other nations in the fixed service. In ITU Regions 2 and 3, no station shall cause harmful interference to, and is not protected from interference due to the operation of, stations authorized by other nations in the fixed, mobile and radiolocation services.

(2) In the United States, 2300–2310 MHz segment is allocated to the amateur service on a co-secondary basis with the Government fixed and mobile services. In this segment, the fixed and mobile services must not cause harmful interference to the amateur service. No amateur station transmitting in the 2400–2450 MHz segment is protected from interference due to the operation of industrial, scientific and medical devices on 2450 MHz.

(k) No amateur station transmitting in the 3.332–3.339 GHz and 3.3458–3525 GHz segments, the 2.5 mm band, the 144.68–144.98 GHz, 145.45–145.75 GHz and 146.82–147.12 GHz segments and the 343–348 GHz segment shall cause harmful interference to stations in the radio astronomy service. No amateur station transmitting in the 300–302 GHz, 324–326 GHz, 345–347 GHz, 363–365 GHz and 379–381 GHz segments shall cause harmful interference to stations in the space research service (passive) or Earth exploration-satellite service (passive).

(l) In the 9 cm band:

(1) In ITU Regions 2 and 3, the band is allocated to the amateur service on a secondary basis.

(2) In the United States, the band is allocated to the amateur service on a co-secondary basis with the non-Government radiolocation service.

(3) In the 3.3–3.4 GHz segment, no amateur station shall cause harmful interference to, nor is protected from interference due to the operation of,

stations authorized by other nations in the radiolocation service.

(4) In the 3.4–3.5 GHz segment, no amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed and fixed-satellite service.

(m) In the 5 cm band:

(1) In the 5.650–5.725 GHz segment, the amateur service is allocated in all ITU Regions on a co-secondary basis with the space research (deep space) service.

(2) In the 5.725–5.850 GHz segment, the amateur service is allocated in all ITU Regions on a secondary basis. No amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed-satellite service in ITU Region 1.

(3) No amateur station transmitting in the 5.725–5.875 GHz segment is protected from interference due to the operation of industrial, scientific and medical devices operating on 5.8 GHz.

(4) In the 5.650–5.850 GHz segment, no amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the radiolocation service.

(5) In the 5.850–5.925 GHz segment, the amateur service is allocated in ITU Region 2 on a co-secondary basis with the radiolocation service. In the United States, the segment is allocated to the amateur service on a secondary basis to the non-Government fixed-satellite service. No amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed, fixed-satellite and mobile services. No amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations in the non-Government fixed-satellite service.

(n) In the 3 cm band:

(1) In the United States, the 3 cm band is allocated to the amateur service on a co-secondary basis with the non-government radiolocation service.

(2) In the 10.00–10.45 GHz segment in ITU Regions 1 and 3, no amateur station shall cause interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed and mobile services.

(o) No amateur station transmitting in the 1.2 cm band is protected from interference due to the operation of industrial, scientific and medical devices on 24.125 GHz. In the United States, the 24.05–24.25 GHz segment is allocated to the amateur service on a co-secondary basis with the non-government radiolocation and Government and non-government Earth exploration-satellite (active) services.

(p) The 2.5 mm band is allocated to the amateur service on a secondary basis. No amateur station transmitting in this band shall cause harmful interference to, nor is protected from interference due to the operation of, stations in the fixed, inter-satellite and mobile services.

(q) No amateur station transmitting in the 244–246 GHz segment of the 1 mm band is protected from interference due to the operation of industrial, scientific and medical devices on 245 GHz.

[54 FR 25857, June 20, 1989; 54 FR 39536, Sept. 27, 1989, as amended at 56 FR 19611, Apr. 29, 1991; 56 FR 23025, May 20, 1991; 56 FR 32518, July 17, 1991; 56 FR 40801, Aug. 16, 1991; 57 FR 40344, Sept. 3, 1992; 60 FR 15687, Mar. 27, 1995; 61 FR 15386, Apr. 8, 1996]

§97.305 Authorized emission types.

(a) An amateur station may transmit a CW emission on any frequency authorized to the control operator.

(b) A station may transmit a test emission on any frequency authorized to the control operator for brief periods for experimental purposes, except that no pulse modulation emission may be transmitted on any frequency where pulse is not specifically authorized.

(c) A station may transmit the following emission types on the frequencies indicated, as authorized to the control operator, subject to the standards specified in §97.307(f) of this part.

Wavelength band	Frequencies	Emission types authorized	Standards see § 97.307(f), paragraph:
MF:			
160 m	Entire band	RTTY, data	(3).
160 m	Entire band	Phone, image	(1), (2).
HF:			
80 m	Entire band	RTTY, data	(3), (9).
75 m	Entire band	Phone, image	(1), (2).
40 m	7.000–7.100 MHz	RTTY, data	(3), (9).
40 m	7.075–7.100 MHz	Phone, image	(1), (2), (9), (11).
40 m	7.100–7.150 MHz	RTTY, data	(3), (9).
40 m	7.150–7.300 MHz	Phone, image	(1), (2).
30 m	Entire band	RTTY, data	(3).
20 m	14.00–14.15 MHz	RTTY, data	(3).
20 m	14.15–14.35 MHz	Phone, image	(1), (2).
17 m	18.068–18.110 MHz	RTTY, data	(3).
17 m	18.110–18.168 MHz	Phone, image	(1), (2).
15 m	21.0–21.2 MHz	RTTY, data	(3), (9).
15 m	21.20–21.45 MHz	Phone, image	(1), (2).
12 m	24.89–24.93 MHz	RTTY, data	(3).
12 m	24.93–24.99 MHz	Phone, image	(1), (2).
10 m	28.0–28.3 MHz	RTTY, data	(4).
10 m	28.3–28.5 MHz	Phone, image	(1), (2), (10).
10 m	28.5–29.0 MHz	Phone, image	(1), (2).
10 m	29.0–29.7 MHz	Phone, image	(2).
VHF:			
6 m	50.1–51.0 MHz	MCW, phone, image, RTTY, data	(2), (5).
Do	51.0–54.0 MHz	MCW, phone, image, RTTY, data, test.	(2), (5), (8).
2 m	144.1–148.0 MHz	MCW, phone, image, RTTY, data, test.	(2), (5), (8).
1.25 m	219–220 MHz	Data	(13).
Do	222–225 MHz	MCW, phone, image, RTTY, data, test.	(2), (6), (8).
UHF:			
70 cm	Entire band	MCW, phone, image, RTTY, data, SS, test.	(6), (8).
33 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse.	(7), (8), and (12).
23 cm	Entire band	MCW, phone, image, RTTY, data, SS, test.	(7), (8), and (12).
13 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse.	(7), (8), and (12).
SHF:			
9 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse.	(7), (8), and (12).
5 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse.	(7), (8), and (12).
3 cm	Entire band	MCW, phone, image, RTTY, data, SS, test.	(7), (8), and (12).
1.2 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse.	(7), (8), and (12).
EHF:			
6 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse.	(7), (8), and (12).
4 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse.	(7), (8), and (12).
2.5 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse.	(7), (8), and (12).
2 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse.	(7), (8), and (12).
1mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse.	(7), (8), and (12).
—	Above 300 GHz	MCW, phone, image, RTTY, data, SS, test, pulse.	(7), (8), and (12).

[54 FR 25857, June 20, 1989; 54 FR 39536, Sept. 27, 1989; 55 FR 22013, May 30, 1990, as amended at 55 FR 30457, July 26, 1990; 60 FR 15688, Mar. 27, 1995]

§97.307 Emission standards.

(a) No amateur station transmission shall occupy more bandwidth than necessary for the information rate and emission type being transmitted, in accordance with good amateur practice.

(b) Emissions resulting from modulation must be confined to the band or segment available to the control operator. Emissions outside the necessary bandwidth must not cause splatter or keyclick interference to operations on adjacent frequencies.

(c) All spurious emissions from a station transmitter must be reduced to the greatest extent practicable. If any spurious emission, including chassis or power line radiation, causes harmful interference to the reception of another radio station, the licensee of the interfering amateur station is required to take steps to eliminate the interference, in accordance with good engineering practice.

(d) The mean power of any spurious emission from a station transmitter or external RF power amplifier transmitting on a frequency below 30 MHz must not exceed 50 mW and must be at least 40 dB below the mean power of the fundamental emission. For a transmitter of mean power less than 5 W, the attenuation must be at least 30 dB. A transmitter built before April 15, 1977, or first marketed before January 1, 1978, is exempt from this requirement.

(e) The mean power of any spurious emission from a station transmitter or external RF power amplifier transmitting on a frequency between 30–225 MHz must be at least 60 dB below the mean power of the fundamental. For a transmitter having a mean power of 25 W or less, the mean power of any spurious emission supplied to the antenna transmission line must not exceed 25 μW and must be at least 40 dB below the mean power of the fundamental emission, but need not be reduced below the power of 10 μW. A transmitter built before April 15, 1977, or first marketed before January 1, 1978, is exempt from this requirement.

(f) The following standards and limitations apply to transmissions on the frequencies specified in §97.305(c) of this part.

(1) No angle-modulated emission may have a modulation index greater than 1 at the highest modulation frequency.

(2) No non-phone emission shall exceed the bandwidth of a communications quality phone emission of the same modulation type. The total bandwidth of an independent sideband emission (having B as the first symbol), or a multiplexed image and phone emission, shall not exceed that of a communications quality A3E emission.

(3) Only a RTTY or data emission using a specified digital code listed in §97.309(a) of this part may be transmitted. The symbol rate must not exceed 300 bauds, or for frequency-shift keying, the frequency shift between mark and space must not exceed 1 kHz.

(4) Only a RTTY or data emission using a specified digital code listed in §97.309(a) of this part may be transmitted. The symbol rate must not exceed 1200 bauds, or for frequency-shift keying, the frequency shift between mark and space must not exceed 1 kHz.

(5) A RTTY, data or multiplexed emission using a specified digital code listed in §97.309(a) of this part may be transmitted. The symbol rate must not exceed 19.6 kilobauds. A RTTY, data or multiplexed emission using an unspecified digital code under the limitations listed in §97.309(b) of this part also may be transmitted. The authorized bandwidth is 20 kHz.

(6) A RTTY, data or multiplexed emission using a specified digital code listed in §97.309(a) of this part may be transmitted. The symbol rate must not exceed 56 kilobauds. A RTTY, data or multiplexed emission using an unspecified digital code under the limitations listed in §97.309(b) of this part also may be transmitted. The authorized bandwidth is 100 kHz.

(7) A RTTY, data or multiplexed emission using a specified digital code listed in §97.309(a) of this part or an unspecified digital code under the limitations listed in §97.309(b) of this part may be transmitted.

(8) A RTTY or data emission having designators with A, B, C, D, E, F, G, H, J or R as the first symbol; 1, 2, 7 or 9 as the second symbol; and D or W as the third symbol is also authorized.

(9) A station having a control operator holding a Novice or Technician

Class operator license may only transmit a CW emission using the international Morse code.

(10) A station having a control operator holding a Novice or Technician Class operator license may only transmit a CW emission using the international Morse code or phone emissions J3E and R3E.

(11) Phone and image emissions may be transmitted only by stations located in ITU Regions 1 and 3, and by stations located within ITU Region 2 that are west of 130° West longitude or south of 20° North latitude.

(12) Emission F8E may be transmitted.

(13) A data emission using an unspecified digital code under the limitations listed in § 97.309(b) also may be transmitted. The authorized bandwidth is 100 kHz.

[54 FR 25857, June 20, 1989; 54 FR 30823, July 24, 1989, as amended at 54 FR 39537, Sept. 27, 1989; 60 FR 15688, Mar. 27, 1995]

§ 97.309 RTTY and data emission codes.

(a) Where authorized by §§ 97.305(c) and 97.307(f) of the part, an amateur station may transmit a RTTY or data emission using the following specified digital codes:

(1) The 5-unit, start-stop, International Telegraph Alphabet No. 2, code defined in International Telegraph and Telephone Consultative Committee Recommendation F.1, Division C (commonly known as Baudot).

(2) The 7-unit code specified in International Radio Consultative Committee Recommendation CCIR 476–2 (1978), 476–3 (1982), 476–4 (1986) or 625 (1986) (commonly known as AMTOR).

(3) The 7-unit code defined in American National Standards Institute X3.4–1977 or International Alphabet No. 5 defined in International Telegraph and Telephone Consultative Committee Recommendation T.50 or in International Organization for Standardization, International Standard ISO 646 (1983), and extensions as provided for in CCITT Recommendation T.61 (Malaga-Torremolinos, 1984) (commonly known as ASCII).

(4) An amateur station transmitting a RTTY or data emission using a digital code specified in this paragraph may use any technique whose technical characteristics have been documented publicly, such as CLOVER, G–TOR, or PacTOR, for the purpose of facilitating communications.

(b) Where authorized by §§ 97.305(c) and 97.307(f) of this part, a station may transmit a RTTY or data emission using an unspecified digital code, except to a station in a country with which the United States does not have an agreement permitting the code to be used. RTTY and data emissions using unspecified digital codes must not be transmitted for the purpose of obscuring the meaning of any communication. When deemed necessary by an EIC to assure compliance with the FCC Rules, a station must:

(1) Cease the transmission using the unspecified digital code;

(2) Restrict transmissions of any digital code to the extent instructed;

(3) Maintain a record, convertible to the original information, of all digital communications transmitted.

[54 FR 25857, June 20, 1989, as amended at 54 FR 39537, Sept. 27, 1989; 56 FR 56172, Nov. 1, 1991; 60 FR 55486, Nov. 1, 1995]

§ 97.311 SS emission types.

(a) SS emission transmissions by an amateur station are authorized only for communications between points within areas where the amateur service is regulated by the FCC. SS emission transmissions must not be used for the purpose of obscuring the meaning of any communication.

(b) Stations transmitting SS emission must not cause harmful interference to stations employing other authorized emissions, and must accept all interference caused by stations employing other authorized emissions. For the purposes of this paragraph, unintended triggering of carrier operated repeaters is not considered to be harmful interference.

(c) Only the following types of SS emission transmissions are authorized (hybrid SS emissions transmissions involving both spreading techniques are prohibited):

(1) Frequency hopping where the carrier of the transmitted signal is modulated with unciphered information and changes frequency at fixed intervals

under the direction of a high speed code sequence.

(2) Direct sequence where the information is modulo–2 added to a high speed code sequence. The combined information and code are then used to modulate the RF carrier. The high speed code sequence dominates the modulation function, and is the direct cause of the wide spreading of the transmitted signal.

(d) The only spreading sequences that are authorized are from the output of one binary linear feedback shift register (which may be implemented in hardware or software).

(1) Only the following sets of connections may be used:

Number of stages in shift register	Taps used in feedback
7	7,1.
13	13,4, 3, and 1.
19	19, 5, 2, and 1.

(2) The shift register must not be reset other than by its feedback during an individual transmission. The shift register output sequence must be used without alteration.

(3) The output of the last stage of the binary linear feedback shift register must be used as follows:

(i) For frequency hopping transmissions using x frequencies, n consecutive bits from the shift register must be used to select the next frequency from a list of frequencies sorted in ascending order. Each consecutive frequency must be selected by a consecutive block of n bits. (Where n is the smallest integer greater than $\log_2 x$.)

(ii) For direct sequence transmissions using m-ary modulation, consecutive blocks of $\log_2 m$ bits from the shift register must be used to select the transmitted signal during each interval.

(e) The station records must document all SS emission transmissions and must be retained for a period of 1 year following the last entry. The station records must include sufficient information to enable the FCC, using the information contained therein, to demodulate all transmissions. The station records must contain at least the following:

(1) A technical description of the transmitted signal;

(2) Pertinent parameters describing the transmitted signal including the frequency or frequencies of operation and, where applicable, the chip rate, the code rate, the spreading function, the transmission protocol(s) including the method of achieving sychronization, and the modulation type;

(3) A general description of the type of information being conveyed, (voice, text, memory dump, facsimile, television, etc.);

(4) The method and, if applicable, the frequency or frequencies used for station identification; and

(5) The date of beginning and the date of ending use of each type of transmitted signal.

(f) When deemed necessary by an EIC to assure compliance with this part, a station licensee must:

(1) Cease SS emission transmissions;

(2) Restrict SS emission transmissions to the extent instructed; and

(3) Maintain a record, convertible to the original information (voice, text, image, etc.) of all spread spectrum communications transmitted.

(g) The transmitter power must not exceed 100 W.

§97.313 Transmitter power standards.

(a) An amateur station must use the minimum transmitter power necessary to carry out the desired communications.

(b) No station may transmit with a transmitter power exceeding 1.5 kW PEP.

(c) No station may transmit with a transmitter power exceeding 200 W PEP on:

(1) The 3.675–3.725 MHz, 7.10–7.15 MHz, 10.10–10.15 MHz, and 21.1–21.2 MHz segments;

(2) The 28.1–28.5 MHz segment when the control operator is a Novice or Technician operator; or

(3) The 7.050–7.075 MHz segment when the station is within ITU Regions 1 or 3.

(d) No station may transmit with a transmitter power exceeding 25 W PEP on the VHF 1.25 m band when the control operator is a Novice operator.

(e) No station may transmit with a transmitter power exceeding 5 W PEP on the UHF 23 cm band when the control operator is a Novice operator.

(f) No station may transmit with a transmitter power exceeding 50 W PEP on the UHF 70 cm band from an area specified in footnote US7 to §2.106 of the FCC Rules, unless expressly authorized by the FCC after mutual agreement, on a case-by-case basis, between the EIC of the applicable field facility and the military area frequency coordinator at the applicable military base. An Earth station or telecommand station, however, may transmit on the 435–438 MHz segment with a maximum of 611 W effective radiated power (1 kW equivalent isotropically radiated power) without the authorization otherwise required. The transmitting antenna elevation angle between the lower half-power (−3 dB relative to the peak or antenna bore sight) point and the horizon must always be greater than 10°.

(g) No station may transmit with a transmitter power exceeding 50 W PEP on the 33 cm band from within 241 km of the boundaries of the White Sands Missile Range. Its boundaries are those portions of Texas and New Mexico bounded on the south by latitude 31° 41′ North, on the east by longitude 104° 11′ West, on the north by latitude 34° 30′ North, and on the west by longitude 107° 30′ West.

(h) No station may transmit with a transmitter power exceeding 50 W PEP on the 219–220 MHz segment of the 1.25 m band.

[54 FR 25857, June 20, 1989, as amended at 56 FR 37161, Aug. 5, 1991; 56 FR 3043, Jan. 28, 1991; 60 FR 15688, Mar. 27, 1995]

§ 97.315 Type acceptance of external RF power amplifiers.

(a) No more than 1 unit of 1 model of an external RF power amplifier capable of operation below 144 MHz may be constructed or modified during any calendar year by an amateur operator for use at a station without a grant of type acceptance. No amplifier capable of operation below 144 MHz may be constructed or modified by a non-amateur operator without a grant of type acceptance from the FCC.

(b) Any external RF power amplifier or external RF power amplifier kit (see §2.815 of the FCC Rules), manufactured, imported or modified for use in a station or attached at any station must be type accepted for use in the amateur service in accordance with subpart J of part 2 of the FCC Rules. This requirement does not apply if one or more of the following conditions are met:

(1) The amplifier is not capable of operation on frequencies below 144 MHz. For the purpose of this part, an amplifier will be deemed to be incapable of operation below 144 MHz if it is not capable of being easily modified to increase its amplification characteristics below 120 MHz and either:

(i) The mean output power of the amplifier decreases, as frequency decreases from 144 MHz, to a point where 0 dB or less gain is exhibited at 120 MHz; or

(ii) The amplifier is not capable of amplifying signals below 120 MHz even for brief periods without sustaining permanent damage to its amplification circuitry.

(2) The amplifier was manufactured before April 28, 1978, and has been issued a marketing waiver by the FCC, or the amplifier was purchased before April 28, 1978, by an amateur operator for use at that amateur operator's station.

(3) The amplifier was:

(i) Constructed by the licensee, not from an external RF power amplifier kit, for use at the licensee's station; or

(ii) Modified by the licensee for use at the licensee's station.

(4) The amplifier is sold by an amateur operator to another amateur operator or to a dealer.

(5) The amplifier is purchased in used condition by an equipment dealer from an amateur operator and the amplifier is further sold to another amateur operator for use at that operator's station.

(c) A list of type accepted equipment may be inspected at FCC headquarters in Washington, DC, or at any FCC field location. Any external RF power amplifier appearing on this list as type accepted for use in the amateur service may be marketed for use in the amateur service.

§ 97.317 Standards for type acceptance of external RF power amplifiers.

(a) To receive a grant of type acceptance, the amplifier must satisfy the spurious emission standards of

§97.307(d) or (e) of this part, as applicable, when the amplifier is:

(1) Operated at its full output power;

(2) Placed in the ''standby'' or ''off'' positions, but still connected to the transmitter; and

(3) Driven with at least 50 W mean RF input power (unless higher drive level is specified.)

(b) To receive a grant of type acceptance, the amplifier must not be capable of operation on any frequency or frequencies between 24 MHz and 35 MHz. The amplifier will be deemed incapable of such operation if it:

(1) Exhibits no more than 6 dB gain between 24 MHz and 26 MHz and between 28 MHz and 35 MHz. (This gain will be determined by the ratio of the input RF driving signal (mean power measurement) to the mean RF output power of the amplifier); and

(2) Exhibits no amplification (0 dB gain) between 26 MHz and 28 MHz.

(c) Type acceptance may be denied when denial would prevent the use of these amplifiers in services other than the amateur service. The following features will result in dismissal or denial of an application for type acceptance:

(1) Any accessible wiring which, when altered, would permit operation of the amplifier in a manner contrary to the FCC Rules;

(2) Circuit boards or similar circuitry to facilitate the addition of components to change the amplifier's operating characteristics in a manner contrary to the FCC Rules;

(3) Instructions for operation or modification of the amplifier in a manner contrary to FCC Rules;

(4) Any internal or external controls or adjustments to facilitate operation of the amplifier in a manner contrary to the FCC Rules;

(5) Any internal RF sensing circuitry or any external switch, the purpose of which is to place the amplifier in the transmit mode;

(6) The incorporation of more gain in the amplifier than is necessary to operate in the amateur service; for purposes of this paragraph, the amplifer must:

(i) Not be capable of achieving designed output power when driven with less than 50 W mean RF input power;

(ii) Not be capable of amplifying the input RF driving signal by more than 15 dB, unless the amplifier has a designed transmitter power of less than 1.5 kW (in such a case, gain must be reduced by the same number of dB as the transmitter power relationship to 1.5 kW; This gain limitation is determined by the ratio of the input RF driving signal to the RF output power of the amplifier where both signals are expressed in peak envelope power or mean power);

(iii) Not exhibit more gain than permitted by paragraph (c)(6)(ii) of this section when driven by an RF input signal of less than 50 W mean power; and

(iv) Be capable of sustained operation at its designed power level;

(7) Any attenuation in the input of the amplifier which, when removed or modified, would permit the amplifier to function at its designed transmitter power when driven by an RF frequency input signal of less than 50 W mean power; or

(8) Any other features designed to facilitate operation in a telecommunication service other than the Amateur Radio Services, such as the Citizens Band (CB) Radio Service.

Subpart E—Providing Emergency Communications

§97.401 Operation during a disaster.

(a) When normal communication systems are overloaded, damaged or disrupted because a disaster has occurred, or is likely to occur, in an area where the amateur service is regulated by the FCC, an amateur station may make transmissions necessary to meet essential communication needs and facilitate relief actions.

(b) When normal communication systems are overloaded, damaged or disrupted because a natural disaster has occurred, or is likely to occur, in an area where the amateur service is not regulated by the FCC, a station assisting in meeting essential communication needs and facilitating relief actions may do so only in accord with ITU Resolution No. 640 (Geneva, 1979). The 80 m, 75 m, 40 m, 30 m, 20 m, 17 m, 15 m, 12 m, and 2 m bands may be used for these purposes.

(c) When a disaster disrupts normal communication systems in a particular area, the FCC may declare a temporary state of communication emergency. The declaration will set forth any special conditions and special rules to be observed by stations during the communication emergency. A request for a declaration of a temporary state of emergency should be directed to the EIC in the area concerned.

(d) A station in, or within 92.6 km of, Alaska may transmit emissions J3E and R3E on the channel at 5.1675 Mhz for emergency communications. The channel must be shared with stations licensed in the Alaska-private fixed service. The transmitter power must not exceed 150 W.

§ 97.403 Safety of life and protection of property.

No provision of these rules prevents the use by an amateur station of any means of radiocommunication at its disposal to provide essential communication needs in connection with the immediate safety of human life and immediate protection of property when normal communication systems are not available.

§ 97.405 Station in distress.

(a) No provision of these rules prevents the use by an amateur station in distress of any means at its disposal to attract attention, make known its condition and location, and obtain assistance.

(b) No provision of these rules prevents the use by a station, in the exceptional circumstances described in paragraph (a) of this section, of any means of radiocommunications at its disposal to assist a station in distress.

§ 97.407 Radio amateur civil emergency service.

(a) No station may transmit in RACES unless it is an FCC-licensed primary, club, or military recreation station and it is certified by a civil defense organization as registered with that organization, or it is an FCC-licensed RACES station. No person may be the control operator of a RACES station, or may be the control operator of an amateur station transmitting in RACES unless that person holds a FCC-issued amateur operator license and is certified by a civil defense organization as enrolled in that organization.

(b) The frequency bands and segments and emissions authorized to the control operator are available to stations transmitting communications in RACES on a shared basis with the amateur service. In the event of an emergency which necessitates the invoking of the President's War Emergency Powers under the provisions of Section 706 of the Communications Act of 1934, as amended, 47 U.S.C. 606, RACES stations and amateur stations participating in RACES may only transmit on the following frequencies:

(1) The 1800–1825 kHz, 1975–2000 kHz, 3.50–3.55 MHz, 3.93–3.98 MHz, 3.984–4.000 MHz, 7.079–7.125 MHz, 7.245–7.255 MHz, 10.10–10.15 MHz, 14.047–14.053 MHz, 14.22–14.23 MHz, 14.331–14.350 MHz, 21.047–21.053 MHz, 21.228–21.267 MHz, 28.55–28.75 MHz, 29.237–29.273 MHz, 29.45–29.65 MHz, 50.35–50.75 MHz, 52–54 MHz, 144.50–145.71 MHz, 146–148 MHz, 2390–2450 MHz segments;

(2) The 1.25 m, 70 cm and 23 cm bands; and

(3) The channels at 3.997 MHz and 53.30 MHz may be used in emergency areas when required to make initial contact with a military unit and for communications with military stations on matters requiring coordination.

(c) A RACES station may only communicate with:

(1) Another RACES station;

(2) An amateur station registered with a civil defense organization;

(3) A United States Government station authorized by the responsible agency to communicate with RACES stations;

(4) A station in a service regulated by the FCC whenever such communication is authorized by the FCC.

(d) An amateur station registered with a civil defense organization may only communicate with:

(1) A RACES station licensed to the civil defense organization with which the amateur station is registered;

(2) The following stations upon authorization of the responsible civil defense official for the organization with which the amateur station is registered:

(i) A RACES station licensed to another civil defense organization;

(ii) An amateur station registered with the same or another civil defense organization;

(iii) A United States Government station authorized by the responsible agency to communicate with RACES stations; and

(iv) A station in a service regulated by the FCC whenever such communication is authorized by the FCC.

(e) All communications transmitted in RACES must be specifically authorized by the civil defense organization for the area served. Only civil defense communications of the following types may be transmitted:

(1) Messages concerning impending or actual conditions jeopardizing the public safety, or affecting the national defense or security during periods of local, regional, or national civil emergencies;

(2) Messages directly concerning the immediate safety of life of individuals, the immediate protection of property, maintenance of law and order, alleviation of human suffering and need, and the combating of armed attack or sabotage;

(3) Messages directly concerning the accumulation and dissemination of public information or instructions to the civilian population essential to the activities of the civil defense organization or other authorized governmental or relief agencies; and

(4) Communications for RACES training drills and tests necessary to ensure the establishment and maintenance of orderly and efficient operation of the RACES as ordered by the responsible civil defense organization served. Such drills and tests may not exceed a total time of 1 hour per week. With the approval of the chief officer for emergency planning in the applicable State, Commonwealth, District or territory, however, such tests and drills may be conducted for a period not to exceed 72 hours no more than twice in any calendar year.

Subpart F—Qualifying Examination Systems

§97.501 Qualifying for an amateur operator license.

Each applicant for the grant of a new amateur operator license or for the grant of a modified license to show a higher operator class, must pass or otherwise receive credit for the examination elements specified for the class of operator license sought:

(a) Amateur Extra Class operator: Elements 1(C), 2, 3(A), 3(B), 4(A), and 4(B);

(b) Advanced Class operator: Elements 1(B) or 1(C), 2, 3(A), 3(B), and 4(A);

(c) General Class operator: Elements 1(B) or 1(C), 2, 3(A), and 3(B);

(d) Technician Plus Class operator: Elements 1(A) or 1(B) or 1(C), 2, and 3(A).

(e) Technician Class operator: Elements 2 and 3(A).

(f) Novice Class operator: Elements 1(A) or 1(B) or 1(C), and 2.

[54 FR 25857, June 20, 1989, as amended at 59 FR 54834, Nov. 2, 1994]

§97.503 Element standards.

(a) A telegraphy examination must be sufficient to prove that the examinee has the ability to send correctly by hand and to receive correctly by ear texts in the international Morse code at not less than the prescribed speed, using all the letters of the alphabet, numerals 0–9, period, comma, question mark, slant mark and prosigns ar, bt, and sk.

(1) Element 1(A): 5 words per minute;

(2) Element 1(B): 13 words per minute;

(3) Element 1(C): 20 words per minute.

(b) A written examination must be such as to prove that the examinee possesses the operational and technical qualifications required to perform properly the duties of an amateur service licensee. Each written examination must be comprised of a question set as follows:

(1) Element 2: 35 questions concerning the privileges of a Novice Class operator license. The minimum passing score is 26 questions answered correctly.

(2) Element 3(A): 30 questions concerning the privileges of a Technician Class operator license. The minimum passing score is 22 questions answered correctly.

(3) Element 3(B): 30 questions concerning the privileges of a General Class operator license. The minimum passing score is 22 questions answered correctly.

(4) Element 4(A): 50 questions concerning the additional privileges of an Advanced Class operator license. The minimum passing score is 37 questions answered correctly.

(5) Element 4(B): 40 questions concerning the additional privileges of an Amateur Extra Class operator license. The minimum passing score is 30 questions answered correctly.

(c) The topics and number of questions required in each question set are listed below for the appropriate examination element:

Topics	Element: 2	3(A)	3(B)	4(A)	4(B)
(1) FCC rules for the amateur radio services	10	5	4	6	8
(2) Amateur station operating procedures	2	3	3	1	4
(3) Radio wave propagation characteristics of amateur service frequency bands	1	3	3	2	2
(4) Amateur radio practices	4	4	5	4	4
(5) Electrical principles as applied to amateur station equipment	4	2	2	10	6
(6) Amateur station equipment circuit components	2	2	1	6	4
(7) Practical circuits employed in amateur station equipment	2	1	1	10	4
(8) Signals and emissions transmitted by amateur stations	2	2	2	6	4
(9) Amateur station antennas and feed lines	3	3	4	5	4
(10) Radiofrequency environmental safety practices at an amateur station	5	5	5	0	0

[54 FR 25857, June 20, 1989, as amended at 61 FR 41019, Aug. 7, 1996]

§ 97.505 Element credit.

(a) The administering VEs must give credit as specified below to an examinee holding any of the following documents:

(1) An unexpired (or expired but within the grace period for renewal) FCC-granted Advanced Class operator license document: Elements 1(B), 2, 3(A), 3(B), and 4(A).

(2) An unexpired (or expired but within the grace period for renewal) FCC-granted General Class operator license document: Elements 1(b), 2, 3(A), and 3(B).

(3) An unexpired (or expired but within the grace period for renewal) FCC-granted Technician Plus Class operator (including a Technician Class operator license granted before February 14, 1991) license document: Elements 1(A), 2, and 3(A).

(4) An unexpired (or expired but within the grace period for renewal) FCC-granted Technician Class operator license document: Elements 2 and 3(A).

(5) An unexpired (or expired but within the grace period for renewal) FCC-granted Novice Class operator license document: Elements 1(A) and 2.

(6) A CSCE: Each element the CSCE indicates the examinee passed within the previous 365 days.

(7) An unexpired (or expired for less than 5 years) FCC-issued commercial radiotelegraph operator license document or permit: Element 1(C).

(8) An expired or unexpired FCC-issued Technician Class operator license document granted before March 21, 1987: Element 3(B).

(9) An expired or unexpired FCC-issued Technician Class license document granted before February 14, 1991: Element 1(A).

(10) An unexpired (or expired but within the grace period for renewal), FCC-granted Novice, Technician Plus (including a Technician Class operator license granted before February 14, 1991), General, or Advanced Class operator license document, and an FCC Form 610 containing:

(i) A physician's certification stating that because the person is an individual with a severe handicap, the duration of which will extend for more than 365 days beyond the date of the certification, the person is unable to pass a 13 or 20 words per minute telegraphy examination; and

(ii) A release signed by the person permitting the disclosure to the FCC of medical information pertaining to the person's handicap: Element 1(C).

(b) No examination credit, except as herein provided, shall be allowed on the basis of holding or having held any other license grant or document.

[59 FR 54834, Nov. 2, 1994]

§97.507 Preparing an examination.

(a) Each telegraphy message and each written question set administered to an examinee must be prepared by a VE who has been granted an Amateur Extra Class operator license. A telegraphy message or written question set, however, may also be prepared for the following elements by a VE who has been granted an FCC operator license of the class indicated:

(1) Element 3(B): Advanced Class operator.

(2) Elements 1(A) and 3(A): Advanced or General Class operator.

(3) Element 2: Advanced, General, Technician, or Technician Plus Class operator.

(b) Each question set administered to an examinee must utilize questions taken from the applicable question pool.

(c) Each telegraphy message and each written question set administered to an examinee for an amateur operator license must be prepared, or obtained from a supplier, by the administering VEs according to instructions from the coordinating VEC.

(d) A telegraphy examination must consist of a message sent in the international Morse code at no less than the prescribed speed for a minimum of 5 minutes. The message must contain each required telegraphy character at least once. No message known to the examinee may be administered in a telegraphy examination. Each 5 letters of the alphabet must be counted as 1 word. Each numeral, punctuation mark and prosign must be counted as 2 letters of the alphabet.

[54 FR 25857, June 20, 1989, as amended at 58 FR 29126, May 19, 1993; 59 FR 54834, Nov. 2, 1994]

§97.509 Administering VE requirements.

(a) Each examination for an amateur operator license must be administered by 3 administering VEs at an examination session coordinated by a VEC. Before the session, the administering VEs must make a public announcement stating the location and time of the session. The number of examinees at the session may be limited.

(b) Each administering VE must:

(1) Be accredited by the coordinating VEC;

(2) Be at least 18 years of age;

(3) Be a person who has been granted an FCC amateur operator license document of the class specified below:

(i) Amateur Extra, Advanced, or General Class in order to administer a Novice, Technician, or Technician Plus Class operator license examination;

(ii) Amateur Extra Class in order to administer a General, Advanced, or Amateur Extra Class operator license examination.

(4) Not be a person whose grant of an amateur station license or amateur operator license has ever been revoked or suspended.

(c) Each administering VE must be present and observing the examinee throughout the entire examination. The administering VEs are responsible for the proper conduct and necessary supervision of each examination. The administering VEs must immediately terminate the examination upon failure of the examinee to comply with their instructions.

(d) No VE may administer an examination to his or her spouse, children, grandchildren, stepchildren, parents, grandparents, stepparents, brothers, sisters, stepbrothers, stepsisters, aunts, uncles, nieces, nephews, and in-laws.

(e) No VE may administer or certify any examination by fraudulent means or for monetary or other consideration including reimbursement in any amount in excess of that permitted. Violation of this provision may result in the revocation of the grant of the

VE's amateur station license and the suspension of the grant of the VE's amateur operator license.

(f) No examination that has been compromised shall be administered to any examinee. Neither the same telegraphy message nor the same question set may be re-administered to the same examinee.

(g) Passing a telegraphy receiving examination is adequate proof of an examinee's ability to both send and receive telegraphy. The administering VEs, however, may also include a sending segment in a telegraphy examination.

(h) Upon completion of each examination element, the administering VEs must immediately grade the examinee's answers. The administering VEs are responsible for determining the correctness of the examinee's answers.

(i) When the examinee is credited for all examination elements required for the operator license sought, the administering VEs must certify on the examinee's application document that the applicant is qualified for the license.

(j) When the examinee does not score a passing grade on an examination element, the administering VEs must return the application document to the examinee and inform the examinee of the grade.

(k) The administering VEs must accommodate an examinee whose physical disabilities require a special examination procedure. The administering VEs may require a physician's certification indicating the nature of the disability before determining which, if any, special procedures must be used.

(l) The administering VEs must issue a CSCE to an examinee who scores a passsing grade on an examination element.

(m) Within 10 days of the administration of a successful examination for an amateur operator license, the administering VEs must submit the application document to the coordinating VEC.

[59 FR 54834, Nov. 2, 1994, as amended at 61 FR 9953, Mar. 12, 1996]

§ 97.511 Examinee conduct.

Each examinee must comply with the instructions given by the administering VEs.

[59 FR 54835, Nov. 2, 1994]

§ 97.513–97.517 [Reserved]

§ 97.519 Coordinating examination sessions.

(a) A VEC must coordinate the efforts of VEs in preparing and administering examinations.

(b) At the completion of each examination session, the coordinating VEC must collect the FCC Forms 610 documents and test results from the administering VEs. Within 10 days of collecting the FCC Forms 610 documents, the coordinating VEC must screen and, for qualified examinees, forward electronically or on diskette the data contained on the FCC Forms 610 documents, or forward the FCC Form 610 documents, to: FCC, 1270 Fairfield Road, Gettysburg, PA 17325–7245. When the data is forwarded electronically, the coordinating VEC must retain the FCC Forms 610 documents for at least fifteen months and make them available to the FCC upon request.

(c) Each VEC must make any examination records available to the FCC, upon request

(d) The FCC may:

(1) Administer any examination element itself;

(2) Readminister any examination element previously administered by VEs, either itself or under the supervision of a VEC or VEs designated by the FCC; or

(3) Cancel the operator/primary station license of any licensee who fails to appear for readministration of an examination when directed by the FCC, or who does not successfully complete any required element that is readministered. In an instancce of such cancellation, the person will be granted an operator/primary station license consistent with completed examination elements that have not been invalidated by not appearing for, or by failing, the examination upon readministration.

[54 FR 25857, June 20, 1989, as amended at 59 FR 54835, Nov. 2, 1994]

§ 97.521 VEC qualifications.

No organization may serve as a VEC unless it has entered into a written agreement with the FCC. The VEC must abide by the terms of the agreement. In order to be eligible to be a VEC, the entity must:

(a) Be an organization that exists for the purpose of furthering the amateur service;

(b) Be capable of serving as a VEC in at least the VEC region (see appendix 2) proposed;

(c) Agree to coordinate examinations for any class of amateur operator license;

(d) Agree to assure that, for any examination, every examinee qualified under these rules is registered without regard to race, sex, religion, national origin or membership (or lack thereof) in any amateur service organization;

[54 FR 25857, June 20, 1989, as amended at 58 FR 29127, May 19, 1993; 61 FR 9953, Mar. 12, 1996]

§ 97.523 Question pools.

All VECs must cooperate in maintaining one question pool for each written examination element. Each question pool must contain at least 10 times the number of questions required for a single examination. Each question pool must be published and made available to the public prior to its use for making a question set. Each question on each VEC question pool must be prepared by a VE holding the required FCC-issued operator license. See § 97.507(a) of this part.

§ 97.525 Accrediting VEs.

(a) No VEC may accredit a person as a VE if:

(1) The person does not meet minimum VE statutory qualifications or minimum qualifications as prescribed by this part;

(2) The FCC does not accept the voluntary and uncompensated services of the person;

(3) The VEC determines that the person is not competent to perform the VE functions; or

(4) The VEC determines that questions of the person's integrity or honesty could compromise the examinations.

(b) Each VEC must seek a broad representation of amateur operators to be VEs. No VEC may discriminate in accrediting VEs on the basis of race, sex, religion or national origin; nor on the basis of membership (or lack thereof) in an amateur service organization; nor on the basis of the person accepting or declining to accept reimbursement.

§ 97.527 Reimbursement for expenses.

(a) VEs and VECs may be reimbursed by examinees for out-of-pocket expenses incurred in preparing, processing, administering, or coordinating an examination for an amateur operator license.

(b) The maximum amount of reimbursement from any one examinee for any one examination at a particular session regardless of the number of examination elements taken must not exceed that announced by the FCC in a Public Notice. (The basis for the maximum fee is $4.00 for 1984, adjusted annually each January 1 thereafter for changes in the Department of Labor Consumer Price Index.)

[54 FR 25857, June 20, 1989, as amended at 58 FR 29127, May 19, 1993; 61 FR 9953, Mar. 12, 1996]

APPENDIX 1 TO PART 97—PLACES WHERE THE AMATEUR SERVICE IS REGULATED BY THE FCC

In ITU Region 2, the amateur service is regulated by the FCC within the territorial limits of the 50 United States, District of Columbia, Caribbean Insular areas [Commonwealth of Puerto Rico, United States Virgin Islands (50 islets and cays) and Navassa Island], and Johnston Island (Islets East, Johnston, North and Sand) and Midway Island (Islets Eastern and Sand) in the Pacific Insular areas.

In ITU Region 3, the amateur service is regulated by the FCC within the Pacific Insular territorial limits of American Samoa (seven islands), Baker Island, Commonwealth of Northern Mariana Islands, Guam Island, Howland Island, Jarvis Island, Kingman Reef, Palmyra Island (more than 50 islets) and Wake Island (Islets Peale, Wake and Wilkes).

APPENDIX 2 TO PART 97—VEC REGIONS

1. Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.
2. New Jersey and New York.
3. Delaware, District of Columbia, Maryland and Pennsylvania.

4. Alabama, Florida, Georgia, Kentucky, North Carolina, South Carolina, Tennessee and Virginia.
5. Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma and Texas.
6. California.
7. Arizona, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming.
8. Michigan, Ohio and West Virginia.
9. Illinois, Indiana and Wisconsin.
10. Colorado, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota.
11. Alaska.
12. Caribbean Insular areas.
13. Hawaii and Pacific Insular areas.

PART 100—DIRECT BROADCAST SATELLITE SERVICE

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AUTHORITY: 47 U.S.C. 154, 303, 309, and 554, unless otherwise noted.

SOURCE: 47 FR 31574, July 21, 1982, unless otherwise noted.

Subpart A—General Information

§ 100.1 Basis and purpose.

(a) The rules following in this part are promulgated pursuant to the provisions of Title III of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate radio transmissions and to issue licenses for radio stations.

(b) The purpose of this part is to prescribe the manner in which parts of the radio frequency spectrum may be made available for the development of interim direct broadcast satellite service. Interim direct broadcast satellite systems shall be granted licenses pursuant to these interim rules during the period prior to the adoption of permanent rules. The Direct Broadcast Satellite Service shall operate in the frequency band 12.2–12.7 GHz.

§ 100.3 Definitions.

Direct Broadcast Satellite Service. A radiocommunication service in which signals transmitted or retransmitted by space stations are intended for direct reception by the general public. In the Direct Broadcast Satellite Service the term *direct reception* shall encompass both individual reception and community reception.

Subpart B—Administrative Procedures

§ 100.11 Eligibility.

An authorization for operation of a station in the Direct Broadcast Satellite Service shall not be granted to or held by:

(a) Any alien or the representative of any alien;

(b) Any foreign government or the representative thereof;

(c) Any corporation organized under the laws of any foreign government;

(d) Any corporation of which any officer or director is an alien;

(e) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country;

(f) Any corporation directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens, if the Commission finds that the public interest will be served by the refusal or revocation of such license; or

(g) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representatives thereof, or by any corporation organized under the laws of a foreign country, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

§ 100.13 Application requirements.

(a) Each application for an interim direct broadcast satellite system shall include a showing describing the type of service that will be provided, the technology that will be employed, and all other pertinent information. The application may be presented in narrative format.

(b) Applicants may request specific frequencies and orbital positions. However, frequencies and orbital positions shall not be assigned until completion of the 1983 Region 2 Administrative Radio Conference for the Broadcasting-Satellite Service. The Commission shall generally consider all frequencies and orbital positions to be of equal value, and conflicting requests for frequencies and orbital positions will not necessarily give rise to comparative hearing rights as long as unassigned frequencies and orbital slots remain.

§ 100.15 Licensing procedures.

(a) Each application for an interim direct broadcast satellite system shall be placed on public notice for 45 days, during which time interested parties may file comments and petitions related to the application.

(b) A 45 day cut-off period shall also be established for the filing of applications to be considered in conjunction with the original application. Additional applications filed before the cut-off date shall be considered to have equal priority with the original application and shall be considered together in the assignment of frequencies and orbital positions. If applications have included requests for particular frequencies or orbital positions, the cut-off date shall be considered in establishing the priority of such requests.

(c) Each application for an interim direct broadcast satellite system, after the public comment period and staff review, shall be acted upon by the Commission to determine if authorization of the proposed system is in the public interest.

§ 100.17 License term.

(a) Licenses for non-broadcast facilities governed by this part will be issued for a period of ten (10) years. Licenses for broadcast facilities governed by this part will be issued for a period of five (5) years.

(b) [Reserved]

[60 FR 65595, Dec. 20, 1995]

§ 100.19 Due diligence requirements.

(a) All persons granted DBS authorizations shall proceed with diligence in constructing DBS systems. Permittees shall be required to complete contracting for construction of the satellite station(s) within one year of the grant of the construction permit. The satellite stations shall also be required to be in operation within six years of the construction permit grant.

(b) In addition to the requirements stated in paragraph (a) of this section, all persons who receive new or additional DBS construction permits after January 19, 1996 shall complete construction of the first satellite in their respective DBS systems within four years of the grant of the construction permit. All satellite stations in such a DBS system shall be in operation within six years of the grant of the construction permit.

(c) DBS permittees and licensees shall be required to proceed consistent with all applicable due diligence obligations, unless otherwise determined by the Commission upon proper showing in any particular case. Transfer of control of the construction permit shall not be considered to justify extension of these deadlines.

[60 FR 65595, Dec. 20, 1995]

Subpart C—Technical Requirements

§ 100.21 Technical requirements.

Prior to the 1983 Regional Administrative Radio Conference for the Broadcasting-Satellite Service, interim direct broadcast satellite systems shall be operated in accordance with the sharing criteria and technical characteristics contained in Annexes 8 and 9 of the Final Acts of the World Administrative Radio Conference for the Planning of the Broadcasting-Satellite Service in Frequency Bands 11.7–12.2 GHz (in Regions 2 and 3) and 11.7–12.5 GHz (in Region 1), Geneva, 1977; *Provided, however,* That upon adequate showing systems may be implemented that use values for the technical characteristics different from those specified in the Final Acts if such action does not result in interference to other operational or planned systems in excess of that determined in accordance with Annex 9 of the Final Acts.

Subpart D—Operating Requirements

§ 100.51 Equal employment opportunities.

(a) *General policy.* Equal opportunity in employment shall be afforded all licensees or permittees of direct broadcast satellite stations licensed as broadcasters to all qualified persons, and no person shall be discriminated against in employment because of race, color, religion, national origin, or sex.

(b) *Equal employment opportunity program.* Each station shall establish, maintain, and carry out a positive continuing program of specific practices designed to assure equal opportunity in every aspect of station employment policy and practice. Under the terms of its program, a station shall:

(1) Define the responsibility of each level of management to ensure a positive application and vigorous enforcement of the policy of equal opportunity, and establish a procedure to review and control managerial and supervisory performance.

(2) Inform its employees and recognized employee organizations of the positive equal employment opportunity policy and program and enlist their cooperation.

(3) Communicate the station's equal employment opportunity policy and program and its employment needs to sources of qualified applicants without regard to race, color, religion, national origin, or sex, and solicit their recruitment assistance on a continuing basis.

(4) Conduct a continuing campaign to exclude every form of prejudice or discrimination based upon race, color, religion, national origin, or sex from the station's personnel policies and practices and working conditions.

(5) Conduct continuing review of job structure and employment practices and adopt positive recruitment, training, job design and other measures needed in order to ensure genuine equality of opportunity to participate fully in all organizational units, occupations and levels of responsibility in the station.

(c) Applicants for a construction permit for a new facility, for authority to obtain assignment of the construction permit or license of such a station, for authority to acquire control of an entity holding such construction permit or license, (other than pro forma or involuntary assignments of transfers) and for renewal of license, shall file with the FCC programs designed to provide equal employment opportunities for American Indians and Alaskan Natives; Asians and Pacific Islanders; Blacks, not of Hispanic origin; Hispanics; and women, or amendments to such programs. Guidelines for the preparation of such programs are set forth in Forms 396 and 396A. A program need not be filed by an applicant who employs or proposes to employ less than five full-time employees. Additionally, a program for minority group members need not be filed if minorities constitute less than five percent, in the aggregate, of the labor force in the applicant's labor recruitment area. Applicants exempt from the filing requirement should submit a statement of explanation with their applications.

(d) Each licensee or permittee with five or more full-time employees shall file an annual employment report with the FCC on or before May 31 of each year on FCC Form 395.

(e) Notwithstanding other EEO provisions within these rules, an entity that uses an owned or leased DBS facility operating under this part to provide more than one channel of video programming directly to the public must comply with the equal employment opportunity requirements set forth in part 76, subpart E of this chapter, if such entity exercises control (as defined in part 76, subpart E of this chapter) over the video programming it distributes.

[47 FR 31574, July 21, 1982, as amended at 58 FR 42251, Aug. 9, 1993]

§100.53 Geographic service requirements.

(a) Those holding DBS permits or licenses as of January 19, 1996 must either:

(1) Provide DBS service to Alaska and Hawaii from one or more orbital locations before the expiration of their current authorizations; or

(2) Relinquish their western DBS orbital/channel assignments at the following orbital locations: 148° W.L., 157°W.L., 166° W.L., and 175° W.L.

(b) Those acquiring DBS authorizations after January 19, 1996 must provide DBS service to Alaska and Hawaii where such service is technically feasible from the acquired orbital location.

[60 FR 65595, Dec. 20, 1995]

Subpart E—Competitive Bidding Procedures for DBS

SOURCE: 60 FR 65595, Dec. 20, 1995, unless otherwise noted.

§100.71 DBS subject to competitive bidding.

Mutually exclusive initial applications to provide DBS service are subject to competitive bidding procedures. The general competitive bidding procedures found in part 1, subpart Q of this chapter, will apply unless otherwise provided in this part.

§100.72 Competitive bidding design for DBS construction permits.

(a) The Commission will employ the following competitive bidding designs when choosing from among mutually exclusive initial applications to provide DBS service:

(1) Single round sealed bid auctions (either sequential or simultaneous);

(2) Sequential oral auctions;

(3) Combined sealed bid-oral auctions;

(4) Sequential multiple round electronic auctions; or

(5) Simultaneous multiple round auctions.

(b) The Wireless Telecommunications Bureau may design and test alternative procedures. The Wireless Telecommunications Bureau will announce by Public Notice before each auction the competitive bidding design to be employed in a particular auction.

(c) The Wireless Telecommunications Bureau may use combinatorial bidding, which would allow bidders to submit all or nothing bids on combinations of construction permits, in addition to bids on individual construction permits. The Commission may require that to be declared the high bid, a combinatorial bid must exceed the sum of the individual bids by a specified amount. Combinatorial bidding may be used with any type of auction design.

(d) The Wireless Telecommunications Bureau may use single combined auctions, which combine bidding for two or more substitutable construction permits and award construction permits to the highest bidders until the available construction permits are exhausted. This technique may be used in conjunction with any type of auction.

§100.73 Competitive bidding mechanisms.

(a) *Sequencing.* In sequential auctions, the Wireless Telecommunications Bureau will generally auction DBS construction permits in order of their estimated value, with the highest value construction permit being auctioned first. The Wireless Telecommunications Bureau may vary the sequence in which DBS construction permits will be auctioned.

(b) *Grouping.* All DBS channels available for a particular orbital location will be auctioned as a block, unless the Wireless Telecommunications Bureau announces, by Public Notice prior to the auction, an alternative auction

scheme. In the event the Wireless Telecommunications Bureau uses either a simultaneous multiple round competitive bidding design or combinatorial bidding, the Wireless Telecommunications Bureau will determine which construction permits will be auctioned simultaneously or in combination.

(c) *Bid increments and tie bids.* The Wireless Telecommunications Bureau may, by announcement before or during an auction, establish, raise or lower minimum bid increments in dollar or percentage terms. The Wireless Telecommunications Bureau may establish and change maximum bid increments during an auction. The Wireless Telecommunications Bureau may also establish by Public Notice a suggested opening bid or a minimum opening bid on each construction permit. Where a tie bid occurs, the high bidder will be determined by the order in which the bids were received by the Commission.

(d) *Stopping rules.* The Wireless Telecommunications Bureau may establish stopping rules before or during multiple round auctions in order to terminate an auction within a reasonable time.

(e) *Activity rules.* The Wireless Telecommunications Bureau may establish activity rules which require a minimum amount of bidding activity. In the event that the Wireless Telecommunications Bureau establishes an activity rule in connection with a simultaneous multiple round auction or sequential multiple round electronic auction, each bidder will be automatically granted a certain number of waivers of such rule during the auction.

§ 100.74 Withdrawal, default and disqualification payments.

(a) When the Commission conducts a sequential multiple round electronic auction or simultaneous multiple round auction pursuant to § 100.72, the Wireless Telecommunications Bureau will impose payments on a bidder who withdraws a high bid during the course of the auction, who defaults on payments due, or who is disqualified.

(b) A bidder who withdraws a high bid during the course of such an auction will be assessed a payment equal to the difference between the amount bid and the amount of the winning bid the next time the construction permit is offered for auction by the Commission. No withdrawal payment will be assessed if the subsequent winning bid exceeds the withdrawn bid. This payment amount will be deducted from any upfront payments or down payments that the withdrawing bidder has deposited with the Commission.

(c) If a high bidder defaults or is disqualified after the close of such an auction, the defaulting bidder will be subject to the payment in paragraph (b) of this section plus an additional payment equal to three (3) percent of the subsequent winning bid. If the subsequent winning bid exceeds the defaulting bidder's bid amount, the 3 percent payment will be calculated based on the defaulting bidder's bid amount. These amounts will be deducted from any upfront payments or down payments that the defaulting or disqualified bidder has deposited with the Commission.

(d) When the Commission conducts a sequential multiple round electronic auction, the Wireless Telecommunications Bureau will bar a bidder who withdraws a bid from continued participation in the auction of the withdrawn construction permit. When the Commission conducts any other type of auction, the Wireless Telecommunications Bureau may bar a bidder who withdraws a bid from continued participation in the bidding for the same construction permit or other construction permits offered in the same auction.

(e) When the Commission conducts any type of auction other than those provided for in paragraphs (a), (b), (c), and (d) of this section, the Wireless Telecommunications Bureau may modify the payments to be paid in the event of bid withdrawal, default or disqualification; provided, however, that such payments shall not exceed the payments specified above.

§ 100.75 Bidding application (FCC Form 175 and 175–S Short-form).

All applicants to participate in competitive bidding for DBS construction permits must submit applications on FCC Form 175 pursuant to the provisions of § 1.2105 of this chapter. The Wireless Telecommunications Bureau

will issue a Public Notice announcing the availability of DBS construction permits and the date of the auction for those construction permits. This Public Notice also will specify the date on or before which applicants intending to participate in a DBS auction must file their applications in order to be eligible for that auction, and it will contain information necessary for completion of the application as well as other important information such as any upfront payment that must be submitted, and the location where the application must be filed.

§100.76 Submission of upfront payments and down payments.

(a) Bidders in DBS auctions will be required to submit an upfront payment in accordance with §1.2106 of this chapter, the amount of which will be announced by Public Notice prior to each auction.

(b) Winning bidders in a DBS auction must submit a down payment to the Commission in an amount sufficient to bring their total deposits up to 20 percent of their winning bids within ten (10) business days of the announcement of winning bidders.

§100.77 Long-form applications.

Each winning bidder will be required to submit the information described in §§100.13, 100.21, and 100.51 within thirty (30) days after being notified by Public Notice that it is the winning bidder. Each winner also will be required to file, by the same deadline, a signed statement describing its efforts to date and future plans to come into compliance with any applicable spectrum limitations, if it is not already in compliance. Such information shall be submitted pursuant to the procedures set forth in §100.13 and any associated Public Notices. Only auction winners will be eligible to file applications for DBS construction permits in the event of mutual exclusivity between applicants filing a short-form application.

§100.78 Permit grant, denial, default, and disqualification.

(a) Each winning bidder will be required to pay the balance of its winning bid in a lump sum payment within five (5) business days following Public Notice that the construction permit is ready for grant.

(b) A bidder who withdraws its bid during the course of an auction, defaults on a payment due, or is disqualified, will be subject to the payments specified in §100.74.

§100.79 Prohibition of collusion.

(a) Bidders are required to identify on their short-form applications any parties with whom they have entered into any consortium arrangements, joint ventures, partnerships or other agreements or understandings which relate in any way to the competitive bidding process. Bidders are also required to certify on their short-form applications that they have not entered into any explicit or implicit agreements, arrangements or understandings of any kind with any parties, other than those identified, regarding the amount of their bid, bidding strategies or the particular properties on which they will or will not bid.

(b)(1) Except as provided in paragraphs (b)(2), (b)(3) and (b)(4) of this section, after the filing of short-form applications, all applicants are prohibited from cooperating, collaborating, discussing or disclosing in any manner the substance of their bids or bidding strategies, or discussing or negotiating settlement agreements, with other applicants until after the high bidder submits its downpayment, unless such applicants are members of a bidding consortium or other joint bidding arrangement identified on the bidder's short-form application.

(2) Applicants may modify their short-form applications to reflect formation of consortia or changes in ownership at any time before or during an auction, provided that such changes do not result in a change in control of the applicant, and provided that the parties forming consortia or entering into ownership agreements have not applied for construction permits that may be used to serve the same or overlapping geographic areas. Such changes will not be considered major modifications of the application.

(3) After the filing of short-form applications, applicants may make agreements to bid jointly for construction permits, provided that the parties to

the agreement have not applied for construction permits that may be used to serve the same or overlapping geographic areas.

(4) After the filing of short-form applications, a holder of a non-controlling attributable interest in an entity submitting a short-form application may acquire an ownership interest in, form a consortium with, or enter into a joint bidding arrangement with, other applicants for construction permits that may be used to serve the same or overlapping geographic areas, provided that:

(i) The attributable interest holder certifies to the Commission that it has not communicated and will not communicate with any party concerning the bids or bidding strategies of more than one of the applicants in which it holds an attributable interest, or with which it has a consortium or joint bidding arrangement, and which have applied for construction permits that may be used to serve the same or overlapping geographic areas; and

(ii) The arrangements do not result in any change in control of an applicant.

(5) Applicants must modify their short-form applications to reflect any changes in ownership or in the membership of consortia or joint bidding arrangements.

(c) Winning bidders are required to submit a detailed explanation of the terms and conditions and parties involved in any bidding consortia, joint venture, partnership or other agreement or arrangement they have entered into relating to the competitive bidding process prior to the close of bidding. Such arrangements must have been entered into prior to the filing of short-form applications pursuant to paragraphs (a) and (b) of this section.

§ 100.80 Transfer disclosure.

Any entity that acquires a DBS license through competitive bidding, and seeks to transfer that license within six years of the initial license grant, must file, together with its application for FCC consent to the transfer, the associated contracts for sale, option agreements, management agreements, or other documents disclosing the total consideration received in return for the transfer of its license. The information submitted must include not only a monetary purchase price, but also any future, contingent, in-kind, or other consideration.

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AUTHORITY: 47 U.S.C. 154, 303.

SOURCE: 61 FR 26677, May 28, 1996, unless otherwise noted.

Subpart A—General

§ 101.1 Scope and authority.

(a) The purpose of the rules in this part is to prescribe the manner in which portions of the radio spectrum may be made available for private operational and common carrier fixed microwave operations that require transmitting facilities on land or in specified offshore coastal areas within the continental shelf.

(b) The rules in this part are issued pursuant to the authority contained in Titles I through III of the Communications Act of 1934, as amended, which vest authority in the Federal Communications Commission to regulate common carriers of interstate and foreign communications, to regulate radio transmissions and issue licenses for radio stations, and to regulate all interstate and foreign communications by wire and radio necessary to the accomplishment of the purposes of the Act.

§ 101.3 Definitions.

As used in this part:

Antenna power gain. The ratio of the maximum radiation intensity to that of an isotropic (omnidirectional) radiator in the far field of its main (forward direction) lobe.

Antenna power input. The radio frequency peak or RMS power, as the case may be, supplied to the antenna from the antenna transmission line and its associated impedance matching network.

Antenna structure. The antenna, its supporting structure and anything attached to it.

Assigned frequency. The center of the frequency band assigned to a station.

Assigned frequency bandwidth. The frequency band within which the emission of a station is authorized; the width of the band equals the necessary bandwidth plus twice the absolute value of the frequency tolerance.

Authorized bandwidth. The maximum bandwidth authorized to be used by a station as specified in the station license. (See § 2.202 of this chapter)

Authorized frequency. The frequency, or frequency range, assigned to a station by the Commission and specified in the instrument of authorization.

Authorized power. The maximum power a station is permitted to use. This power is specified by the Commission in the station's authorization.

Automatic Transmitter Power Control (ATPC). ATPC is a feature of a digital microwave radio system that adjusts the transmitter output power. ATPC allows the transmitter to operate at less than maximum power for most of the time. In a radio employing ATPC, the transmit power is reduced during normal operation conditions. When the receiver detects a reduction in signal level, a control signal is sent to the far end transmitter, instructing it to increase the power output to compensate for the signal reduction. The power output is limited to the licensed (maximum) transmit power. Guidelines for use of ATPC are set forth in the TIA Telecommunications Systems Bulletin TSB 10, ''Interference Criteria for Microwave Systems (TSB 10).''

Bandwidth occupied by an emission. The band of frequencies comprising 99 percent of the total radiated power extended to include any discrete frequency on which the power is at least 0.25 percent of the total radiated power.

Bit rate. The rate of transmission of information in binary (two state) form in bits per unit time.

Carrier. In a frequency stabilized system, the sinusoidal component of a modulated wave whose frequency is

independent of the modulating wave; or the output of a transmitter when the modulating wave is made zero; or a wave generated at a point in the transmitting system and subsequently modulated by the signal; or a wave generated locally at the receiving terminal which when combined with the side bands in a suitable detector, produces the modulating wave.

Carrier frequency. The output of a transmitter when the modulating wave is made zero.

Central office. A landline termination center used for switching and interconnection of public message communication circuits.

Common carrier fixed point-to-point microwave service. A common carrier public radio service rendered on microwave frequencies by fixed and temporary fixed stations between points that lie within the United States or between points to its possessions or to points in Canada or Mexico.

Communication common carrier. Any person engaged in rendering communication service for hire to the public.

Control point. An operating position at which an operator responsible for the operation of the transmitter is stationed and which is under the control and supervision of the licensee.

Control station. A fixed station, the transmissions of which are used to control automatically the emissions or operations of a radio station, or a remote base station transmitter.

Coordination area. The area associated with a station outside of which another station sharing the same or adjacent frequency band neither causes nor is subject to interfering emissions greater than a permissible level.

Coordination contour. The line enclosing the coordination area.

Coordination distance. The distance on a given azimuth from a station beyond which another station neither causes nor is subject to interfering emissions greater than a permissible level.

Digital Electronic Message Nodal Station. A fixed point-to-multipoint radio station in a Digital Electronic Message Service providing two-way communication with Digital Electronic Message User Stations.

Digital Electronic Message Service. A two-way end-to-end fixed radio service utilizing digital termination systems for the exchange of digital information. This service may also make use of point-to-point microwave facilities, satellite facilities or other communications media to interconnect digital termination systems to comprise a network.

Digital Electronic Message User Station. Any one of the fixed microwave radio stations located at users' premises, lying within the coverage area of a Digital Electronic Message Nodal Station, and providing two-way digital communications with the Digital Electronic Message Nodal Station.

Digital modulation. The process by which some characteristic (frequency, phase, amplitude or combinations thereof) of a carrier frequency is varied in accordance with a digital signal, e.g., one consisting of coded pulses or states.

Drop point. A term used in the point-to-point microwave radio service to designate a terminal point where service is rendered to a subscriber.

Earth station. A station located either on the Earth's surface or within the major portion of Earth's atmosphere and intended for communication:

(1) With one or more space stations; or

(2) With one or more stations of the same kind by means of one or more reflecting satellites or other objects in space.

Effective Radiated Power (ERP). The product of the power supplied to the antenna and its gain relative to a half-wave dipole in a given direction.

Equivalent Isotropically Radiated Power (EIRP). The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Exchange. A unit of a communication company or companies for the administration of communication service in a specified area, which usually embraces a city, town, or village and its environs, and consisting of one or more central offices, together with the associated plant, used in furnishing communication service in that area.

Exchange area. The geographic area included within the boundaries of an exchange.

Fixed satellite earth station. An earth station intended to be used at a specified fixed point.

Fixed relay station. A fixed station associated with one or more stations, established to receive radio signals directed to it and to retransmit them automatically on a fixed service frequency.

Fixed service. A radio communications service between specified fixed points.

Fixed station. A station in the fixed service.

Frequency tolerance. The maximum permissible departure by the center frequency of the frequency band occupied by an emission from the assigned frequency or, by the characteristic frequency of an emission from the reference frequency.

NOTE: The frequency tolerance is expressed as a percentage or in Hertzs.

General communication. Two-way voice communication, through a base station, between:

(1) A common carrier land mobile or airborne station and a landline telephone station connected to a public message landline telephone system;

(2) Two common carrier land mobile stations;

(3) Two common carrier airborne stations;

(4) A common carrier land mobile station and a common carrier airborne station.

Harmful interference. Interference that endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs or repeatedly interrupts a radiocommunication service operating in accordance with these regulations.

Internodal link. A point-to-point communications link used to provide communications between nodal stations or to interconnect nodal stations to other communications media.

Landing area. A landing area means any locality, either of land or water, including airports and intermediate landing fields, which is used, or approved for use for the landing and take-off of aircraft, whether or not facilities are provided for the shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo.

Local Multipoint Distribution Service Backbone Link. A point-to-point radio service link in a Local Multipoint Distribution Service System that is used to interconnect Local Multipoint Distribution Service Hub Stations with each other or with the public switched telephone network.

Local Multipoint Distribution Service Hub Station. A fixed point-to-multipoint radio station in a Local Multipoint Service System that provides one-way or two-way communication with Local Multipoint Distribution Service Subscriber Stations.

Local Multipoint Distribution Service Subscriber Station. Any one of the fixed microwave radio stations located at users' premises, lying within the coverage area of a Local Multipoint Distribution Service Hub Station, capable of receiving one-way communications from or providing two-way communications with the Local Multipoint Distribution Service Hub Station.

Local Multipoint Distribution Service System. A fixed point to-multipoint radio system consisting of Local Multipoint Distribution Service Hub Stations and their associated Local Multipoint Distribution Service Subscriber Stations.

Local television transmission service. A public radio communication service for the transmission of television material and related communications.

Long haul system. A microwave system licensed under this part in which the longest radio circuit of tandem radio paths exceeds 402 kilometers.

Master station. A station in a multiple address radio system that controls, activates or interrogates four or more remote stations. Master stations performing such functions may also receive transmissions from remote stations.

Message center. The point at which messages from members of the public are accepted by the carrier for transmission to the addressee.

Microwave frequencies. As used in this part, this term refers to frequencies of 890 MHz and above.

Microwave link. A link is defined as a simplex communications circuit between two points utilizing a single frequency/polarization assignment. A duplex communications circuit would require two links, one link in each direction.

Miscellaneous common carriers. Communications common carriers that are not engaged in the business of providing either a public landline message telephone service or public message telegraph service.

Mobile earth station. An earth station intended to be used while in motion or during halts at unspecified points.

Mobile service. A radio communication service between mobile and land stations or between mobile stations.

Mobile station. A station in the mobile service intended to be used while in motion or during halts at unspecified points.

Multiple address system (MAS). A point-to-multipoint radio communications system, either one-way or two-way, utilizing frequencies in accordance with § 101.147 and serving a minimum of four unique remote stations. Each master station must serve at least its own four remotes. The remote stations must be scattered over the service area in such a way that two or more point-to-point systems would be needed to serve those remotes.

National Spatial Reference System. The National Spatial Reference System (NSRS) is the name given to all Geodetic Control information contained in the National Geodetic Survey (NGS) Data Base. This includes: A, B, First, Second, and Third Order horizontal and vertical control observed by NGS as well as data submitted by other agencies (i.e., USGS, BLM, States, Counties, Cities, and private surveying organizations).

Necessary bandwidth. For a given class of emission, the width of the frequency band that is just sufficient to ensure the transmission of information at the rate and with the quality required under specified conditions. The necessary bandwidth may be calculated using the formulas in § 2.202 of this chapter.

Nodal station. The central or controlling station in a radio system operating on point-to-multipoint frequencies in the 2.5, 10.6, or 18 GHz bands.

Occupied bandwidth. The width of a frequency bandwidth such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage, B/2 of the total mean power of a given emission. Unless otherwise specified by the CCIR for the appropriate class of emission, the value of B/2 should be taken as 0.5%.

NOTE: The percentage of the total power outside the occupied bandwidth is represented by B.

Operational fixed station. A private fixed station not open to public correspondence.

Passive repeater. A re-radiation device associated with a transmitting/receiving antenna system that re-directs intercepted radiofrequency energy. For example, it may consist of reflector(s) or back-to-back parabolic or horn antennas.

Path length. The total distance of a path from the transmit to the receive antenna, inclusive of all passive repeaters, if any.

Periscope antenna system. An antenna system which involves the use of a passive reflector to deflect radiation from or to a directional transmitting or receiving antenna which is oriented vertically or near vertically.

Prior coordination. A bilateral process conducted prior to filing applications which includes the distribution of the technical parameters of a proposed radio system to potentially affected parties for their evaluation and timely response.

Private carrier. An entity licensed in the private service and authorized to provide communications service to other private service eligibles on a commercial basis.

Private line service. A service whereby facilities for communication between two or more designated points are set aside for the exclusive use or availability for use of a particular customer and authorized users during stated periods of time.

Private operational fixed point-to-point microwave service. A private line radio service rendered on microwave frequencies by fixed and temporary fixed stations between points that lie within

the United States or between points to its possessions or to points in Canada or Mexico.

Public correspondence. Any telecommunication which the offices and stations must, by reason of their being at the disposal of the public, accept for transmission.

Public message service. A service whereby facilities are offered to the public for communication between all points served by a carrier or by interconnected carriers on a non-exclusive message by message basis, contemplating a separate connection for each occasion of use.

Radio station. A separate transmitter or a group of transmitters under simultaneous common control, including the accessory equipment required for carrying on a radiocommunication service.

Radiocommunication. Telecommunication by means of radio waves.

Rated power output. The maximum radio frequency power output capability (peak or average power) of a transmitter, under optimum conditions of adjustment and operation, specified by its manufacturer.

Record communication. Any transmission of intelligence which is reduced to visual record form at the point of reception.

Reference frequency. A frequency having a fixed and specified position with respect to the assigned frequency. The displacement of this frequency with respect to the assigned frequency has the same absolute value and sign that the displacement of the characteristic frequency has with respect to the centre of the frequency band occupied by the emission.

Relay station. A fixed station used for the reception and retransmission of the signals of another station or stations.

Remote station. A fixed station in a multiple address radio system that transmits one-way to one or more central receive sites, controls a master station, or is controlled, activated or interrogated by, and may respond to, a master station.

Repeater station. A fixed station established for the automatic retransmission of radiocommunications received from one or more mobile stations and directed to a specified location; for public mobile radio operations, a fixed station that automatically retransmits the mobile communications and/or transmitter information about the base station, along a fixed point-to-point link between the base station and the central station.

Secondary operations. Radio communications which may not cause interference to operations authorized on a primary basis and which are not protected from interference from these primary operations.

Short haul system. A microwave system licensed under this part in which the longest radio circuit of tandem radio paths does not exceed 402 kilometers.

Signal booster. A device at a fixed location which automatically receives, amplifies, and retransmits on a one-way or two-way basis, the signals received from base, fixed, mobile, and portable stations, with no change in frequency or authorized bandwidth. A signal booster may be either narrowband (Class A), in which case the booster amplifies only those discrete frequencies intended to be retransmitted, or broadband (Class B), in which case all signals within the passband of the signal booster filter are amplified.

Signaling communication. One-way communications from a base station to a mobile or fixed receiver, or to multipoint mobile or fixed receivers by audible or subaudible means, for the purpose of actuating a signaling device in the receiver(s) or communicating information to the receiver(s), whether or not the information is to be retained in record form.

Standby transmitter. A transmitter installed and maintained for use in lieu of the main transmitter only during periods when the main transmitter is out of service for maintenance or repair.

Symbol rate. Modulation rate in bauds. This rate may be higher than the transmitted bit rate as in the case of coded pulses or lower as in the case of multilevel transmission.

Telegraphy. A form of telecommunication which is concerned in any process providing transmission and reproduction at a distance of documentary

matter, such as written or printed matter or fixed images, or the reproduction at a distance of any kind of information in such a form. Unless otherwise specified, telegraphy means a form of telecommunication for the transmission of written matter by the use of signal code.

Telemetering. The use of telecommunication for automatic indicating or recording measurements at a distance from the measuring instrument.

Telephony. A form of telecommunication set up for the transmission of speech, or in some cases, other sounds.

Television. A form of telecommunication for transmission of transient images of fixed or moving objects.

Temporary fixed station. A station established in a non-permanent mode (temporary) at a specified location for a short period of time, ranging up to one year. Temporary-fixed operations are itinerant in nature, and are not to be confused with mobile-type operations.

Video entertainment material. The transmission of a video signal (*e.g.* United States Standard Monochrome or National Television Systems Committee 525-line television) and an associated audio signal which is designed primarily to amuse or entertain, such as movies and games.

[61 FR 26677, May 28, 1996, as amended at 61 FR 29693, June 12, 1996; 61 FR 31052, June 19, 1996; 61 FR 44181, Aug. 28, 1996]

EFFECTIVE DATE NOTE: At 61 FR 44181, Aug. 28, 1996, § 101.3 was amended by adding definitions for Local Multipoint Distribution Service Backbone Link, Local Multipoint Distribution Service Hub Station, Local Multipoint Distribution Service Subscriber Station, and Local Multipoint Distribution Service System, effective Oct. 28, 1996.

Subpart B—Applications and Licenses

GENERAL FILING REQUIREMENTS

§ 101.4 Transition plan.

(a) All systems subject to parts 21 and 94 of this chapter in effect as of July 31, 1996, which are licensed or which are proposed in an application on file, as of July 31, 1996, are subject to the requirements under part 21 or part 94 of this chapter as contained in the CFR edition revised as of October 1, 1995 and amended in the FEDERAL REGISTER through July 31, 1996, as applicable.

(b) For purposes of this section, a ''system'' shall include:

(1) The originally licensed system;

(2) Any modification to the original system involving a change in antenna azimuth, antenna beam width, channel loading, emission, station location, antenna height, authorized power, or authorized frequencies;

(3) Additional links constructed to complete an integrated communications network; or

(4) Operationally connecting new facilities and/or frequencies.

(c) All radio frequency devices authorized pursuant to part 2 of this chapter as being in compliance with applicable part 21 or part 94 of this chapter in effect as of July 31, 1996, requirements can be used indefinitely with systems licensed under this part 101.

§ 101.5 Station authorization required.

(a) No radio transmitter shall be operated in this service except under and in accordance with a proper station authorization granted by the Federal Communications Commission. Except as provided in paragraph (d) of this section, no construction, modification or operation of a station may be commenced without an authorization from the Commission.

(b) A separate application form must be filed for each Digital Electronic Message Service Nodal Station. No license is required for a Digital Electronic Message User Station. Authority for a Digital Electronic Message Nodal Station licensee to serve a specific number of user stations to be licensed in the name of the carrier must be requested on FCC Form 494 filed for the Digital Electronic Message Nodal Station.

(c) If construction and or operation may have a significant environmental impact as defined by § 1.1307 of this chapter, the requisite environmental assessment as prescribed in § 1.1311 of

this chapter must be filed with the application and Commission environmental review must be completed before construction of the station is initiated. See § 1.1312 of this chapter.

(d) For stations authorized under subpart H (Private Operational Fixed Point-to-Point Microwave Service) and subpart I (Common Carrier Fixed Point-to-Point Microwave Service), construction of new or modified stations may be initiated prior to grant of an authorization. As a condition to commencing construction under this paragraph (d), the Commission may, at any time and without hearing or notice, prohibit such construction for any reason. Any construction conducted hereunder is at the applicant's sole risk.

§ 101.7 Eligibility for station license.

(a) A station license may not be granted to or held by a foreign government or by a representative of a foreign government.

(b) In the Common Carrier service, a station license may not be granted or held by:

(1) Any alien or the representative of any alien;

(2) Any corporation organized under the laws of any foreign government;

(3) Any corporation of which any officer or director is an alien;

(4) Any corporation of which more than one-fifth of the capital stock is owned of record or voted by: Aliens or their representatives; a foreign government or representatives thereof; or any corporation organized under the laws of a foreign country;

(5) Any corporation directly or indirectly controlled by any other corporation of which any officer or more than one-fourth of the directors are aliens, if the Commission finds that the public interest will be served by the refusal or revocation of such license; or

(6) Any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens or their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign government, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

§ 101.9 Formal and informal applications.

(a) Except for an authorization under any of the proviso clauses of section 308(a) of the Communications Act of 1934 (47 U.S.C. 308(a)), the Commission will grant the following authorizations only upon written application: Station licenses; modifications of station licenses; renewals of station licenses; extensions of time to construct; transfers and assignments of station licenses or of any rights thereunder.

(b) Except as may be otherwise permitted by this part, a separate written application must be filed for each instrument of authorization requested. Applications may be:

(1) ''Formal applications'' where the Commission has prescribed in this part a standard form; or

(2) ''Informal applications'' (normally in letter form) where the Commission has not prescribed a standard form.

(c) An informal application will be accepted for filing only if:

(1) A standard form is not prescribed or clearly applicable to the authorization requested;

(2) It is a document submitted, in duplicate, with a caption which indicates clearly the nature of the request, radio service involved, location of the station, and the application file number (if known); and

(3) It contains all the technical details and informational showings required by the rules and states clearly and completely the facts involved and authorization desired.

§ 101.11 Filing of applications, fees, and number of copies.

(a) Part 1 of this chapter contains information on application filing procedures and requirements for all services authorized under this part. All filings must include the original application plus one copy.

(b) Applications or filings requiring fees as set forth at part 1, subpart G of this chapter must be filed in accordance with § 0.401(b) of this chapter. Applications or filings not requiring fees

must be submitted to: Federal Communications Commission, Common Carrier Radio Services, 1270 Fairfield Road, Gettysburg, PA 17325.

(c) All correspondence or amendments concerning a submitted application must clearly identify the radio service, the name of the applicant, station location, and the Commission file number (if known) or station call sign of the application involved.

(d) Except as otherwise specified, all applications, amendments, and correspondence must be signed as prescribed by part 1 of this chapter.

§ 101.13 Application forms and requirements for private operational fixed stations.

(a) A separate application must be submitted on FCC Form 402 for the following:

(1) New station authorization for private operational fixed microwave station;

(2) New authorization to operate one or more fixed stations at temporary locations in this service;

(3) Modification of station license;

(4) New station authorization or modification of license for each master station of a system consisting of a master station and its associated remote stations;

(5) The Commission's consent to the complete or partial assignment of an authorization to another person or entity, or the transfer of control of an entity holding an authorization. In addition, the application must be accompanied by a signed letter from proposed assignor/transferor stating the desire to assign all or part of its right, title, and interest in and to such authorization, or to transfer control over the entity holding the authorization, stating the call sign and location of the station, and that, if applicable, the assignor will submit its current station authorization for cancellation upon completion of the assignment. Form 1046 may be used in lieu of this letter. Licensees who fail to consummate must modify their licenses to conform them to their initial state within 30 days of a failure to consummate; or

(6) Amendment of any application.

(b) An application for authority to operate a fixed station at temporary locations must specify the precise geographic area within which the operation will be confined. The area specified must be defined as a radius of operation about a given state or states, latitude/longitude, or as a rectangular area bounded by upper and lower lines of latitude and longitude. Exception to this specific requirement may be made for exceptionally large areas, such as the continental United States. Sufficient data must be submitted to show the need for the proposed area of operation. If an operational-fixed station is authorized to be operated at temporary locations and actually remains, or is to remain, at the same location for a period of over a year, application for a permanent authorization specifying the fixed location must be made as soon as possible but not later than 30 days after the expiration of the one-year period.

(c) A separate Form 402 for point-to-multipoint frequencies in the 10.6 GHz and 18 GHz bands must be filed for each Nodal Station except for operations consistent with § 101.147. Each Nodal Station application must specify the service area that will be served by the station in terms of a distance radius or other geographical specification, and, if applicable, the Standard Metropolitan Statistical Area (SMSA) being served.

(d) Application for renewal of station licenses must be submitted on such form as the Commission may designate by public notice. Applications for renewal must be made during the license term and should be filed within 90 days, but not later than 30 days, prior to the end of the license term. When a licensee submits a timely application for renewal of a station license, the existing license for that station will continue as a valid authorization until the Commission has made a final decision on the application. Whenever a group of station licenses in the same radio service are to be renewed simultaneously, a single ''blanket'' application may be filed to cover the entire group if the application identifies each station by call sign and station location. Applicants should note also any special renewal requirements under the rules for such radio station(s).

(e) A separate application must be filed for each fixed master station in a Multiple Address System (MAS). Applications may include any number of remote stations in a single application, but must specify the geographic service area in which these remote stations will be located. Applications for mobile operations or for systems employing only remote stations must designate a reference point (set of coordinates) at or near the center of the area being served.

(f) Cancellation of a license can be made by letter.

§ 101.15 Application forms for common carrier fixed stations.

(a) *New or modified facilities.* FCC Form 494 must be submitted and a license granted for each station. FCC Form 494 also must be submitted to amend any license application, to modify any license pursuant to §§ 101.57(a) and 101.59, and to notify the Commission of modifications made pursuant to § 101.61. Cancellation of a license can be made by letter.

(b) *Additional time to construct.* FCC Form 701 (''Application for Additional Time to Construct Radio Station'') must be filed prior to the expiration of the time for construction noted in a conditional license to modify the license by extending the period of construction.

(c) *Renewal of station license.* Except for renewal of special temporary authorizations, FCC Form 405 (''Application for Renewal of Station License'') must be filed by the licensee between thirty (30) and sixty (60) days prior to the expiration date of the license sought to be renewed. Whenever a group of station licenses in the same radio service are to be renewed simultaneously, a single ''blanket'' application may be filed to cover the entire group if the application identifies each station by call sign and station location. Applicants should note also any special renewal requirements under the rules for each radio service. When a licensees submits a timely application for renewal of a station license, the existing license continues in effect until the Commission has rendered a decision on the renewal application.

(d) *Assignment of license.* FCC Form 702 (''Application for Consent to Assignment of Radio Station Construction Authorization or License for Stations in Services Other than Broadcast'') must be submitted to assign voluntarily (as by, for example, contract or other agreement) or involuntarily (as by, for example, death, bankruptcy, or legal disability) the station authorization. In the case of involuntary assignment (or transfer of control) the application must be filed within 10 days of the event causing the assignment (or transfer of control). FCC Form 702 must also be used for nonsubstantial (pro forma) assignments. Whenever a group of station licenses in the same radio services are to be assigned to a single assignee, a single ''blanket'' application may be filed to cover the entire group, if the application identifies each station by call sign and station location. Licensees who fail to consummate must modify their licenses to conform them to their initial state within 30 days of a failure to consummate.

(e) *Partial assignment of license.* Authorization for assignment from one company to another of only a part or portions of the facilities (transmitters) authorized under an existing license (as distinguished from an assignment of the facilities in their entirety) may be granted upon application:

(1) By the assignor on FCC Form 494 for deletion of the assigned facilities (no fee required); and

(2) By the assignee on FCC Form 494 with a request for recertification in the name of the assignee for frequencies eliminated from assignor's license (fee required). In the event that consummation does not occur, FCC Form 494 must be submitted to return the assignor's license to its original condition.

(f) *Transfer of control of corporation holding a conditional license or license.* FCC Form 704 (''Application for Consent to Transfer of Control'') must be submitted in order to voluntarily or involuntarily transfer control (de jure or de facto) of a corporation holding any conditional licenses or licenses. FCC Form 704 must also be used for nonsubstantial (pro forma) transfers of

control. Licensees who fail to consummate must modify their licenses to conform them to their initial state within 30 days of a failure to consummate.

§101.17 [Reserved]

§101.19 General application requirements.

(a) Each application for a license or for consent to assignment or transfer of control must:

(1) Disclose fully the real party (or parties) in interest, including (as required) a complete disclosure of the identity and relationship of those persons or entities directly or indirectly owning or controlling (or both) the applicant;

(2) Demonstrate the applicant's legal, technical, and other qualifications to be a licensee;

(3) Submit the information required by the Commission's rules, requests, and application forms;

(4) Be maintained by the applicant substantially accurate and complete in all significant respects in accordance with the provisions of §1.65 of this chapter; and

(5) Show compliance with the special requirements applicable to each radio service and make all special showings that may be applicable (*e.g.*, those required by §§101.103(d), 101.701, and of this part, etc.).

(b) In addition to the general application requirements of §§101.19 and 101.21, applicants must submit any additional documents, exhibits, or signed written statements of fact:

(1) As may be required by the other parts of the Commission's rules, and the other subparts of this part (particularly subpart C and those subparts applicable to the specific radio service involved); and

(2) As the Commission, at any time after the filing of an application and during the term of any authorization, may require from any applicant, permittee, or licensee to enable it to determine whether a radio authorization should be granted, denied, or revoked.

(c) All applicants are required to indicate at the time their application is filed whether an authorization of the facilities is categorically excluded as defined by §1.1306 of this chapter. If answered affirmatively, an Environmental Assessment as described by §1.1311 of this chapter, need not be filed with the application.

§101.21 Technical content of applications.

Applications must contain all technical information required by the application form and any additional information necessary to fully describe the proposed facilities and to demonstrate compliance with all technical requirements of the rules governing the radio service involved (see subparts C, F, G, I, and J, as appropriate). The following paragraphs describe a number of technical requirements.

(a) Each application proposing a new or modified antenna structure for a station (including a receive-only or passive repeater) must indicate whether the owner has registered the structure with the Commission. Complete information as to rules concerning the registration, construction, marking and lighting of antenna structures is contained in part 17 of this chapter. See also §101.121 if the structure is used by more than one station.

(b) Each application for construction permit for a developmental authorization must be accompanied by pertinent supplemental information as required by §101.411 in addition to such information as may be specifically required by this section.

(c) An applicant proposing construction of one or more new stations or modification of existing stations must submit the location and telephone number (if known) of the maintenance center for a fixed microwave system. In lieu of providing the location and telephone number of the maintenance center(s) on a case by case basis, a licensee may file a complete list for all operational stations with the Commission and the Engineer-In-Charge of the appropriate radio district on an annual basis or at more frequent intervals as necessary to keep the information current.

(d) Each application in the Private Operational Fixed Point-to-Point Microwave, Common Carrier Fixed

Point-to-Point Microwave, Local Television Transmission, and Digital Electronic Message Services (excluding user stations) proposing a new or replacement antenna (excluding omnidirectional antennas) must include an antenna radiation pattern showing the antenna power gain distribution in the horizontal plane expressed in decibels, unless such pattern is known to be on file with the Commission in which case the applicant may reference in its application the FCC–ID number that indicates that the pattern is on file with the Commission.

(e) Each application in the Private Operational Fixed Point-to-Point Microwave Service and the Common Carrier Fixed Point-to-Point Microwave Service must include the following information:

Applicant's name and address.
Transmitting station name.
Transmitting station coordinates.
Frequencies and polarizations to be added, changed or deleted.
Transmitting equipment type, its stability, actual output power, emission designator, and type of modulation (loading).
Transmitting antenna type(s), model, gain, and, if required, a radiation pattern provided or certified by the manufacturer.
Transmitting antenna center line height(s) above ground level and ground elevation above mean sea level.
Receiving station name.
Receiving station coordinates.
Receiving antenna type(s), model, gain, and, if required, a radiation pattern provided or certified by the manufacturer.
Receiving antenna center line height(s) above ground level and ground elevation above mean sea level.
Path azimuth and distance.
Estimated transmitter transmission line loss expressed in dB.
Estimated receiver transmission line loss expressed in dB.

NOTE: The position location of antenna sites shall be determined to an accuracy of no less than ±1 second in the horizontal dimensions (latitude and longitude) and ±1 meter in the vertical dimension (ground elevation) with respect to the National Spacial Reference System.

(f) All applicants for regular authorization must, before filing an application, amendments to a pending application, or modifications to a license, prior coordinate the proposed frequency usage with existing users in the area and other applicants with previously filed applications in accordance with the procedures in § 101.103. In those frequency bands shared with the communication-satellite service, an applicant for a new station, for new points of communication, for the initial frequency assignment in a shared band for which coordination has not been previously effected, or for authority to modify the emission or radiation characteristics of an existing station in a manner that may increase the likelihood of harmful interference, must ascertain in advance whether the station(s) involved lie within the great circle coordination distance contours of an existing Earth station or one for which an application has been accepted for filing, and must coordinate his proposal with each such Earth station operator or applicant. For each potential interference path, the applicant must perform the computations required to determine that the expected level of interference to or from the terrestrial station does not exceed the maximum permissible interference power level in accordance with the technical standards and requirements of §§ 25.251–25.256 of this chapter. The Commission may, in the course of examining any application, require the submission of additional showings, complete with pertinent data and calculations in accordance with part 25 of this chapter, showing that harmful interference will not likely result from the proposed operation. (Technical characteristics of the Earth stations on file and coordination contour maps for those Earth stations will be kept on file for public inspection in the offices of the Commission's International Bureau in Washington, DC)

§ 101.23 Waiver of rules.

Waivers of these rules may be granted upon application or on the Commission's own motion. A request for waiver shall contain a statement of reasons sufficient to justify a waiver. A waiver will not be granted except upon an affirmative showing that:

(a) The underlying purpose of the rule will not be served, or would be frustrated, by its application in the particular case, and that grant of the waiver is otherwise in the public interest; or

(b) The unique facts and circumstances of a particular case render application of the rule inequitable, unduly burdensome or otherwise contrary to the public interest. Applicants must also show the lack of a reasonable alternative.

§101.25 Inconsistent or conflicting applications.

While an application is pending and undecided, no subsequent inconsistent or conflicting application may be filed by the same applicant, the applicant's successor or assignee, or on behalf or for the benefit of the same applicant, the applicant's successor or assignee.

§101.27 Repetitious applications.

(a) Where an applicant has been afforded an opportunity for a hearing with respect to a particular application for a new station, or for an extension or enlargement of a service or facilities, and the Commission has, after hearing or default, denied the application or dismissed it with prejudice, the Commission will not consider a like application involving service of the same kind to the same area by the same applicant, or by the applicant's successor or assignee, or on behalf of or for the benefit of the original parties in interest, until after the lapse of 12 months from the effective date of the Commission's order. The Commission may, for good cause shown, waive the requirements of this section.

(b) Where an appeal has been taken from the action of the Commission denying a particular application, another application for the same class of station and for the same area, in whole or in part, filed by the same applicant or by the applicant's successor or assignee, or on behalf or for the benefit of the original parties in interest, will not be considered until the final disposition of such appeal.

§101.29 Amendment of pending applications.

(a) Any pending application may be amended as a matter of right if the application has not been designated for hearing, or for comparative evaluation pursuant to §101.51, or for the random selection process, provided, however, that the amendments must comply with the provisions of §101.41 as appropriate.

(b) Requests to amend an application designated for hearing or for comparative evaluation, or tentatively selected by the random selection process may be granted only if a written petition demonstrating good cause is submitted and properly served upon the parties of record.

(c) The Commission will classify amendments on a case-by-case basis. Whenever previous amendments have been filed, the most recent amendment will be classified by reference to how the information in question stood as of the latest Public Notice issued which concerned the application. An amendment will be deemed to be a major amendment subject to §101.37 and §101.45 under any of the following circumstances:

(1) If the amendment results in a substantial modification of the engineering proposal such as (but not necessarily limited to):

(i) A change in, or an addition of a radio frequency channel;

(ii) A change in polarization of the transmitted signal;

(iii) An increase in the equivalent isotropically radiated power of three (3) dB or more;

(iv) A change in type of transmitter emission or an increase in emission bandwidth of more than ten (10) percent;

(v) A change in the geographic coordinates of a station's transmitting antenna of more than five (5) seconds of latitude or longitude, or both;

(vi) A change of more than one (1) degree in the azimuth of the center of the main lobe of radiation of a point-to-point station's transmitting antenna (including any deflections by repeating devices);

(vii) Any change which increases the antenna center line height by 3.0 meters (ten (10) feet) or more;

(viii) Any changes or combination of changes which would cause harmful electrical interference to an authorized facility or result in a mutually exclusive conflict with another pending application; or

(ix) Any technical change that would increase the effective radiated power in any direction by more than one and

one-half (1.5) dB in the Digital Electronic Message Service.

(2) If the amendment would convert a proposal, such that it may have a significant impact upon the environment under § 1.1307 of this chapter, which would require the submission of an environmental assessment, see § 1.1311 of this chapter, and Commission environmental review, see §§ 1.1308 and 1.1312 of this chapter.

(3) If the amendment results in a substantial and material alteration of the proposed service.

(4) If the amendment specifies a substantial change in beneficial ownership or control (de jure or de facto) of an applicant such that the change would require, in the case of an authorized station, the filing of a prior assignment or transfer of control application under section 310(d) of the Communications Act of 1934 (47 U.S.C. 310(d)). Such a change would not be considered major where the assignment or transfer of control is for legitimate business purposes other than the acquisition of applications.

(5) If the amendment, or the cumulative effect of the amendment, is determined by the Commission otherwise to be substantial pursuant to section 309 of the Communications Act of 1934.

(d) A pending application may be amended by a major amendment to reflect the relocation of a proposed station site and a new application will not be required if:

(1) The geographic coordinates of the new station site are within 32.2 kilometers of the coordinates of the original site; and

(2) The relocated station would serve essentially the same purpose in the system as originally proposed.

(e) The applicant must serve copies of any amendments or other written communications upon the following parties:

(1) Any applicant whose application appears on its face to be mutually exclusive with the application being amended, including those applicants originally served under § 101.509;

(2) Any applicant whose application has been found by the Commission, as published in a public notice, to be mutually exclusive with the application being amended; and

(3) Any party who has filed a petition to deny the application or other formal objection, when that petition or formal objection has not been resolved by the Commission.

(f) The Commission may waive the service requirements of paragraph (e) of this section and prescribe such alternative procedures as may be appropriate under the circumstances to protect petitioners' interests and to avoid undue delay in a proceeding, if an applicant submits a request for waiver which demonstrates that the service requirement is unreasonably burdensome. Requests for waiver must be served on petitioners. Oppositions to the petition may be filed within five (5) days after the petition is filed and must be served on the applicant. Replies to oppositions will not be entertained.

(g) Any amendment to an application must be signed and must be submitted in the same manner, and with the same number of copies, as was the original application. Amendments may be made in letter form if they comply in all other respects with the requirements of this chapter.

§ 101.31 Special temporary, temporary, and conditional authorizations.

(a) *Special temporary authorization.* (1) In circumstances requiring immediate or temporary use of facilities, licensees subject to this part may request special temporary authority to install and/or operate new or modified equipment. Any such request may be submitted as an informal application in the manner set forth in § 101.9 and must contain full particulars as to the proposed operation including all facts sufficient to justify the temporary authority sought and the public interest therein. No such request will be considered unless the request is received by the Commission at least 10 days prior to the date of proposed construction or operation or, where an extension is sought, expiration date of the existing temporary authorization.

(2) Special temporary authorization may be granted upon written request in the following circumstances:

(i) In emergency situations;

(ii) To permit restoration or relocation of existing facilities to continue communication service;

(iii) To conduct tests to determine necessary data for the preparation of an application for regular authorization;

(iv) For a temporary, non-recurring service where a regular authorization is not appropriate;

(v) In other situations involving circumstances which are of such extraordinary nature that delay in the institution of temporary operation would seriously prejudice the public interest.

(3) The Commission may grant requests for special temporary authority without issuing the public notice provided for in § 101.37 for periods not exceeding 180 days, if there are extraordinary circumstances supporting the request and where delay in commencing temporary operation would seriously prejudice the public interest. Requests for special temporary authorization not involving extraordinary circumstances may be granted without public notice for a period of 30 days where an application for regular operation is not contemplated or for 60 days pending or after the filing of an application for regular operation. Requests for special temporary authority are issued on a strictly secondary, non-interfering basis, and do not in any way affect the final disposition of any application or action pending before the Commission.

(4) Extension of a special temporary authorization for a period of 180 days may be granted, but the renewing applicant bears a heavy burden to show that extraordinary circumstances warrant such an extension.

(5) Request for special temporary authorization must contain the following information:

(i) Name, address, and citizenship status of the applicant;

(ii) Need for special action, including a description of any emergency or damage to equipment;

(iii) Type of operation to be conducted;

(iv) Purpose of operation;

(v) Time and date of operation desired;

(vi) Class of station and nature of service;

(vii) Location of station and points with which station will communicate;

(viii) Equipment to be used, specifying manufacturer, model number, and number of units;

(ix) Frequency(s) desired;

(x) Azimuth and beamwidth of major lobe of transmitting antenna and ERP;

(xi) Type of emission;

(xii) Description of antenna to be used, including height; and

(xiii) Certification that prior coordination is complete.

(6) In cases of emergency found by the Commission, involving danger to life or property or due to damage of equipment, or during a national emergency proclaimed by the President or declared by the Congress or during the continuance of any war in which the United States is engaged and when such action is necessary for the national defense or safety or otherwise in furtherance of the war effort, or in cases of emergency where the Commission finds that it would not be feasible to secure renewal applications from existing licensees or otherwise to follow normal licensing procedure, the Commission will grant construction permits and station licenses, or modifications or renewals thereof, during the emergency found by the Commission or during the continuance of any such national emergency or war, as special temporary licenses, only for the period of emergency or war, requiring such action, without the filing of formal applications.

(b) *Temporary authorizations.* (1) Authorizations may be issued upon proper application for rendition of temporary service to subscribers under the following conditions:

(i) When a fixed station, authorized to operate at temporary locations, is to remain at a single location for more than 6 months, an application (FCC Form 402 or 494, as appropriate) for a station authorization designating that single location as the permanent location shall be filed at least 90 days prior to the expiration of the 6-month period;

(ii) The station shall be used only for rendition of communication service at a remote point where the provision of wire facilities is not practicable within the required time frame; and

(iii) The antenna structure height employed at any location shall not exceed the criteria set forth in § 17.7 of this chapter unless, in each instance, authorization for use of a specific maximum antenna structure height for each location has been obtained from the Commission prior to erection of the antenna. See § 101.125.

(2) Applications for authorizations to operate stations at temporary locations under the provisions of this section shall be made upon FCC Form 402 or 494, as appropriate. Blanket applications may be submitted for the required number of transmitters.

(3) The licensee of stations which are authorized pursuant to the provisions of paragraph (b) of this section shall notify the Commission at least five (5) days prior to installation of the facilities, stating:

(i) The call sign, manufacturer's name, type or model number, output power and specific location of the transmitter(s);

(ii) The maintenance location for the transmitter;

(iii) The location of the transmitting or receiving station with which it will communicate and the identity of the correspondent operating such facilities;

(iv) The exact frequency or frequencies to be used;

(v) The public interest, convenience and necessity to be served by operation of the proposed installation;

(vi) The commencement and anticipated termination dates of operation from each location. In the event the actual termination date differs from the previous notification, written notice thereof promptly shall be given to the Commission;

(vii) A notification shall include compliance with the provisions of § 101.21(e) when operations are to be conducted in the area of other terrestrial microwave stations and with the provisions of § 101.21(e) when operations are to be conducted within the coordination distance contours of a fixed earth station; and

(viii) Where the notification contemplates initially a service which is to be rendered for a period longer than 90 days, the notification shall contain a showing as to why application should not be made for regular authorization.

(4) Less than 5 days advance notice may be given when circumstances require shorter notice provided such notice is promptly given and the reasons in support of such shorter notice are stated.

(5) A copy of the notification shall be kept with the station license.

(c) *Prior coordination.* Stations authorized under this section may complete the prior coordination process orally and the period allowed for response to a coordination notification may be less than 30 days if the parties agree. The requirements under § 101.103(d)(2)(i) for written documentation shall apply to such oral notice.

(d) *Certification.* Any applicant under this section must submit a certification that neither the applicant nor any party to the applicant is subject to a denial of Federal benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1988, as required by § 1.2002 of this chapter.

(e) *Conditional authorization.* (1) An applicant for a new point-to-point microwave radio station(s) or a modification of an existing station(s) in the 3,700–4,200; 5,925–6,425; 6,525–6,875; 10,550–10,680; 10,700–11,700; 11,700–12,200; 12,200–12,700; 12,700–13,200; 13,200–13,250; 17,700–19,700; and 21,200–23,600 MHz bands (see § 101.147 for specific service usage) may operate the proposed station(s) during the pendency of its applications(s) upon the filing of a properly completed formal application(s) that complies with subpart B of part 101 if the applicant certifies that the following conditions are satisfied:

(i) The frequency coordination procedures of § 101.103 have been successfully completed;

(ii) The antenna structure(s) has been previously studied by the Federal Aviation Administration and determined to pose no hazard to aviation safety as required by subpart B of part 17 of this chapter; or the antenna or tower structure does not exceed 6.1 meters above ground level or above an existing man-made structure (other than an antenna structure), if the antenna or tower has not been previously studied by the Federal Aviation Administration and cleared by the FCC;

(iii) The grant of the application(s) does not require a waiver of the Commission's rules:

(iv) The applicant has determined that the facility(ies) will not significantly affect the environment as defined in § 1.1307 of this chapter;

(v) The station site(s) does not lie within 56.3 kilometers of any international border or within a radio ''Quiet Zone'' identified in § 101.123, or if operated on frequencies in the 17,700–19,700 MHz band, the station site(s) does not lie within the states of Colorado, Maryland and Virginia and the District of Columbia;

(vi) The filed application(s) does not propose to operate in the 10.6–10.68 GHz band, or in the 21.2–23.6 GHz band with an E.R.P. greater than 55 dBm pursuant to § 101.147(s); and

(vii) The filed application(s) is consistent with the proposal that was coordinated pursuant to § 101.103.

(2) Conditional authority ceases immediately if the application(s) is returned by the Commission because it is not acceptable for filing.

(3) A conditional authorization pursuant to paragraphs (e)(1) and (e)(2) of this section is evidenced by retaining the original executed conditional licensing Certification Form with the station records. Conditional authorization does not prejudice any action the Commission may take on the subject application(s). Conditional authority is accepted with the express understanding that such authority may be modified or cancelled by the Commission at any time without hearing if, in the Commission's discretion, the need for such action arises. An applicant operating pursuant to this conditional authority assumes all risks associated with such operation, the termination or modification of the conditional authority, or the subsequent dismissal or denial of its application(s).

(4) The Certification Form, or a copy thereof, must be posted at each station operating pursuant to this section consistent with § 101.215.

§ 101.33 Who may sign applications.

See part 1 of this chapter (§§ 1.743 and 1.913), for practices and procedures governing signatures on applications, amendments and related statements of fact.

PROCESSING OF APPLICATIONS

§ 101.35 Preliminary processing of applications.

(a) Applications received for filing are given a file number. The assignment of a file number to an application is for administrative convenience and does not indicate the acceptance of the application for filing and processing and does not preclude the subsequent return of the application.

(b) Applications that are incomplete with respect to answers, supplementary statements, execution, or other matters of a formal character will be considered defective and may be returned to the applicant with a brief statement as to such defects. If an applicant is requested by the Commission to file any additional documents or information not included in the prescribed application form, failure to comply with such request will be deemed to render the application defective, and such application may be dismissed. Applications will also be deemed to be defective and may be returned to the applicant in the following cases:

(1) Statutory disqualification of applicant;

(2) Proposed use or purpose of station would be unlawful;

(3) Requested frequency is not allocated for assignment for the service proposed;

(4) The submitted filing fee (if required) is insufficient;

(5) The application does not demonstrate compliance with the special requirements applicable to the radio service involved;

(6) The applications does not include all necessary exhibits; or

(7) The application fails to meet any other Commission requirements.

(c) Any application that has been returned to the applicant for correction will be processed in original order of receipt when resubmitted if it is received within 60 days from the date on which it was returned to the applicant and the change does not involve a major amendment. If the application is not resubmitted within the prescribed

time, it will be treated as a new application and considered at the time other applications received on the same date are considered.

(d) Applications considered defective under paragraph (b) of this section may be accepted for filing if:

(1) The application is accompanied by a request which sets forth the reasons in support of a waiver of (or an exception to), in whole or in part, any specific rule, regulation, or requirement with which the application is in conflict; or

(2) The Commission, upon its own motion, waives (or allows an exception to), in whole or in part, any rule, regulation or requirement.

§ 101.37 Public notice period.

(a) At regular intervals, the Commission will issue a public notice listing:

(1) The acceptance for filing of common carrier applications and major amendments thereto;

(2) Significant Commission actions concerning these applications;

(3) The receipt of common carrier applications for minor modifications made pursuant to § 101.59;

(4) Information which the Commission in its discretion believes of public significance; and

(5) Special environmental considerations as required by part 1 of this chapter.

(b) A public notice will not normally be issued for any of the following applications:

(1) For authorization of a minor technical change in the facilities of a proposed or authorized station where such a change would not be classified as a major amendment to a pending application, as defined by § 101.29, or as a minor modification to a license pursuant to § 101.59;

(2) For temporary authorization pursuant to § 101.31;

(3) For an authorization under any of the proviso clauses of section 308(a) of the Communications Act of 1934 (47 U.S.C. 308(a));

(4) For consent to an involuntary assignment or transfer of control of a radio authorization; or

(5) For consent to a voluntary assignment or transfer of control of a radio authorization, where the assignment or transfer does not involve a substantial change in ownership or control.

(c) Except as otherwise provided in this part (*e.g.*, § 101.59), no application that has appeared on public notice will be granted until the expiration of a period of thirty days following the issuance of the public notice listing the application, or any major amendment thereto, or until the expiration of a period of thirty days following the issuance of a public notice identifying the tentative selectee of a random selection process, whichever is later.

(d) The listing of an application on public notice as accepted for filing does not indicate that the application has been found by the Commission to be acceptable for filing and does not preclude the subsequent return of the application.

§ 101.39 Dismissal and return of applications.

(a) Except as provided under paragraph (c) of this section and under § 101.41, any application may, upon written request, be dismissed without prejudice as a matter of right prior to the adoption date of any final Commission action or the application's designation for hearing or comparative evaluation.

(b) A request to dismiss an application without prejudice will be considered after designation for hearing, after selection through the comparative evaluation procedure of § 101.51, or after selection as a tentative selectee in a random selection proceeding, only if:

(1) A written petition is submitted to the Commission and, in the case of applications designated for hearing or comparative evaluation, is properly served upon all parties of record;

(2) The petition is submitted before the issuance date of a public notice of Commission action denying the application; and

(3) The petition complies with the provision of § 101.41 (whenever applicable) and demonstrates good cause.

(c) Except as provided under § 101.41, an application designated for inclusion in the random selection process may be dismissed without prejudice as a matter of right if the applicant requests its

dismissal at least 2 days prior to a random selection proceeding.

(d) Dismissal for failure to prosecute or for failure to respond to official correspondence or requests for additional information within a specified time period will be without prejudice prior to its designation for hearing, or tentative selection by the random selection process. Dismissal may be with prejudice after selection of the comparative evaluation process, or after selection as a tentative selectee in a random selection proceeding.

§ 101.41 Ownership changes and agreements to amend or dismiss applications or pleadings.

(a) Except as provided in paragraph (b) of this section, applicants or any other parties in interest to pending applications must comply with the provisions of this section whenever:

(1) They participate in any agreement (or understanding) which involves any consideration promised or received, directly or indirectly, including any agreement (or understanding) for merger of interests or the reciprocal withdrawal of applications; and

(2) The agreement (or understanding) may result in either:

(i) A proposed substantial change in beneficial ownership or control (*dejure* or *de facto*) of an applicant such that the change would require, in the case of an authorized station, the filing of a prior assignment or transfer of control application under section 310(d) of the Communications Act of 1934 (47 U.S.C. 310(d)), or

(ii) Proposed withdrawal, amendment or dismissal of any application(s), amendment(s), petition(s), pleading(s), or any combination thereof, which would thereby permit the grant without hearing, comparative evaluation under § 101.51, or random selection of an application previously in contested status.

(b) The provisions of this section will not be applicable to any engineering agreement (or understanding) that:

(1) Resolves frequency conflicts with authorized stations or other pending applications without the creation of new or increased frequency conflicts; and

(2) Does not involve any consideration promised or received, directly or indirectly (including any merger of interests or reciprocal withdrawal of applications), other than the mutual benefit of resolving the engineering conflict.

(c) For any agreement subject to this section, the applicant of an application which would remain pending pursuant to such an agreement will be considered responsible for the compliance by all parties with the procedures of this section. Failure of the parties to comply with the procedures of this section will constitute a defect in those applications which are involved in the agreement and remain in a pending status.

(d) The principals to any agreement or understanding subject to this section must comply with the standards of paragraph (e) of this section in accordance with the following procedure:

(1) Within ten (10) days after entering into the agreement, the parties thereto must jointly notify the Commission in writing of the existence and general terms of such agreement, the identity of all of the participants and the applications involved;

(2) Within thirty (30) days after entering into the agreement, the parties thereto must file any proposed application amendments, motions, or requests together with a copy of the agreement which clearly sets forth all terms and provisions, and such other facts and information as necessary to satisfy the standards of paragraph (e) of this section. Such submission must be accompanied by the certification by affidavit of each principal to the agreement declaring that the statements made are true, complete, and correct to the best of their knowledge and belief, and are made in good faith; and

(3) The Commission may request any further information which in its judgment it believes is necessary for a determination under paragraph (e) of this section.

(e) The Commission will grant an application (or applications) involved in the agreement (or understanding) only if it finds upon examination of the information submitted, and upon consideration of such other matters as may

be officially noticed, that the agreement is consistent with the public interest, and the amount of any monetary consideration and the cash value of any other consideration promised or received is not in excess of those legitimate and prudent costs directly assignable to the engineering, preparation, filing and advocacy of the withdrawn, dismissed, or amended application(s), amendment(s), petition(s), pleading(s), or any combination thereof. Where such costs represent the applicant's in-house efforts, these costs may include only directly assignable costs and must exclude general overhead expenses. (The treatment to be accorded such consideration for interstate rate making purposes will be determined at such time as the question may arise in an appropriate rate proceeding.) An itemized accounting must be submitted to support the amount of consideration involved except where such consideration (including the fair market value of any non-cash consideration) promised or received does not exceed one thousand dollars ($1,000.00). Where consideration involves a sale of facilities or merger of interests, the accounting must clearly identify that portion of the consideration allocated for such facilities or interests and a detailed description thereof, including estimated fair market value. The Commission will not presume an agreement (or understanding) to be prima facie contrary to the public interest solely because it incorporates a mutual agreement to withdraw pending application(s), amendment(s), petition(s), pleading(s), or any combination thereof.

§ 101.43 Opposition to applications.

(a) Any party in interest may file with the Commission a petition to deny any application for which public notice is required. All such petitions must:

(1) Identify the application or applications including applicant's name, station location, Commission file numbers and radio service involved with which it is concerned;

(2) Be filed in accordance with the pleading limitations, filing periods, and other applicable provisions of this part and part 1 of this chapter;

(3) Contain specific allegations of fact (except for those of which official notice may be taken), supported by affidavit of a person or persons with personal knowledge thereof and be sufficient to make a prima facie showing that the petitioner is a party in interest and that a grant of the application would be inconsistent with the public interest, convenience and necessity;

(4) Be filed within thirty (30) days after the date of public notice announcing the acceptance for filing of such applications or major amendments thereto, or, identifying the tentative selectee of a random selection proceeding (unless the Commission otherwise extends the deadline); and

(5) Contain a certificate of service showing that the applicant has been mailed a copy of the petition no later than the date on which the petition is filed with the Commission.

(b) The applicant may file an opposition to any petition to deny and the petitioner may file a reply thereto in which allegations of fact or denials thereof must be supported by an affidavit of a person or persons with personal knowledge thereof and be clearly identified. The applicant must serve a copy of the opposition on the petitioner, and the petitioner must serve a copy of its reply on the applicant. The time for filing such oppositions and replies are provided in § 1.45 of this chapter.

(c) Notwithstanding the provisions of paragraph (a) of this section, before Commission action on any application for an instrument of authorization, any person may file informal objections to the grant. The Commission will consider informal objections, but not necessarily discuss them in a written opinion, if the objection is filed at least one day prior to action on the application and the objection is signed by the submitting person with a disclosure of that person's interest. Such objections may be submitted in letter form. The limitation on pleadings and time for filing pleadings provided for in § 1.45 of this chapter will not be applicable to any objections duly filed pursuant to this paragraph.

(d) Petitions to deny not filed in accordance with paragraph (a) of this section will be treated as informal objections.

§101.45 Mutually exclusive applications.

(a) The Commission will consider applications to be mutually exclusive if their conflicts are such that the grant of one application would effectively preclude by reason of harmful electrical interference, or other practical reason, the grant of one or more of the other applications. The Commission will presume ''harmful electrical interference'' exists when the levels of §101.105 are exceeded, or when there is a material impairment to service rendered to the public despite full cooperation in good faith by all applicants or parties to achieve reasonable technical adjustments which would avoid electrical conflict.

(b) A common carrier application will be entitled to be included in a random selection process or to comparative consideration with one or more conflicting applications only if:

(1) The application is mutually exclusive with the other application; and

(2) The application is received by the Commission in a condition acceptable for filing by whichever ''cut-off'' date is earlier:

(i) Sixty (60) days after the date of the public notice listing the first of the conflicting applications as accepted for filing; or

(ii) One (1) business day preceding the day on which the Commission takes final action on the previously filed application (should the Commission act upon such application in the interval between thirty (30) and sixty (60) days after the date of its public notice).

(c) Whenever three or more applications are mutually exclusive, but not uniformly so, the earliest filed application established the date prescribed in paragraph (b)(2) of this section, regardless of whether or not subsequently filed applications are directly mutually exclusive with the first filed application. (For example, applications A, B, and C are filed in that order. A and B are directly mutually exclusive, B and C are directly mutually exclusive. In order to be considered comparatively with B, C must be filed within the ''cut-off'' period established by A even though C is not directly mutually exclusive with A.)

(d) Private operational fixed point-to-point microwave applications for authorization under this part will be entitled to be included in a random selection process or to comparative consideration with one or more conflicting applications in accordance with the provisions of §1.227(b)(4) of this chapter.

(e) An application otherwise mutually exclusive with one or more previously filed applications, but filed after the appropriate date prescribed in paragraphs (b) or (d) of this section, will be returned without prejudice and will be eligible for refiling only after final action is taken by the Commission with respect to the previously filed application (or applications).

(f) For the purposes of this section, any application (whether mutually exclusive or not) will be considered to be a newly filed application if it is amended by a major amendment (as defined by §101.29), except under any of the following circumstances:

(1) The application has been designated for comparative hearing, or for comparative evaluation (pursuant to §101.51), and the Commission or the presiding officer accepts the amendment pursuant to §101.29(b);

(2) The amendment resolves frequency conflicts with authorized stations or other pending applications which would otherwise require resolution by hearing, by comparative evaluation pursuant to §101.51, or by random selection pursuant to §101.49 provided that the amendment does not create new or additional frequency conflicts;

(3) The amendment reflects only a change in ownership or control found by the Commission to be in the public interest, and for which a requested exemption from the ''cut-off'' requirements of this section is granted;

(4) The amendment reflects only a change in ownership or control which results from an agreement under §101.41 whereby two or more applicants entitled to comparative consideration of their applications join in one (or more) of the existing applications and request dismissal of their other application (or applications) to avoid the delay and cost of comparative consideration;

(5) The amendment corrects typographical, transcription, or similar clerical errors which are clearly demonstrated to be mistakes by reference to other parts of the application, and whose discovery does not create new or increased frequency conflicts; or

(6) The amendment does not create new or increased frequency conflicts, and is demonstrably necessitated by events which the applicant could not have reasonably foreseen at the time of filing, such as, for example:

(i) The loss of a transmitter or receiver site by condemnation, natural causes, or loss of lease or option;

(ii) Obstruction of a proposed transmission path caused by the erection of a new building or other structure; or

(iii) The discontinuance or substantial technological obsolescence of specified equipment, whenever the application has been pending before the Commission for two or more years from the date of its filing.

(g) Applicants for the 932.5–935/941.5–944 MHz bands shall select a frequency pair. Applicants for these bands may select an unpaired frequency only upon a showing that spectrum efficiency will not be impaired and that unpaired spectrum is not available in other bands. During the initial filing window, frequency coordination is not required, except that an application for a frequency in the 942–944 MHz band must be coordinated to ensure that it does not affect an existing broadcast auxiliary service licensee. After the initial filing window, an applicant must submit evidence that frequency coordination has been performed with all licensees affected by the application. All frequency coordination must be performed in accordance with § 101.103. In the event of mutually exclusive applications occurring during the initial filing window for the 932.5–935/941.5–944 MHz bands, applicants shall be given the opportunity to resolve these situations by applying for an alternative frequency pair, if one is available. To the extent that there are no other available frequencies or to the extent that mutually exclusive applications remain after this process is concluded, lotteries shall be conducted for each frequency pair among all remaining mutually exclusive applications, assuming appropriate coordination with existing broadcast auxiliary stations can be concluded, where necessary. In the event of mutually exclusive applications being received for these bands on the same day after the initial filing window has closed and a subsequent filing window opened, lotteries shall be conducted for each frequency pair among all mutually exclusive applications.

§ 101.47 Consideration of applications.

(a) Applications for an instrument of authorization will be granted if, upon examination of the application and upon consideration of such other matters as it may officially notice, the Commission finds that the grant will serve the public interest, convenience, and necessity.

(b) The grant will be without a formal hearing if, upon consideration of the application, any pleadings of objections filed, or other matters which may be officially noticed, the Commission finds that:

(1) The application is acceptable for filing, and is in accordance with the Commission's rules, regulations, and other requirements;

(2) The application is not subject to comparative consideration (pursuant to § 101.45) with another application (or applications), except where the competing applicants have chosen the comparative evaluation procedure of § 101.51 and a grant is appropriate under that procedure;

(3) A grant of the application would not cause harmful electrical interference to an authorized station;

(4) There are no substantial and material questions of fact presented; and

(5) The applicant is legally, technically, financially and otherwise qualified, and a grant of the application would serve the public interest.

(c) Whenever the Commission, without a formal hearing, grants any application in part, or subject to any terms or conditions other than those normally applied to applications of the same type, it will inform the applicant of the reasons therefor, and the grant will be considered final unless the Commission revises its action (either by granting the application as originally requested, or by designating the

application for a formal evidentiary hearing) in response to a petition for reconsideration that:

(1) Is filed by the applicant within thirty (30) days from the date of the letter or order giving the reasons for the partial or conditioned grant;

(2) Rejects the grant as made and explains the reasons why the application should be granted as originally requested; and

(3) Returns the instrument of authorization.

(d) The Commission will designate an application for a formal hearing, specifying with particularity the matters and things in issue, if, upon consideration of the application, any pleadings or objections filed, or other matters which may be officially noticed, the Commission determines that:

(1) A substantial and material question of fact is presented;

(2) The Commission is unable for any reason to make the findings specified in paragraph (a) of this section and the application is acceptable for filing, complete, and in accordance with the Commission's rules, regulations, and other requirements;

(3) The application is entitled to comparative consideration (under § 101.45) with another application (or applications); or

(4) The application is entitled to comparative consideration (pursuant to § 101.45) and the applicants have chosen the comparative evaluation procedure of § 101.51 but the Commission deems such procedure to be inappropriate.

(e) The Commission may grant, deny, or take other action with respect to an application designated for a formal hearing pursuant to paragraph (d) of this section or part 1 of this chapter.

(f) Whenever the public interest would be served thereby the Commission may grant one or more mutually exclusive applications expressly conditioned upon final action on the applications, and then either conduct a random section process (in specified services under this rules part), designate all of the mutually exclusive applications for a formal evidentiary hearing or (whenever so requested) follow the comparative evaluation procedures of § 101.51, as appropriate, if it appears:

(1) That some or all of the applications were not filed in good faith, but were filed for the purpose of delaying or hindering the grant of another application;

(2) That the public interest requires the prompt establishment of radio service in a particular community or area;

(3) That a delay in making a grant to any applicant until after the conclusion of a hearing or a random selection proceeding on all applications might jeopardize the rights of the United States under the provision of an international agreement to the use of the frequency in question; or

(4) That a grant of one application would be in the public interest in that it appears from an examination of the remaining applications that they cannot be granted because they are in violation of provisions of the Communications Act, other statutes, or of the provisions of this chapter.

(g) Reconsideration or review of any final action taken by the Commission will be in accordance with subpart A of part 1 of this chapter.

§ 101.49 Grants by random selection.

(a) If an application for an authorization in the Digital Electronic Message Service (DEMS) is mutually exclusive with another such application and satisfies the requirements of § 101.45, the applicant may be included in the random selection process set forth in §§ 1.821, 1.822 and 1.825 of this chapter.

(b) Renewal applications will not be included in a random selection process.

§ 101.51 Comparative evaluation of mutually exclusive applications.

(a) In order to expedite action on mutually exclusive applications in services under this rules part where the random selection process does not apply, the applicants may request the Commission to consider their applications without a formal hearing in accordance with the summary procedure outlined in paragraph (b) in this section if:

(1) The applications are entitled to comparative consideration pursuant to § 101.45;

(2) The applications have not been designated for formal evidentiary hearing; and

(3) The Commission determines, initially or at any time during the procedure outlined in paragraph (b) of this section, that such procedure is appropriate, and that, from the information submitted and consideration of such other matters as may be officially noticed, there are no substantial and material questions of fact presented (other than those relating to the comparative merits of the applications) which would preclude a grant under paragraphs (a) and (b) of § 101.47.

(b) Provided that the conditions of paragraph (a) of this section are satisfied, applicants may request the Commission to act upon their mutually exclusive applications without a formal hearing pursuant to the summary procedure outlined below:

(1) To initiate the procedure, each applicant will submit to the Commission a written statement containing:

(i) A waiver of the applicant's right to a formal hearing;

(ii) A request and agreement that, in order to avoid the delay and expense of a comparative formal hearing, the Commission should exercise its judgment to select from among the mutually exclusive applications that proposal (or proposals) which would best serve the public interest; and

(iii) The signature of a principal (and the principal's attorney if represented).

(2) After receipt of the written requests of all of the applicants the Commission (if it deems this procedure appropriate) will issue a notice designating the comparative criteria upon which the applications are to be evaluated and will request each applicant to submit, within a specified period of time, additional information concerning the applicant's proposal relative to the comparative criteria.

(3) Within thirty (30) days following the due date for filing this information, the Commission will accept concise and factual argument on the competing proposals from the rival applicants, potential customers, and other knowledgeable parties in interest.

(4) Within fifteen (15) days following the due date for the filing of comments, the Commission will accept concise and factual replies from the rival applicants.

(5) From time to time during the course of this procedure the Commission may request additional information from the applicants and hold informal conferences at which all competing applicants will have the right to be represented.

(6) Upon evaluation of the applications, the information submitted, and such other matters as may be officially noticed the Commission will issue a decision granting one (or more) of the proposals which it concludes would best serve the public interest, convenience and necessity. The decision will report briefly and concisely the reasons for the Commission's selection and will deny the other application(s). This decision will be considered final.

LICENSE TRANSFERS, MODIFICATIONS, CONDITIONS AND FORFEITURES

§ 101.53 Assignment or transfer of station authorization.

(a) No station license, or any rights thereunder, may be transferred, assigned, or disposed of in any manner, voluntarily or involuntarily, directly or indirectly, or by transfer of control of any corporation or any other entity holding any such license, to any person except upon application to the Commission and upon finding by the Commission that the public interest, convenience and necessity will be served thereby.

(b) For purposes of this section, transfers of control requiring Commission approval must include any and all transactions that:

(1) Change the party controlling the affairs of the licensee; or

(2) Affect any change in a controlling interest in the ownership of the licensee, including changes in legal or equitable ownership.

(c) Requests for transfer of control or assignment authority must be submitted on the application form prescribed by § 101.13 or § 101.15, and must be accompanied by the applicable showings required by §§ 101.19, 101.21, and 101.55.

(d) The Commission must be promptly notified in writing when a licensee is voluntarily or involuntarily placed in bankruptcy or receivership and when

an individual licensee, a member of a partnership which is a licensee, or a person directly or indirectly in control of a corporation which is a licensee, dies or becomes legally disabled. Within thirty days after the occurrence of such bankruptcy, receivership, death or legal disability, an application of involuntary assignment of such license, or involuntary transfer of control of such corporation, must be filed with the Commission, requesting assignment or transfer to a successor legally qualified under the laws of the place having jurisdiction over the assets involved.

(e) The assignor of a station licensed under this part may retain no right of reversion or reassignment of the license and may not reserve the right to use the facilities of the station for any period whatsoever. No assignment of license will be granted or authorized if there is a contract or understanding, express or implied, pursuant to which a right of reversion or reassignment of the license or right to use the facilities are retained as partial or full consideration for the assignment or transfer.

(f) No special temporary authority, or any rights thereunder, may be assigned or otherwise disposed of, directly or indirectly, voluntarily or involuntarily, without prior Commission approval.

§ 101.55 Considerations involving transfer or assignment applications.

(a) Licenses may not be assigned or transferred prior to the completion of construction of the facility. However, consent to the assignment or transfer of control of such a license may be given prior to the completion of construction where:

(1) The assignment or transfer does not involve a substantial change in or ownership or control of the authorized facilities; or

(2) The assignment or transfer of control is involuntary due to the licensee's bankruptcy, death, or legal disability.

(b) The Commission will review a proposed transaction to determine if the circumstances indicate ''trafficking'' in licenses whenever applications (except those involving pro forma assignment or transfer of control) for consent to assignment of a license, or for transfer of control of a licensee, involve facilities:

(1) Authorized following a comparative hearing and have been operated less than one year;

(2) Involve facilities that have not been constructed; or

(3) Involve facilities that were authorized following a random selection proceeding in which the successful applicant received preference and that have been operated for less than one year.

(c) At its discretion, the Commission may require the submission of an affirmative, factual showing (supported by affidavits of a person or persons with personal knowledge thereof) to demonstrate that the proposed assignor or transferor has not acquired an authorization or operated a station for the principal purpose of profitable sale rather than public service. This showing may include, for example, a demonstration that the proposed assignment or transfer is due to changed circumstances (described in detail) affecting the licensee subsequent to the acquisition of the license, or that the proposed transfer of radio facilities is incidental to a sale of other facilities or merger of interests.

(d) If a proposed transfer of radio facilities is incidental to a sale or other facilities or merger of interests, any showing requested under paragraph (a) of this section must include an additional exhibit that:

(1) Discloses complete details as to the sale of facilities or merger of interests;

(2) Segregates clearly by an itemized accounting, the amount of consideration involved in the sale of facilities or merger of interests; and

(3) Demonstrates that the amount of consideration assignable to the facilities or business interests involved represents their fair market value at the time of the transaction.

(e) For the purposes of this section, the one year period is calculated using the following dates (as appropriate):

(1) The initial date of grant of the license, excluding subsequent modifications;

(2) The date of consummation of an assignment or transfer, if the station is acquired as the result of an assignment

of license, or transfer of control of corporate licensee; or

(3) The median date of the applicable commencement dates (determined pursuant to paragraphs (d)(1) and (2) of this section) if the transaction involves a system (such as a Private Operational Fixed Point-to-Point Microwave system) of two or more stations. (The median date is that date so selected such that fifty percent of the commencement dates of the total number of stations, when arranged in chronological order, lie below it and fifty percent lie above it. When the number of stations is an even number, the median date will be a value half way between the two dates closest to the theoretical median).

§ 101.57 Modification of station license.

(a) Except as provided in § 101.59, no modification of a license issued pursuant to this part (or the facilities described thereunder) may be made except upon application to the Commission.

(b) No application for modification to extend a license construction period will be granted for delays caused by lack of financing or for lack of site availability. Applications for time extensions for other reasons must include a verified statement from the applicant showing that the licensee has made diligent efforts to construct the facilities and:

(1) That additional time is required due to circumstances beyond the applicant's control, in which case the applicant must describe such circumstances and must set forth with specificity and justify the precise extension period requested; or

(2) That there are unique and overriding public interest concerns that justify such an extension, in which case the applicant must identify such interests and must set forth and justify a precise extension period.

(c) Notwithstanding the provisions of paragraph (b) of this section, when a station license has been assigned or transferred pursuant to § 101.53, any extension of time will be limited so that the time left to construct after Commission grant of the transfer or assignment will be no more than the time remaining for construction at the date of the filing of the application for transfer or assignment.

(d) Modification of license is required for the following changes in authorized stations:

(1) Any change in frequencies used;

(2) Any change in antenna azimuth;

(3) Any change in antenna beamwidth;

(4) Any change in antenna or passive repeater location greater than 1 second or which involves a requirement for special aeronautical study;

(5) Any change in antenna polarization;

(6) Any change in antenna height;

(7) Any change in the size of passive reflectors or repeaters associated with the facilities of an authorized station;

(8) Any increase in emission bandwidth beyond that authorized;

(9) Any change in the type of emission;

(10) Any change in authorized equivalent isotropically radiated power in excess of 3 dB (a 2-to-1 ratio); or

(11) Substitution of equipment having a greater frequency tolerance.

(e) When the name of the licensee is changed (without changes in the ownership, control, or corporate structure), or when the mailing address is changed (without changing the authorized location of the fixed station) a formal application for modification of license is not required. However, the licensee must notify the Commission within thirty days of the effective date of these changes. The notice, which may be in letter form, must contain the name and address of the licensee as they appear in the Commission's records, the new name or address, the call signs and classes of all radio stations authorized to the licensee under this part and the radio service in which each station is authorized. The notice must be sent to the Federal Communications Commission, Gettysburg, PA 17325 and a copy must be maintained with the license of each station until a new license is issued.

§ 101.59 Processing of applications for facility minor modifications.

(a) Unless an applicant is notified to the contrary by the Commission, as of the twenty-first day following the date of public notice, any application that

meets the requirements of paragraph (b) of this section and proposes only the change specified in paragraph (c) of this section will be deemed to have been authorized by the Commission.

(b) An application may be considered under the procedures of this section only if:

(1) It is in the Private Operational Fixed Point-to-Point Microwave, Common Carrier Fixed Point-to-Point Microwave, Local Television Transmission, or Digital Electronic Message Services;

(2) The cumulative effect of all such applications made within any 60 day period does not exceed the appropriate values prescribed by paragraph (c) of this section;

(3) The facilities to be modified are not located within 56.3 kilometers (35 miles) of the Canadian or Mexican border;

(4) It is acceptable for filing, is consistent with all of the Commission's rules, and does not involve a waiver request;

(5) It specifically requests consideration pursuant to this section; and

(6) Written notice of such filing has been provided to all parties otherwise required to be provided a prior coordination notice in accordance with § 101.103(d) or, in the Digital Electronic Message Services, a copy of the application has been served on those who also were served under § 101.509.

(c) The modifications that may be authorized under the procedures of this section are:

(1) Changes in a transmitter and existing transmitter operating characteristics, or protective configuration of transmitter, provided that:

(i) In all radio services other than Digital Electronic Message Service, any increase in equivalent isotropically radiated power is less than 3 dB over the previously authorized output power, and in Digital Electronic Message Service, any increase in equivalent isotropically radiated power is 1.5 dB or less over the previously authorized equivalent isotropically radiated power;

(ii) The necessary bandwidth is not increased beyond the previously authorized bandwidth;

(2) Changes in the center line height of an antenna, provided that:

(i) In all radio services except the Digital Electronic Message Service, any increase in antenna height is less than 3.0 meters (10 feet) above the previously authorized height;

(ii) In the Digital Electronic Message Service, any increase in antenna height is less than 3.0 meters (10 feet) above the previously authorized height; and

(iii) The overall height of the antenna structure is not increased as a result of the antenna extending above the height of the previously authorized structure, except when the new height of the antenna structure is 6.1 meters (20 feet) or less (above ground or man-made structure, as appropriate) after the change is made.

(3) Change in the geographical coordinates of a transmit station, receive station or passive facility by five (5) seconds or less of latitude, longitude or both, provided that when notice to the FAA of proposed construction is required by part 17 of this chapter for antenna structure at the previously authorized coordinates (or will be required at the new location) the applicant must comply with the provisions of § 101.21(a).

(d) Upon grant of an application under the procedure of this section and at such time that construction begins, the applicant must keep a complete copy of the application (including the filing date) with the station license if construction begins prior to receipt of the authorization.

§ 101.61 Certain modifications not requiring prior authorization.

(a) Equipment in an authorized radio station may be replaced without prior authorization or notification if the replacement equipment is equivalent to the replaced equipment.

(b) Licensees of fixed stations in the Private Operational Fixed Point-to-Point Microwave, Common Carrier Fixed Point-to-Point Microwave, Local Television Transmission, or Digital Electronic Message Services, may make the facility changes listed in paragraph (c) of this section without obtaining prior Commission authorization, if:

(1) Frequency coordination procedures, as necessary, are complied with in accordance with § 101.103(d) or, in the Digital Electronic Message Services, a copy of the notification described in paragraph (b)(3) of this section is served on those who were served under § 101.509; and

(2) The cumulative effect of all facility changes made within any 60 day period does not exceed the appropriate values prescribed by paragraph (c) of this section; and

(3) The Commission is notified of changes made to facilities by the submission of a completed FCC Form 494 within thirty days after the changes are made.

(c) Modifications that may be made without prior authorization under paragraph (b) of this section are:

(1) Change or modification of a transmitter, when:

(i) The replacement or modified transmitter is type-accepted (or type-notified) for use under this part and is installed without modification from the type-accepted (or type notified) configuration;

(ii) The type of modulation is not changed;

(iii) The frequency stability is equal to or better than the previously authorized frequency stability; and

(iv) The necessary bandwidth and the output power do not exceed the previously authorized values.

(2) Addition or deletion of a transmitter for protection without changing the authorized power output (*e.g.* hot standby transmitters);

(3) Change to an antenna (other than any change involving a periscope antenna system), when:

(i) For the Private Operational Fixed Point-to-Point Microwave, Common Carrier Fixed Point-to-Point Microwave, and Local Television Transmission Services, the new antenna conforms to the requirements of § 101.115 and has essentially the same or better radiation characteristics than the previously authorized antenna;

(ii) For the Digital Electronic Message Service, the new antenna conforms with § 101.517 and the gain of the new antenna does not exceed that of the previously authorized antenna by more than one dB in any direction.

(4) Any technical changes that would decrease the effective radiated power.

(5) Change to the height of an antenna system, when:

(i) The new center line height (measured at the center-of-radiation) is within ±1.5 meters of the previously authorized height; and

(ii) The overall height of the antenna structure is not increased as a result of the antenna extending above the height of the previously authorized structure, except when the new height of the antenna structure is 6.1 meters or less (above ground or man-made structure, as appropriate) after the change is made.

(6) Decreases in the overall height of an antenna structure, provided that, when notice to the FAA of proposed construction was required by part 17 of this chapter for the antenna structure at the previously authorized height, the applicant must comply with the provisions of § 101.21(a).

(7) Changes in the azimuth of the center of the main lobe of radiation of a point-to-point station's antenna by a maximum of one degree.

(8) Changes to the transmission line and other devices between the transmitter and the antenna when the effective radiated power of the station is not increased by more than one dB.

(d) Licensees may notify the Commission of permissible changes or correct erroneous information on a license not involving a major change (*i.e.*, a change that would be classified as a major amendment as defined by § 101.29) without obtaining prior Commission approval by filing FCC Form 494.

§ 101.63 Period of construction; certification of completion of construction.

(a) Each station authorized under this part must be in operation within 18 months from the initial date of grant. Modification of an operational station must be completed within 18 months of the date of grant of the applicable modification request.

(b) Failure to timely begin operation means the authorization cancels automatically and must be returned to the Commission.

(c) The frequencies associated with all point-to-multipoint authorizations which have cancelled automatically or otherwise been recovered by the Commission will again be made available for reassignment on a date and under terms set forth by Public Notice.

(d) Requests for extension of time to be in operation may be granted upon a showing of good cause, setting forth in detail the applicant's reasons for failure to have the facility operating in the prescribed period. Such requests must be submitted no later than 30 days prior to the end of the prescribed period to the Federal Communications Commission, Gettysburg, PA 17325–7245.

(e) Construction of any station must be completed by the date specified in the license as the termination date of the construction period. Licensees who fail to complete construction must return their authorization for cancellation within 5 days after the expiration of the construction period specified on the license.

§101.65 Forfeiture and termination of station authorizations.

(a) A license will be automatically forfeited in whole or in part without further notice to the licensee upon:

(1) The expiration of the construction period specified therein, or after such additional time as may be authorized by the Commission;

(2) The expiration of the license period specified therein, unless prior thereto an application for renewal of such license has been filed with the Commission; or

(3) The voluntary removal or alteration of the facilities, so as to render the station not operational for a period of 30 days or more.

(b) A license forfeited in whole or in part under the provisions of paragraph (a)(1) or (a)(2) of this section may be reinstated if the Commission, in its discretion, determines that reinstatement would best serve the public interest, convenience and necessity. Petitions for reinstatement filed pursuant to this subsection will be considered only if:

(1) The petition is filed within 30 days of the expiration date set forth in paragraph (a)(1) or (a)(2) of this section, whichever is applicable;

(2) The petition explains the failure to timely file such notification or application as would have prevented automatic forfeiture; and

(3) The petition sets forth with specificity the procedures which have been established to insure timely filings in the future.

(c) A special temporary authorization will automatically terminate upon the expiration date specified therein, or upon failure to comply with any special terms or conditions set forth therein. Operation may be extended beyond such termination date only after application and upon specific authorization by the Commission.

(d) If a station licensed under this part discontinues operation on a permanent basis, the licensee must forward the station license to the Federal Communications Commission, Gettysburg, Pennsylvania 17325, for cancellation. For purposes of this section, any station which has not operated for one year or more is considered to have been permanently discontinued. See §101.305 for additional rules regarding temporary and permanent discontinuation of service.

§101.67 License period.

Licenses for stations authorized under this part will be issued for a period not to exceed 10 years. Unless otherwise specified by the Commission, the expiration of regular licenses shall be on the date (month and day) selected by licensees in the year of expiration.

POLICIES GOVERNING MICROWAVE RELOCATION FROM THE 1850–1990 AND 2110–2200 MHZ BANDS

§101.69 Transition of the 1850–1990 and 2110–2200 MHz bands from the Fixed Microwave Services to Personal Communications Services and emerging technologies.

Fixed Microwave Services (FMS) frequencies in the 1850–1990 and 2110–2200 MHz bands listed in §§101.147 (c), (d) and (e) have been allocated for use by emerging technology (ET) services, including Personal Communications Services (PCS). The rules in this section provide for a transition period during which ET licensees may relocate existing FMS licensees using

these frequencies to other media or other fixed channels, including those in other microwave bands.

(a) ET licensees may negotiate with FMS licensees authorized to use frequencies in the 1850–1990 and 2110–2200 MHz bands, for the purpose of agreeing to terms under which the FMS licensees would—

(1) Relocate their operations to other fixed microwave bands or other media; or alternatively

(2) Accept a sharing arrangement with the ET licensee that may result in an otherwise impermissible level of interference to the FMS operations.

(b) FMS operations in the 1850–1990 and 2110–2200 MHz bands, with the exception of public safety facilities defined in § 101.77, will continue to be co-primary with other users of this spectrum until two years after the FCC commences acceptance of applications for ET services (voluntary negotiation period), and until one year after an ET licensee initiates negotiations for relocation of the fixed microwave licensee's operations (mandatory negotiation period). In the 1910–1930 MHz band allocated for unlicensed PCS, FMS operations will continue to be co-primary until one year after UTAM, Inc. initiates negotiations for relocation of the fixed microwave licensee's operations. Public safety facilities defined in § 101.77 will continue to be co-primary in these bands until three years after the Commission commences acceptance of applications for an emerging technology service (voluntary negotiation period), and until two years after an emerging technology service licensee or an emerging technology unlicensed equipment supplier or representative initiates negotiations for relocation of the fixed microwave licensee's operations (mandatory negotiation period). If no agreement is reached during either the voluntary or mandatory negotiation periods, an ET licensee may initiate involuntary relocation procedures. Under involuntary relocation, the incumbent is required to relocate, provided that the ET licensee meets the conditions of § 101.75.

[61 FR 29693, June 12, 1996]

§ 101.71 Voluntary negotiations.

During the two or three year voluntary negotiation period, negotiations are strictly voluntary and are not defined by any parameters. However, if the parties have not reached an agreement within one year after the commencement of the voluntary period, the FMS licensee must allow the ET licensee (if it so chooses) to gain access to the existing facilities to be relocated so that an independent third party can examine the FMS licensee's 2 GHz system and prepare an estimate of the cost and the time needed to relocate the FMS licensee to comparable facilities. The ET licensee must pay for any such estimate.

[61 FR 29694, June 12, 1996]

§ 101.73 Mandatory negotiations.

(a) If a relocation agreement is not reached during the two or three year voluntary period, the ET licensee may initiate a mandatory negotiation period. This mandatory period is triggered at the option of the ET licensee, but ET licensees may not invoke their right to mandatory negotiation until the voluntary negotiation period has expired.

(b) Once mandatory negotiations have begun, an FMS licensee may not refuse to negotiate and all parties are required to negotiate in good faith. Good faith requires each party to provide information to the other that is reasonably necessary to facilitate the relocation process. In evaluating claims that a party has not negotiated in good faith, the FCC will consider, *inter alia*, the following factors:

(1) Whether the ET licensee has made a *bona fide* offer to relocate the FMS licensee to comparable facilities in accordance with Section 101.75(b);

(2) If the FMS licensee has demanded a premium, the type of premium requested (*e.g.*, whether the premium is directly related to relocation, such as system-wide relocations and analog-to-digital conversions, versus other types of premiums), and whether the value of the premium as compared to the cost of providing comparable facilities is disproportionate (*i.e.*, whether there is a lack of proportion or relation between the two);

(3) What steps the parties have taken to determine the actual cost of relocation to comparable facilities;

(4) Whether either party has withheld information requested by the other party that is necessary to estimate relocation costs or to facilitate the relocation process.

(c) Any party alleging a violation of our good faith requirement must attach an independent estimate of the relocation costs in question to any documentation filed with the Commission in support of its claim. An independent cost estimate must include a specification for the comparable facility and a statement of the costs associated with providing that facility to the incumbent licensee.

[61 FR 29694, June 12, 1996]

§ 101.75 Involuntary relocation procedures.

(a) If no agreement is reached during either the voluntary or mandatory negotiation period, an ET licensee may initiate involuntary relocation procedures under the Commission's rules. ET licensees are obligated to pay to relocate only the specific microwave links to which their systems pose an interference problem. Under involuntary relocation, the FMS licensee is required to relocate, provided that the ET licensee:

(1) Guarantees payment of relocation costs, including all engineering, equipment, site and FCC fees, as well as any legitimate and prudent transaction expenses incurred by the FMS licensee that are directly attributable to an involuntary relocation, subject to a cap of two percent of the hard costs involved. Hard costs are defined as the actual costs associated with providing a replacement system, such as equipment and engineering expenses. ET licensees are not required to pay FMS licensees for internal resources devoted to the relocation process. ET licensees are not required to pay for transaction costs incurred by FMS licensees during the voluntary or mandatory periods once the involuntary period is initiated, or for fees that cannot be legitimately tied to the provision of comparable facilities;

(2) Completes all activities necessary for implementing the replacement facilities, including engineering and cost analysis of the relocation procedure and, if radio facilities are used, identifying and obtaining, on the incumbents' behalf, new microwave frequencies and frequency coordination; and

(3) Builds the replacement system and tests it for comparability with the existing 2 GHz system.

(b) *Comparable facilities.* The replacement system provided to an incumbent during an involuntary relocation must be at least equivalent to the existing FMS system with respect to the following three factors:

(1) *Throughput.* Communications throughput is the amount of information transferred within a system in a given amount of time. If analog facilities are being replaced with analog, the ET licensee is required to provide the FMS licensee with an equivalent number of 4 kHz voice channels. If digital facilities are being replaced with digital, the ET licensee must provide the FMS licensee with equivalent data loading bits per second (bps). ET licensees must provide FMS licensees with enough throughput to satisfy the FMS licensee's system use at the time of relocation, not match the total capacity of the FMS system.

(2) *Reliability.* System reliability is the degree to which information is transferred accurately within a system. ET licensees must provide FMS licensees with reliability equal to the overall reliability of their system. For digital data systems, reliability is measured by the percent of time the bit error rate (BER) exceeds a desired value, and for analog or digital voice transmissions, it is measured by the percent of time that audio signal quality meets an established threshold. If an analog voice system is replaced with a digital voice system, only the resulting frequency response, harmonic distortion, signal-to-noise ratio and its reliability will be considered in determining comparable reliability.

(3) *Operating costs.* Operating costs are the cost to operate and maintain the FMS system. ET licensees must compensate FMS licensees for any increased recurring costs associated with

the replacement facilities (*e.g.*, additional rental payments, increased utility fees) for five years after relocation. ET licensees may satisfy this obligation by making a lump-sum payment based on present value using current interest rates. Additionally, the maintenance costs to the FMS licensee must be equivalent to the 2 GHz system in order for the replacement system to be considered comparable.

(c) The FMS licensee is not required to relocate until the alternative facilities are available to it for a reasonable time to make adjustments, determine comparability, and ensure a seamless handoff.

(d) *Twelve-month trial period.* If, within one year after the relocation to new facilities, the FMS licensee demonstrates that the new facilities are not comparable to the former facilities, the ET licensee must remedy the defects or pay to relocate the microwave licensee to one of the following: its former or equivalent 2 GHz channels, another comparable frequency band, a land-line system, or any other facility that satisfies the requirements specified in paragraph (b) of this section. This trial period commences on the date that the FMS licensee begins full operation of the replacement link. If the FMS licensee has retained its 2 GHz authorization during the trial period, it must return the license to the Commission at the end of the twelve months.

[61 FR 29694, June 12, 1996]

§ 101.77 Public safety licensees in the 1850–1990 and 2110–2200 MHz bands.

(a) Public safety facilities are subject to the three-year voluntary and two-year mandatory negotiation period. In order for public safety licensees to qualify for extended negotiation periods, the department head responsible for system oversight must certify to the ET licensee requesting relocation that:

(1) The agency is a licensee in the Police Radio, Fire Radio, Emergency Medical, Special Emergency Radio Services, or that it is a licensee of other part 101 facilities licensed on a primary basis under the eligibility requirements of part 90, subparts B and C of this chapter; and

(2) The majority of communications carried on the facilities at issue involve safety of life and property.

(b) A public safety licensee must provide certification within thirty (30) days of a request from a ET licensee, or the ET licensee may presume that special treatment is inapplicable. If a public safety licensee falsely certifies to an ET licensee that it qualifies for the extended time periods, this licensee will be in violation of the Commission's rules and will subject to appropriate penalties, as well as immediately subject to the non-public safety time periods.

[61 FR 29695, June 12, 1996]

§ 101.79 Sunset provisions for licensees in the 1850–1990 and 2110–2200 MHz bands.

(a) FMS licensees will maintain primary status in the 1850–1990 and 2110–2200 MHz bands unless and until an ET licensee requires use of the spectrum. ET licensees are not required to pay relocation costs after the relocation rules sunset (*i.e.* ten years after the voluntary period begins for the first ET licensees in the service). Once the relocation rules sunset, an ET licensee may require the incumbent to cease operations, provided that the ET licensee intends to turn on a system within interference range of the incumbent, as determined by TIA Bulletin 10–F or any standard successor. ET licensee notification to the affected FMS licensee must be in writing and must provide the incumbent with no less than six months to vacate the spectrum. After the six-month notice period has expired, the FMS licensee must turn its license back into the Commission, unless the parties have entered into an agreement which allows the FMS licensee to continue to operate on a mutually agreed upon basis.

(b) If the parties cannot agree on a schedule or an alternative arrangement, requests for extension will be accepted and reviewed on a case-by-case basis. The Commission will grant such extensions only if the incumbent can demonstrate that:

(1) It cannot relocate within the six-month period (*e.g.*, because no alternative spectrum or other reasonable option is available), and;

(2) The public interest would be harmed if the incumbent is forced to terminate operations (*e.g.*, if public safety communications services would be disrupted).

[61 FR 29695, June 12, 1996]

§ 101.81 Future licensing in the 1850–1990 and 2110–2200 MHz bands.

After April 25, 1996, all major modifications and extensions to existing FMS systems in the 1850–1990 and 2110–2200 MHz bands will be authorized on a secondary basis to ET systems. All other modifications will render the modified FMS license secondary to ET operations, unless the incumbent affirmatively justifies primary status and the incumbent FMS licensee establishes that the modification would not add to the relocation costs of ET licensees. Incumbent FMS licensees will maintain primary status for the following technical changes:

(a) Decreases in power;

(b) Minor changes (increases or decreases) in antenna height;

(c) Minor location changes (up to two seconds);

(d) Any data correction which does not involve a change in the location of an existing facility;

(e) Reductions in authorized bandwidth;

(f) Minor changes (increases or decreases) in structure height;

(g) Changes (increases or decreases) in ground elevation that do not affect centerline height;

(h) Minor equipment changes.

[61 FR 29695, June 12, 1996]

Subpart C—Technical Standards

§ 101.101 Frequency availability.

Frequency band (MHz)	Radio service				
	Common carrier (Part 101)	Private radio (Part 101)	Broadcast auxiliary (Part 74)	Other (Parts 15, 21, 24, 25, 74, 78 & 100)	Notes
928–929		MAS			
932.0–932.5	MAS	MAS			(1)
932.5–935.0	CC	OFS			(1)
941.0–941.5	MAS	MAS			(1)
941.5–944.0	CC	OFS	Aural BAS		(1)
952–960		OFS/MAS			
1850–1990		OFS		PCS	
2110–2130	CC			PET	
72130–2150		OFS		PET	
2150–2160		OFS		MDS	
2160–2180	CC			ET	
2180–2200		OFS		PET	
2450–2500	LTTS	OFS	TV BAS	ISM	F/M/TF
2650–2690		OFS		MDS/ITFS	
3700–4200	CC LTTS	OFS		SAT	
5925–6425	CC LTTS	OFS		SAT	
6425–6525	LTTS	OFS	TV BAS	CARS	M
6525–6875	CC	OFS			F/TF
10,550–10,680	CC DEMS	OFS, DEMS			
10,700–11,700	CC LTTS	OFS		SAT	
11,700–12,200	LTTS			SAT	
12,200–12,700		OFS		DBS	
12,700–13,250	CC LTTS	OFS	TV BAS	CARS	F/M/TF
14,200–14,400	LTTS			SAT	
17,700–18,580	CC	OFS	TV BAS	SAT CARS	
18,580–18,820	CC	OFS	Aural BAS	SAT	
18,820–18,920	DEMS	OFS DEMS		SAT	
18,920–19,160	CC	OFS	Aural BAS	SAT	
19,160–19,260	DEMS	OFS DEMS		SAT	
19,260–19,700	CC	OFS	TV BAS	CARS SAT	
21,200–23,600	CC LTTS	OFS			TF
27,500–29,500	CC			SAT	
31,000–31,300	CC LTTS	OFS	TV BASCARS	F/M/TF	
38,600–40,000	CC	OFS	TV BAS		F/M/TF

BAS: Broadcast Auxiliary Service—(Part 74).
CARS: Cable Television Relay Service —(Part 78).
CC: Common Carrier Fixed Point-to-Point Microwave Service—(Part 101, Subparts C & I).

DBS: Direct Broadcast Satellite—(Part 100).
DEMS: Digital Electronic Message Service—(Part 101, Subpart G).
ET: Emerging Technologies (per ET Dkt. No. 92–9, not yet assigned).
ISM: Industrial, Scientific & Medical—(Part 18).
ITFS: Instructional Television Fixed Service—(Part 74)
LTTS: Local Television Transmission Service—(Part 101, Subpart J).
MAS: Multipoint Address System—(Part 101).7MDS: Multipoint Distribution Service—(Part 21).7OFS: Private Operational Fixed Point-to-Point Microwave Service—(Part 101, Subparts C & H).
PCS: Personal Communications Service—(Part 24).
SAT: Fixed Satellite Service—(Part 25).
Notes:
F—Fixed. M—Mobile. TF—Temporary Fixed.
(1)—Applications for frequencies in the 932.5–935/941.5–944 MHz bands may be filed initially during a one-week period to be announced by public notice. After these applications have been processed, the Commission will announce by public notice a filing date for remaining frequencies. From this filing date forward, applications will be processed on a daily first-come, first-served basis.

§ 101.103 Frequency coordination procedures.

(a) Assignment of frequencies will be made only in such a manner as to facilitate the rendition of communication service on an interference-free basis in each service area. Unless otherwise indicated, each frequency available for use by stations in these services will be assigned exclusively to a single applicant in any service area. All applicants for, and licensees of, stations in these services must cooperate in the selection and use of the frequencies assigned in order to minimize interference and thereby obtain the most effective use of the authorized facilities. In the event harmful interference occurs or appears likely to occur between two or more radio systems and such interference cannot be resolved between the licensees thereof, the Commission may specify a time sharing arrangement for the stations involved or may, after notice and opportunity for hearing, require the licensees to make such changes in operating techniques or equipment as it may deem necessary to avoid such interference.

(b) The provisions of this section do not apply to operations in the band 31.0 to 31.3 GHz. Operations in this band are unprotected and subject to harmful interference from other licensed operations in this band.

(c) Frequency diversity transmission will not be authorized in these services in the absence of a factual showing that the required communications cannot practically be achieved by other means. Where frequency diversity is deemed to be justified on a protection channel basis, it will be limited to one protection channel for the bands 3,700–4,200, 5925–6425, and 6525–6875 MHz, and a ratio of one protection channel for three working channels for the bands 10,550–10,680 and 10,700–11,700 MHz. In the bands 3,700–4,200, 5,925–6,425, and 6525–6875 MHz, no frequency diversity protection channel will be authorized unless there is a minimum of three working channels, except that where a substantial showing is made that a total of three working channels will be required within three years, a protection channel may be authorized simultaneously with the first working channel. A protection channel authorized under such exception will be subject to termination if applications for the third working channel are not filed within three years of the grant date of the applications for the first working channel. Where equipment employing digital modulation techniques with cross-polarized operation on the same frequency is used, the protection channel authorized under the above conditions may be considered to consist of both polarizations of the protection frequency where such is shown to be necessary.

(d) *Frequency coordination.* For each frequency authorized under this part, the following frequency usage coordination procedures will apply:

(1) *General requirements.* Proposed frequency usage must be prior coordinated with existing licensees, permittees and applicants in the area, and other applicants with previously filed applications, whose facilities could affect or be affected by the new proposal in terms of frequency interference on active channels, applied-for channels, or channels coordinated for future growth. Coordination must be completed prior to filing an application for regular authorization, or an amendment to a pending application, or any

major modification to a license. In coordinating frequency usage with stations in the fixed satellite service, applicants must also comply with the requirements of § 101.21(f). In engineering a system or modification thereto, the applicant must, by appropriate studies and analyses, select sites, transmitters, antennas and frequencies that will avoid interference in excess of permissible levels to other users. All applicants and licensees must cooperate fully and make reasonable efforts to resolve technical problems and conflicts that may inhibit the most effective and efficient use of the radio spectrum; however, the party being coordinated with is not obligated to suggest changes or re-engineer a proposal in cases involving conflicts. Applicants should make every reasonable effort to avoid blocking the growth of systems as prior coordinated. The applicant must identify in the application all entities with which the technical proposal was coordinated. In the event that technical problems are not resolved, an explanation must be submitted with the application. Where technical problems are resolved by an agreement or operating arrangement between the parties that would require special procedures be taken to reduce the likelihood of interference in excess of permissible levels (such as the use of artificial site shielding) or would result in a reduction of quality or capacity of either system, the details thereof may be contained in the application.

(2) Coordination procedure guidelines are as follows:

(i) Coordination involves two separate elements: notification and response. Both or either may be oral or in written form. To be acceptable for filing, all applications and major technical amendments must certify that coordination, including response, has been completed. The names of the licensees, permittees and applicants with coordinated proposals, applicants, permittees, and licensees with which coordination was accomplished must be specified. If such notice and/or response is oral, the party providing such notice or response must supply written documentation of the communication upon request;

(ii) Notification must include relevant technical details of the proposal. At minimum, this should include, as applicable, the following:

Applicant's name and address.
Transmitting station name.
Transmitting station coordinates.
Frequencies and polarizations to be added, changed or deleted.
Transmitting equipment type, its stability, actual output power, emission designator, and type of modulation (loading).
Transmitting antenna type(s), model, gain and, if required, a radiation pattern provided or certified by the manufacturer.
Transmitting antenna center line height(s) above ground level and ground elevation above mean sea level.
Receiving station name.
Receiving station coordinates.
Receiving antenna type(s), model, gain, and, if required, a radiation pattern provided or certified by the manufacturer.
Receiving antenna center line height(s) above ground level and ground elevation above mean sea level.
Path azimuth and distance.
Estimated transmitter transmission line loss expressed in dB.
Estimated receiver transmission line loss expressed in dB.

NOTE: The position location of antenna sites shall be determined to an accuracy of no less than ±1 second in the horizontal dimensions (latitude and longitude) and ±1 meter in the vertical dimension (ground elevation) with respect to the National Spacial Reference System.

(iii) For transmitters employing digital modulation techniques, the notification should clearly identify the type of modulation. Upon request, additional details of the operating characteristics of the equipment must also be furnished;

(iv) Response to notification should be made as quickly as possible, even if no technical problems are anticipated. Any response to notification indicating potential interference must specify the technical details and must be provided to the applicant, in writing, within the 30-day notification period. Every reasonable effort should be made by all applicants, permittees and licensees to eliminate all problems and conflicts. If no response to notification is received within 30 days, the applicant will be deemed to have made reasonable efforts to coordinate and may file its application without a response;

(v) The 30-day notification period is calculated from the date of receipt by the applicant, permittee, or licensee being notified. If notification is by mail, this date may be ascertained by:

(A) The return receipt on certified mail;

(B) The enclosure of a card to be dated and returned by the recipient; or

(C) A conservative estimate of the time required for the mail to reach its destination. In the last case, the estimated date when the 30-day period would expire should be stated in the notification.

(vi) An expedited prior coordination period (less than 30 days) may be requested when deemed necessary by a notifying party. The coordination notice should be identified as ''expedited'' and the requested response date should be clearly indicated. However, circumstances preventing a timely response from the receiving party should be accommodated accordingly. It is the responsibility of the notifying party to receive written concurrence (or verbal, with written to follow) from affected parties or their coordination representatives.

(vii) All technical problems that come to light during coordination must be resolved unless a statement is included with the application to the effect that the applicant is unable or unwilling to resolve the conflict and briefly the reason therefor;

(viii) Where a number of technical changes become necessary for a system during the course of coordination, an attempt should be made to minimize the number of separate notifications for these changes. Where the changes are incorporated into a completely revised notice, the items that were changed from the previous notice should be identified. When changes are not numerous or complex, the party receiving the changed notification should make an effort to respond in less than 30 days. When the notifying party believes a shorter response time is reasonable and appropriate, it may be helpful for that party to so indicate in the notice and perhaps suggest a response date;

(ix) If, after coordination is successfully completed, it is determined that a subsequent change could have no impact on some parties receiving the original notification, these parties must be notified of the change and of the coordinator's opinion that no response is required;

(x) Applicants, permittees and licensees should supply to all other applicants, permittees and licensees within their areas of operations, the name, address and telephone number of their coordination representatives. Upon request from coordinating applicants, permittees and licensees, data and information concerning existing or proposed facilities and future growth plans in the area of interest should be furnished unless such request is unreasonable or would impose a significant burden in compilation;

(xi) Parties should keep other parties with whom they are coordinating advised of changes in plans for facilities previously coordinated. If applications have not been filed 6 months after coordination was initiated, parties may assume that such frequency use is no longer desired unless a second notification has been received within 10 days of the end of the 6 month period. Renewal notifications are to be sent to all originally notified parties, even if coordination has not been successfully completed with those parties; and

(xii) Any frequency reserved by a licensee for future use in the bands subject to this part must be released for use by another licensee, permittee or applicant upon a showing by the latter that it requires an additional frequency and cannot coordinate one that is not reserved for future use.

(e) Where frequency conflicts arise between co-pending applications in the Private Operational Fixed Point-to-Point Microwave, Common Carrier Fixed Point-to-Point Microwave and Local Television Transmission Services, it is the obligation of the later filing applicant to amend his application to remove the conflict, unless it can make a showing that the conflict cannot be reasonably eliminated. Where a frequency conflict is not resolved and no showing is submitted as to why the conflict cannot be resolved, the Commission may grant the first filed application and dismiss the later filed application(s) after giving the later filing

applicant(s) 30 days to respond to the proposed action.

(f) When the proposed facilities are to be operated in the band 12,500–12,700 MHz, applications must also follow the procedures in § 101.21 and the technical standards and requirements of part 25 of this chapter as regards licensees in the Communication-Satellite Service.

§ 101.105 Interference protection criteria.

(a) The interference protection criteria for fixed stations subject to this part are as follows:

(1) To long-haul analog systems, employing frequency modulated radio and frequency division multiplexing to provide multiple voice channels, the allowable interference level per exposure:

(i) Due to co-channel sideband-to-sideband interference must not exceed 5 pwpO (Picowatts of absolute noise power psophometrically weighted (pwpO), appearing in an equivalent voice band channel of 300–3400 Hz); or

(ii) Due to co-channel carrier-beat interference must not exceed 50 pwpO.

(2) To short-haul analog systems employing frequency modulated radio and frequency division multiplexing to provide multiple voice channels, the allowable interference level per exposure:

(i) Due to co-channel sideband-to-sideband interference must not exceed 25 pwpO except in the 952–960 MHz band interference into single link fixed relay and control stations must not exceed 250 pwpO per exposure; or

(ii) Due to co-channel carrier-beat interference must not exceed 50 pwpO except in the 952–960 MHz band interference into single link fixed relay and control stations must not exceed 1000 pwpO per exposure.

(3) FM–TV. In analog systems employing frequency modulated radio that is modulated by a standard, television (visual) signal, the allowable interference level per exposure may not exceed the levels which would apply to long-haul or short-haul FM–FDM systems, as outlined in paragraphs (b) (1) and (2) of this section, having a 600–1200 voice channel capacity.

(b) In addition to the requirements of paragraph (a) of this section the adjacent channel interference protection criteria to be afforded, regardless of system length, or type of modulation, multiplexing, or frequency band, must be such that the interfering signal does not produce more than 1.0 dB degradation of the practical threshold of the protected receiver. The ''practical threshold'' of the protected receiver can be based upon the definition in TSB 10, referenced in paragraph (c) of this section, or upon alternative generally acceptable good engineering standards.

(c) *Applying the criteria.* (1) Guidelines for applying the interference protection criteria for fixed stations subject to this part are specified in the Telecommunications Industry Association's Telecommunications Systems Bulletin TSB 10, ''Interference Criteria for Microwave Systems'' (TSB 10). Other procedures that follow generally acceptable good engineering practices are also acceptable to the Commission.

(2) If TSB 10 guidelines cannot be used, the following interference protection criteria may be used by calculating the ratio in dB between the desired (carrier signal) and the undesired (interfering) signal (C/I ratio) appearing at the input to the receiver under investigation (victim receiver): Except as provided in § 101.147 where the applicants proposed facilities are of a type not included in paragraphs (a) and (b) of this section or where the development of the carrier-to-interference (C/I) ratio is not covered by generally acceptable procedures, or where the applicant does not wish to develop the carrier-to-interference ratio, the applicant must, in the absence of criteria or a developed C/I ratio, employ the following C/I protection ratios:

(i) *Co-channel interference.* Both sideband and carrier-beat, applicable to all bands; the existing or previously authorized system must be afforded a carrier to interfering signal protection ratio of at least 90 dB except in the 952–960 MHz band where it must be 75 dB; or

(ii) *Adjacent channel interference.* Applicable to all bands; the existing or previously authorized system must be afforded a carrier to interfering signal protection ratio of at least 56 dB.

(3) Applicants for frequencies listed in § 101.147(b)(1) must make the following showings that protection criteria

have been met over the entire service area of existing systems. Such showings may be made by the applicant or may be satisfied by a statement from a frequency coordinator.

(i) For multiple address stations in the 928–929/952–960 MHz bands, a statement that the proposed system complies with the following co-channel separations from all existing stations and pending applications:

Fixed-to-fixed—145 km;
Fixed-to-mobile—113 km:
Mobile-to-mobile 81 km

NOTE TO (3)(i): Multiple address systems employing only remote stations will be treated as mobile for the purposes of determining the appropriate separation. For mobile operation, the mileage is measured from the reference point specified on the license application. For fixed operation on subfrequencies in accordance with § 101.147 the mileage also is measured from the reference point specified on the license application;

(ii) For multiple address stations in the 932–932.5/941–941.5 MHz bands, a statement that the proposed system complies with the following co-channel separation from all existing stations and pending applications:

Fixed-to-fixed—113 Km

(iii) In cases where the geographic separation standard in paragraphs (c)(3)(i) and (c)(3)(ii) of this section are not followed, an engineering analysis must be submitted to show the coordination of the proposed assignment with existing systems located closer than those standards. The engineering analyses will include:

(A) Specification of the interference criteria and system parameters used in the interference study;

(B) Nominal service areas of each system included in the interference analysis.;

(C) Modified service areas resulting from the proposed system. The propagation models used to establish the service boundary limits must be specified and any special terrain features considered in computing the interference impact should be described; and

(D) A statement that all parties affected have agreed to the engineering analysis and will accept the calculated levels of interference.

(4) Multiple address systems operating on subfrequencies in accordance with § 101.147 that propose to operate master stations at unspecified locations must define the operating area by a radius about a geographical coordinate and describe how interference to co-channel users will be controlled.

(5) Multiple address frequencies in the 956 MHz band may be assigned for use by mobile master stations on a primary basis. Multiple address frequencies in the 952 MHz band may be assigned for use by mobile master stations on a case-by-case basis. Mobile operation in the 952 MHz band will be on a secondary basis to fixed operations.

(6) Each application for new or modified nodal station on channels numbered 4A, 4B, 7, 9, and 19/20 in the 10.6 GHz band and all point-to-multipoint channels in the 18 GHz band must demonstrate that all existing co-channel stations are at least 56 kilometers from the proposed nodal station site. Applicants for these channels must certify that all licensees and applicants for stations on the adjacent channels within 56 kilometers of the proposed nodal station have been notified of the proposed station and do not object. Alternatively, or if one of the affected adjacent channel interests does object, the applicant may show that all affected adjacent channel parties are provided a C/I protection ratio of 0 dB. An applicant proposing to operate at an AAT greater than 91 meters must reduce its EIRP in accordance with the following table; however, in no case may EIRP exceed 70 dBm on the 10.6 GHz channels.

AAT (meters)	EIRP dBm
Above 300	+38
251 to 300	41
201 to 250	43
151 to 200	49
101 to 150	55
100 and below	85

(7) Each application for new or modified nodal station on channels numbered 21, 22, 23, and 24 in the 10.6 GHz band must include an analysis of the potential for harmful interference to all other licensed and previously applied for co-channel and adjacent channel station located within 80 kilometers of the location of the proposed station. The criteria contained in

§ 101.103(d)(2) must be used in this analysis. Applicants must certify that copies of this analysis have been served on all parties which might reasonably be expected to receive interference above the levels set out in § 101.103(d)(2) within 5 days of the date the subject application is filed with the Commission.

(8) If the potential interference will exceed the prescribed limits, a statement shall be submitted with the application for new or modified stations to the effect that all parties have agreed to accept the higher level of interference.

(d) Effective August 1, 1985, when a fixed station that conforms to the technical standards of this subpart (or, in the case of the 12,200–12,700 MHz band, a direct broadcast satellite station) receives or will receive interference in excess of the levels specified in this section as a result of an existing licensee's use of non-conforming equipment authorized between July 20, 1961 and July 1, 1976, and the interference would not result if the interfering station's equipment complied with the current technical standards, the licensee of the non-conforming station must take whatever steps are necessary to correct the situation up to the point of installing equipment which fully conforms to the technical standards of this subpart. In such cases, if the engineering analysis demonstrates that:

(1) The conforming station would receive interference from a non-conforming station in excess of the levels specified in this section; and

(2) The interference would be eliminated if the non-conforming equipment were replaced with equipment which complies with the standards of this subpart, the licensee (or prospective licensee) of the station which would receive interference must provide written notice of the potential interference to both the non-conforming licensee and the Commission's office in Gettysburg, PA. The non-conforming licensee must make all required equipment changes within 180 days from the date of official Commission notice informing the licensee that it must upgrade its equipment, unless an alternative solution has been agreed to by all parties involved in the interference situation. If a non-conforming licensee fails to make all required changes within the specified period of time, the Commission may require the licensee to suspend operation until the changes are completed.

(e) *Interference dispute resolution procedures.* Should a licensee licensed under this part receive harmful interference from another licensee licensed under this chapter, the parties involved shall comply with the dispute resolution procedures set forth herein:

(1) The licensee experiencing the harmful interference shall notify the licensee believed to be causing the harmful interference and shall supply information describing its problem and supporting its claim;

(2) Upon receipt of the harmful interference notice, the licensee alleged to be causing the harmful interference shall respond immediately and make every reasonable effort to identify and resolve the conflict; and

(3) Licensees are encouraged to resolve the harmful interference prior to contacting the Commission.

§ 101.107 Frequency tolerance.

(a) The carrier frequency of each transmitter authorized in these services must be maintained within the following percentage of the reference frequency except as otherwise provided in paragraph (b) of this section or in the applicable subpart of this part (unless otherwise specified in the instrument of station authorization the reference frequency will be deemed to be the assigned frequency):

Frequency (MHz)	Frequency Tolerance (percent)		
	All fixed and base stations	Mobile stations over 3 watts	Mobile stations 3 watts or less
928 to 929 [2, 5]	0.0005	.....	.....
932 to 932.5 [2]	0.00015	.....	.....
932.5 to 935 [2]	0.00025	.....	.....
941 to 941.5	0.00015	.....	.....

Frequency (MHz)	Frequency Tolerance (percent)		
	All fixed and base stations	Mobile stations over 3 watts	Mobile stations 3 watts or less
941.5 to 944	0.00025	.....	.....
952 to 960 [7]	.....	.....	.....
944.0 to 1,000	0.0005	0.0005	0.0005
1,850 to 1,990	0.002	.....	.....
2,110 to 2,200	0.001	.....	.....
2,200 to 12,200 [1, 3]	0.005	0.005	0.005
2,450 to 2,500	0.001	.....	.....
3,700 to 4,200	0.005	.....	.....
5,925 to 6,875	0.005	.....	.....
10,550 to 11,700	0.005	.....	.....
12,200 to 13,250 [6]	0.005	.....	.....
12,200 to 17,700	0.03	0.03	0.03
17,700 to 18,820 [4, 5]	0.003	.....	.....
18,820 to 18,920 [4, 5]	0.001	.....	.....
18,920 to 19,700 [4, 5]	0.003	.....	.....
19,700 to 40,000 [6]	0.03	0.03	0.03

[1] Applicable only to common carrier LTTS stations. Beginning Aug. 9, 1975, this tolerance will govern the marketing of LTTS equipment and the issuance of all such authorizations for new radio equipment. Until that date new equipment may be authorized with a frequency tolerance of .03 percent in the frequency range 2,200 to 10,500 MHz and .05 percent in the range 10,500 MHz to 12,200 MHz, and equipment so authorized may continue to be used for its life provided that it does not cause interference to the operation of any other licensee.

[2] Equipment authorized to be operated on frequencies between 890 and 940 MHz as of Oct. 15, 1956, must maintain a frequency tolerance within 0.03 percent subject to the condition that no harmful interference is caused to any other radio station.

[3] See subpart G of this part for the stability requirements for transmitters used in the Digital Electronic Message Service.

[4] Existing type accepted equipment with a frequency tolerance of ±0.03% may be marketed until December 1, 1988. Equipment installed and operated prior to December 1, 1988 may continue to operate after that date with a minimum frequency tolerance of ±0.03%. However, the replacement of equipment requires that the ±0.003% tolerance be met.

[5] For remote stations with 12.5 KHz bandwidth, the tolerance is ±0.00015%.

[6] Applicable to private operational fixed point-to-point microwave only. For exceptions see § 101.147.

[7] For private operational fixed point-to-point microwave systems, with a channel greater than or equal to 50 KHz bandwidth, ±0.0005%; for multiple address master stations, regardless of bandwidth, ±0.00015%; for multiple address remote stations with 12.5 KHz bandwidths, ±0.00015%; for multiple address remote stations with channels greater than 12.5 KHz bandwidth, ±0.0005%.

(b) Heterodyne microwave radio systems may be authorized at a somewhat less restrictive frequency tolerance (up to .01 percent) to compensate for frequency shift caused by numerous repeaters between base band signal insertion. Where such relaxation is sought, applicant must provide all calculations and indicate the desired tolerance over each path. In such instances the radio transmitters and receivers used must individually be capable of complying with the tolerance specified in paragraph (a) of this section. Heterodyne operation is restricted to channel bandwidth of 10 MHz or greater.

(c) As an additional requirement in any band where the Commission makes assignments according to a specified channel plan, provisions must be made to prevent the emission included within the occupied bandwidth from radiating outside the assigned channel at a level greater than that specified in § 101.111.

§ 101.109 Bandwidth.

(a) Each authorization issued pursuant to these rules will show, as the emission designator, a symbol representing the class of emission which must be prefixed by a number specifying the necessary bandwidth. This figure does not necessarily indicate the bandwidth actually occupied by the emission at any instant. In those cases where part 2 of this chapter does not provide a formula for the computation of the necessary bandwidth, the occupied bandwidth may be used in the emission designator.

(b) Stations in this service will be authorized any type of emission, method of modulation, and transmission characteristic, consistent with efficient use of the spectrum and good engineering practice, except that Type B, damped-wave emission will not be authorized.

(c) The maximum bandwidth which will be authorized per frequency assigned is set out in the table that follows. Regardless of the maximum authorized bandwidth specified for each

frequency band, the Commission reserves the right to issue a license for less than the maximum bandwidth if it appears that a lesser bandwidth would be sufficient to support an applicant's intended communications.

Frequency band (MHz)	Maximum authorized bandwidth
928 to 929	25 KHz [1, 6]
932 to 932.5, 941 to 941.5	12.5 KHz [1]
932.5 to 935, 941.5 to 944	200 KHz [1]
952 to 960	200 KHz [1, 5]
1,850 to 1,990	10 MHz [1]
2,110 to 2,130	3.5 MHz
2,130 to 2,150	800 or 1600 KHz [1]
2,150 to 2,160	10 MHz
2,160 to 2,180	3.5 MHz
2,180 to 2,200	800 or 1600 KHz [1]
2,450 to 2,483.5	625 KHz [2]
2,483.5 to 2,500	800 KHz
3,700 to 4,200	20 MHz
5,925 to 6,425	30 MHz [1]
6,425 to 6,525	25 MHz
6,525 to 6,875	10 MHz [1]
10,550 to 10,680	5 MHz [1]
10,700 to 11,700	40 MHz [1]
12,200 to 12,700	20 MHz [1]
13,200 to 13,250	25 MHz
17,700 to 18,140	220 MHz [1]
18,140 to 18,142	2 MHz
18,142 to 18,580	6 MHz
18,580 to 18,820	20 MHz [1]
18,820 to 18,920	10 MHz
18,920 to 19,160	20 MHz [1]
19,160 to 19,260	10 MHz
19,260 to 19,700	220 MHz [1]
21,200 to 23,600	100 MHz [4]
27,500 to 28,350	850 MHz
27,500 to 29,500	220 MHz
29,100 to 29,250	150 MHz
31,000 to 31,300	25 or 50 MHz
38,600 to 40,000	50 MHz Bands above 40,000 [3]

[1] The maximum bandwidth that will be authorized for each particular frequency in this band is detailed in the appropriate frequency table in § 101.147.
[2] 1250 KHz, 1875 KHz, or 2500 KHz on a case-by-case basis.
[3] To be specified in authorization.
[4] For exceptions, see § 101.147(t).
[5] A 12.5 KHz bandwidth applies only to frequencies listed in § 101.147(b)(1).
[6] For frequencies listed in § 101.147(b)(1), consideration will be given on a case-by-case basis to authorizing bandwidths up to 50 KHz.

[61 FR 26677, May 28, 1996, as amended at 61 FR 44181, Aug. 28, 1996]

EFFECTIVE DATE NOTE: At 61 FR 44181, Aug. 28, 1996, § 101.109 was amended in paragraph (c) by removing the entry for 27,500 to 29,500 MHz from the table and adding entries for 27,500 to 28,350 MHz and 29,100 to 29,250 MHz to the table, effective Oct. 28, 1996.

§ 101.111 Emission limitations.

(a) The mean power of emissions must be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) When using transmissions other than those employing digital modulation techniques:

(i) On any frequency removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: At least 25 decibels;

(ii) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: At least 35 decibels;

(iii) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least $43+10 \text{ Log}_{10}$ (mean output power in watts) decibels, or 80 decibels, whichever is the lesser attenuation.

(2) When using transmissions employing digital modulation techniques (see § 101.141(b)) in situations not covered in this section:

(i) For operating frequencies below 15 GHz, in any 4 KHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 50 decibels:

$A=35+0.8(P-50)+10 \text{ Log}_{10}B$. (Attenuation greater than 80 decibels is not required.)

where:

A=Attenuation (in decibels) below the mean output power level.

P=Percent removed from the carrier frequency.

B=Authorized bandwidth in MHz.

(ii) For operating frequencies above 15 GHz, in any 1 MHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 11 decibels:

$A=11+0.4(P-50)+10 \text{ Log}_{10}B$. (Attenuation greater than 56 decibels is not required.)

(iii) In any 4 KHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least $43+10 \text{ Log}_{10}$ (mean output

power in watts) decibels, or 80 decibels, whichever is the lesser attenuation.

(3) For Digital Termination System channels used in the Digital Electronic Message Service (DEMS) operating in the 10,550–10,680 MHz band:

(i) In any 4 KHz band, the center frequency of which is removed from the edge of the DEMS channel by up to and including 1.125 times the DEMS subchannel bandwidth: As specified by the following equation may in no event be less than $50+10 \log_{10} N$ decibels:

$A=50+0.0333 (F–0.5B)+10 \log_{10} N$ decibels

Where:

A=Attenuation (in decibels) below means output power level contained within the DEMS channel for a given polarization.

B=Bandwidth of DEMS channel (in KHz).

F=Absolute value of the difference between the center frequency of the 4 KHz band measured and the center frequency of the DEMS channel (in KHz).

N=Number of active subchannels of the given polarization within the DEMS channel.

(ii) In any 4 KHz band within the authorized DEMS band the center frequency of which is removed from the center frequency of the DEMS channel by more than the sum of 50% of the DEMS channel bandwidth plus 1.125 times the subchannel bandwidth: As specified by the following equation but in no event less than 80 decibels:

$A=80+10 \log_{10} N$ decibels

(iii) In any 4 KHz band the center frequency of which is outside the authorized DEMS band: At least $43+10 \log_{10}$ (mean output power in watts) decibels.

(4) For Digital Termination System channels used in the Digital Electronic Message Service (DEMS) operating in the 17,700–19,700 MHz band:

(i) In any 4 KHz band, the center frequency of which is removed from the frequency of the center of the DEMS channel by more than 50 percent of the DEMS channel bandwidth up to and including 50 percent plus 500 KHz: As specified by the following equation but in no event be less than $50+10 \log_{10} N$ decibels:

$A=50+0.06 (F–0.5B)+10 \log_{10} N$ decibels

Where:

A=Attenuation (in decibels) below means output power level contained within the DEMS channel for a given polarization.

B=Bandwidth of DEMS channel (in KHz).

F=Absolute value of the difference between the center frequency of the 4 KHz band measured and the center frequency of the DEMS channel (in KHz).

N=Number of active subchannels of the given polarization within the DEMS channel.

(ii) In any 4 KHz band within the authorized DEMS band, the center frequency of which is removed from the center frequency of the DEMS channel by more than the sum of 50 percent of the channel bandwidth plus 500 KHz: As specified by the following equation but in no event less than 80 decibels:

$A=80+10 \log_{10} N$ decibels

(iii) In any 4 KHz band the center frequency of which is outside the authorized Digital Message Service band: At least $43+10 \log_{10}$ (mean output power in watts) decibels.

(5) When using transmissions employing digital modulation techniques on the 900 MHz multiple address frequencies with a 12.5 KHz bandwidth, the power of any emission must be attenuated below the unmodulated carrier power of the transmitter (P) in accordance with the following schedule:

(i) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in KHz) of more than 2.5 KHz up to and including 6.25 KHz: At least $53 \log_{10}$ (fd/2.5) decibels;

(ii) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in KHz) of more than 6.25 KHz up to and including 9.5 KHz: At least $103 \log_{10}$ (fd/3.9) decibels;

(iii) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in KHz) of more than 9.5 KHz up to and including 15 KHz: At least $157 \log_{10}$ (fd/5.3) decibels; and

(iv) On any frequency removed from the center of the authorized bandwidth by a displacement frequency greater than 15 KHz: At least 50 plus $10 \log_{10}(P)$

or 70 decibels, whichever is the lesser attenuation.

(6) When using transmissions employing digital modulation techniques on the 900 MHz multiple address frequencies with a bandwidth greater than 12.5 KHz, the power of any emission must be attenuated below the unmodulated carrier power of the transmitter (P) in accordance with the following schedule:

(i) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in KHz) of more than 5 KHz up to and including 10 KHz: At least 83 $\log_{10}$ (fd/5) decibels;

(ii) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in KHz) of more than 10 KHz up to and including 250 percent of the authorized bandwidth: At least 116 $\log_{10}$ (fd/6.1) decibels or 50 plus 10 $\log_{10}$ (P) or 70 decibels, whichever is the lesser attenuation; and

(iii) On any frequency removed from the center of the authorized bandwidth by more that 250 percent of the authorized bandwidth: At least 43 plus 10 $\log_{10}$ (output power in watts) decibels or 80 decibels, whichever is the lesser attenuation.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in paragraph (a) of this section.

(c) The emission of an unmodulated carrier is prohibited except for test purposes as required for proper station and system maintenance.

§ 101.113 Transmitter power limitations.

(a) On any authorized frequency, the average power delivered to an antenna in this service must be the minimum amount of power necessary to carry out the communications desired. Application of this principle includes, but is not to be limited to, requiring a licensee who replaces one or more of its antennas with larger antennas to reduce its antenna input power by an amount appropriate to compensate for the increased primary lobe gain of the replacement antenna(s). In no event shall the average equivalent isotropically radiated power (EIRP), as referenced to an isotropic radiator, exceed the values specified below. In cases of harmful interference, the Commission may, after notice and opportunity for hearing, order a change in the effective radiated power of this station. Further, the output power of a transmitter on any authorized frequency in this service may not exceed the following:

Frequency Band (MHz)	Maximum allowable EIRP [1 2]	
	Fixed (dBW)	Mobile (dBW)
928.0 to 929.0	+17	.....
932.0 to 932.5	+17	.....
932.5 to 935.0	+40	.....
941.0 to 941.5	+30	.....
941.5 to 944.0	+40	.....
952.0 to 960.0 [2]	+40	.....
1,850 to 1,990	+45	.....
2,110 to 2,130	+45	.....
2,130 to 2,150	+45	.....
2,150 to 2,160 [3]	+45	.....
2,160 to 2,180 [3]	+45	.....
2,180 to 2,200	+45	.....
2,450 to 2,500	+45	.....
2,500 to 2,686 [4]	.....	.....
2,686 to 2,690 [4]	+45	.....
3,700 to 4,200	+55	.....
5,925 to 6,425 [4]	+55	.....
6,425 to 6,525 [4]	.....	+35
6,525 to 6,875 [4]	+55	.....
10,550 to 10,680 [5]	+55	.....
10,700 to 11,700	+55	.....
12,200 to 12,700	+50	.....
12,700 to 13,250 [4]	+50	.....
17,700 to 18,600	+55	.....
18,600 to 18,800 [6]	+35	.....
18,800 to 19,700	+55	.....
21,200 to 23,600 [7]	[5] +55	.....
27,500 to 28,350	55	.....
27,500 to 29,500	+55	.....
29,100 to 29,250	([7])	
31,000 to 31,300	([8])	([8])
38,600 to 40,000	+55	.....

[1] Per polarization.

[2] For multiple address operations, see § 101.147. Remote alarm units that are part of a multiple address central station protection system are authorized a maximum of 2 watts.

[3] When an omnidirectional antenna is authorized in the 2150–2160 MHz band, the maximum power shall be 60 dBm.

[4] Also, see § 101.145.

[5] The output power of a DEMS System nodal transmitter shall not exceed 0.5 watts per 250 KHz. The output power of a DEMS System user transmitter shall not exceed 0.04 watts per 250 KHz. The transmitter power in terms of the watts specified is the peak envelope power of the emission measured at the associated antenna input port. The operating power shall not exceed the authorized power by more than 10 percent of the authorized power in watts at any time.

[6] Maximum power delivered to the antenna shall not exceed −3 dBW.

[7] Also, see § 101.147(t).

[7] See § 101.113(c). (Added at 61 FR 44182, Aug. 28, 1996).

[8] The maximum transmit power is 0.05 watts.

(b) The power of transmitters that use Automatic Transmitter Power Control shall not exceed the power input or

output specified in the instrument of station authorization. The power of non-ATPC transmitters shall be maintained as near as practicable to the power input or output specified in the instrument of station authorization.

(c)(1) *Transmitter power limitations.* Point-to-point stations in the 29.1–29.25 GHz band for the LMDS backbone between LMDS hubs shall be limited to a maximum allowable e.i.r.p. density per carrier of 23 dBW/MHz in any one megahertz in clear air, and may exceed this limit by employment of adaptive power control in cases where link propagation attenuation exceeds the clear air value due to precipitation and only to the extent that the link is impaired.

(2) *Hub transmitter EIRP spectral area, density limit.* LMDS applicants shall demonstrate that, under clear air operating conditions, the maximum aggregate of LMDS transmitting hub stations in a Basic Trading Area in the 29.1–29.25 GHz band will not transmit a co-frequency hub-to-subscriber e.i.r.p. spectral area density in any azimuthal direction in excess of X dBW/(MHz–km²) when averaged over any 4.375 MHz band, where X is defined in Table 1. Individual hub stations may exceed their clear air e.i.r.p.s by employment of adaptive power control in cases where link propagation attenuation exceeds the clear air value and only to the extent that the link is impaired.

(i) The e.i.r.p. aggregate spectral area density is calculated as follows:

$$10\log_{10}\ 1/A\sum_{i=1}^{N} pigi\ \text{dBW/MHz-km}^2$$

where:

N=number of co-frequency hubs in BTA.

A=Area of BTA in km².

pi=spectral power density into antenna of i-th hub (in W/MHz).

gi=gain of i-th hub antenna at zero degree elevation angle.

Each pi and gi are in the same 1 MHz within the designated frequency band.

(ii) The climate zones in Table 1 are defined for different geographic locations within the US as shown in Appendix 28 of the ITU Radio Regulations.

TABLE 1 [1]

Climate zone	e.i.r.p. Spectral Density (Clear Air) (dBW/MHz–km²) [2]
1	−23
2	−25
3,4,5	−26

[1] LMDS system licensees in two or more BTAs may individually or collectively deviate from the spectral area density computed above by averaging the power over any 200 km by 400 km area, provided that the aggregate interference to the satellite receiver is no greater than if the spectral area density were as specified in Table 1. A showing to the Commission comparing both methods of computation is required and copies shall be served on any affected non-GSO 20/30 GHz MSS providers.

[2] See § 21.1007(c)(i) for the population density of the BTA.

(3) *Hub transmitter e.i.r.p. spectral area density limit at elevation angles above the horizon.* LMDS applicants shall demonstrate that, under clear air operating conditions, the maximum aggregate of LMDS transmitting hub stations in a Basic Trading Area in the 29.1–29.25 GHz band will not transmit a co-frequency hub-to-subscriber e.i.r.p. spectral area density in any azimuthal direction in excess of X dBW/(MHz-km²) when averaged over any 4.375 MHz band where X is defined in Table 2. Individual hub stations may exceed their clear air e.i.r.p.s by employment of adaptive power control in cases where link propagation attenuation exceeds the clear air value and only to the extent that the link is impaired.

(i) The e.i.r.p. aggregate spectral area density is calculated as follows:

$$10\log_{10}\ 1/A\sum_{i=1}^{N} \text{e.i.r.p.(ai)}\ \text{dBW/MHz-km}^2$$

where:

N=number of co-frequency hubs in BTA.

A=Area of BTA in km².

e.i.r.p. (ai)=equivalent isotropic radiated spectral power density of the i-th hub (in W/MHz) at elevation angle a where a is the angle in degrees of elevation above horizon. e.i.r.p.(0°) is the hub e.i.r.p. area density at the horizon used in Section 101.113c(2). The nominal antenna pattern will be used for elevation angles between 0° and 8°, and average levels will be used for angles beyond 8°, where average levels will be calculated by sampling the antenna patterns in each 1° interval between 8° and 9015, dividing by 83.

TABLE 2

Elevation angle (a)	Relative e.i.r.p. density (dBW/MHz-km^2)
$0° \leq a \leq 4.0°$	e.i.r.p.(a) = e.i.r.p.(0°) + 20 log (sinΠx)(1/Πx) where x = (a + 1)/7.5°.
$4.0° < a \leq 7.7°$	e.i.r.p.(a) = e.i.r.p.(0°) - 3.85a + 7.7.
$a > 7.7°$	e.i.r.p.(a) = e.i.r.p.(0°) - 22.

(ii) LMDS system licensees in two or more BTAs may individually or collectively deviate from the spectral area density computed above by averaging the power over any 200 km by 400 km area, provided that the aggregate interference to the satellite receiver is no greater than if the spectral area density were as specified in Table 1. A showing to the Commission comparing both methods of computation is required and copies shall be served on any affected non-GSO MSS providers.

(4) *Power reduction techniques.* LMDS hub transmitters shall employ methods to reduce average power levels received by non-geostationary mobile satellite receivers, to the extent necessary to comply with paragraphs (c)(1) and (c)(2) of this section, by employing the methods set forth below:

(i) *Alternate polarizations.* LMDS hub transmitters in the LMDS service area may employ both vertical and horizontal linear polarizations such that 50 percent (plus or minus 10 percent) of the hub transmitters shall employ vertical polarization and 50 percent (plus or minus 10 percent) shall employ horizontal polarization.

(ii) *Frequency interleaving.* LMDS hub transmitters in the LMDS service area may employ frequency interleaving such that 50 percent (plus or minus 10 percent) of the hub transmitters shall employ channel center frequencies which are different by one-half the channel bandwidth of the other 50 percent (plus or minus 10 percent) of the hub transmitters.

(iii) *Alternative methods.* As alternatives to paragraphs (c)(4)(i) and (c)(4)(ii) of this section, LMDS operators may employ such other methods as may be shown to achieve equivalent reductions in average power density received by non-GSO MSS satellite receivers.

[61 FR 26677, May 28, 1996, as amended at 61 FR 44182, Aug. 28, 1996]

EFFECTIVE DATE NOTE: At 61 FR 44182, Aug. 28, 1996, § 101.113 was amended in paragraph (a) by removing the entry for 27,500 to 29,500 MHz from the table and adding entries for 27,500 to 28,350 MHz and 29,100 to 29,250 MHz to the table and by adding a new paragraph (c), effective Oct. 28, 1996.

§ 101.115 Directional antennas.

(a) Unless otherwise authorized upon specific request by the applicant, each station authorized under the rules of this part must employ a directional antenna adjusted with the center of the major lobe of radiation in the horizontal plane directed toward the receiving station with which it communicates: *provided, however,* where a station communicates with more than one point, a multi- or omni-directional antenna may be authorized if necessary. New Periscope antenna systems will not, under ordinary circumstances, be authorized.

(b) Stations operating below 932.5 MHz that are required to use directional antennas must employ antennas meeting the standards indicated below. (Maximum beamwidth is for the major lobe of radiation at the half power points. Suppression is the minimum attenuation required for any secondary lobe signal and is referenced to the maximum signal in the main lobe.)

Frequency range	Maximum beamwidth (degrees)	Suppression (dB)
512 to 932.5 MHz	20	13

(c) Fixed stations (other than temporary fixed stations and DEMS nodal stations) operating at 932.5 MHz or higher must employ transmitting and receiving antennas (excluding second receiving antennas for operations such as space diversity) meeting the appropriate performance Standard A indicated below, except that in areas not subjected to frequency congestion antennas meeting performance Standard B may be used subject to the requirements set forth in paragraph (d) of this section.

ANTENNA STANDARDS

Frequency (MHz)	Category	Maximum beam width to 3 dB points (included angles in degrees)	Minimum antenna gain (dbi)	Minimum radiation suppression to angle in degrees from centerline of main beam in decibels						
				5° to 10°*	10° to 15°*	15° to 20°*	20° to 30°*	30° to 100°*	100° to 140°*	140° to 180°*
932.5 to 935	A	14.0	N/A	.....	6	11	14	17	20	24
	B	20.0	N/A	.....	.....	6	10	13	15	20
941.5 to 944	A	14.0	N/A	.....	6	11	14	17	20	24
	B	20.0	N/A	.....	.....	6	10	13	15	20
952 to 960[8, 9]	A	14.0	N/A	.....	6	11	14	17	20	24
	B	20.0	N/A	.....	.....	6	10	13	15	20
1,850 to 2,500[11]	A	5.0	N/A	12	18	22	25	29	33	39
	B	8.0	N/A	5	18	20	20	25	28	36
3,700 to 4,200	A	N/A	36	23	29	33	36	42	55	55
	B	N/A	36	20	24	28	32	32	32	32
5,925 to 6,425[5]	A	N/A	38	25	29	33	36	42	55	55
	B	N/A	38	21	25	29	32	35	39	45
5,925 to 6,425[6]	A	N/A	38	25	29	33	36	42	55	55
	B	N/A	38	20	24	28	32	35	36	36
6,525 to 6,875[5]	A	N/A	38	25	29	33	36	42	55	55
	B	N/A	38	21	25	29	32	35	39	45
6,525 to 6,875[6]	A	1.5	N/A	26	29	32	34	38	41	49
	B	2.0	N/A	21	25	29	32	35	39	45
10,550 to 10,680[4, 5]	A	N/A	38	25	29	33	36	42	55	55
	B	N/A	38	20	24	28	32	35	35	39
10,550 to 10,680[6]	A	3.4	34	20	24	28	32	35	55	55
	B	3.4	34	20	24	28	32	35	35	39
10,565 to 10,615[7]	N/A	360	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10,630 to 10,680[7]	N/A	N/A	34	20	24	28	32	35	36	36
10,700 to 11,700[5]	A	N/A	38	25	29	33	36	42	55	55
	B	N/A	38	20	24	28	32	35	36	36
12,200 to 13,250[12]	A	1.0	N/A	23	28	35	39	41	42	50
	B	2.0	N/A	20	25	28	30	32	37	47
17,700 to 18,820	A	N/A	38	25	29	33	36	42	55	55
	B	N/A	38	20	24	28	32	35	36	36
18,920 to 19,700[1]	A	N/A	38	25	29	33	36	42	55	55
	B	N/A	38	20	24	28	32	35	36	36
21,200 to 23,600[10]	A	N/A	38	25	29	33	36	42	55	55
	B	N/A	38	20	24	28	32	35	36	36
31,000 to 31,300[2, 3]	N/A	4.0	38	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Above 31,300	A	N/A	38	25	29	33	36	42	55	55
	B	N/A	38	20	24	28	32	35	36	36

*[1] DEMS User Station antennas in this band must meet performance Standard B and have a minimum antenna gain of 34 dBi. The maximum beamwidth requirement does not apply to DEMS User Stations. DEMS Nodal Stations need not comply with these standards.

[2] The minimum front-to-back ratio must be 38 dBi.

[3] Mobile, except aeronautical mobile, stations need not comply with these standards.

[4] Except for antennas between 140° and 180° authorized or pending on January 1, 1989, in the band 10,550 to 10,565 MHz for which minimum radiation to suppression to angle (in degrees) from centerline of main beam is 36 decibels.

[5] These antenna standards apply to all point-to-point stations authorized after June 1, 1997. Existing licensees and pending applicants on that date are grandfathered and need not comply with these standards.

[6] These antenna standards apply to all point-to-point stations authorized on or before June 1, 1997.

[7] These antenna standards apply only to DEMS User Stations licensed, in operation, or applied for prior to July 15, 1993.

[8] Except for Multiple Address System frequencies listed in where omnidirectional antennas may be used.

[9] Antennas used at outlying stations as part of a central protection alarm system need conform to only the following 2 standards: (i) The minimum on-beam forward gain must be at least 10 dBi; and (ii) the minimum front-to-back ratio must be at least 20 dB.

[10] Except as provided in § 101.147(t). **Note to paragraph (10):** Stations must employ an antenna that meets the performance standards for Category A, except that in areas not subject to frequency congestion, antennas meeting standards for Category B may be employed. Note, however, that the Commission may require the use of high performance antennas where interference problems can be resolved by the use of such antennas.

[11] Omnidirectional antennas may be authorized in the band 2150–2160 MHz.

[12] Except for temporary-fixed operations in the band 13200–13250 MHz with output powers less than 250 mW and as provided in § 101.147(q).

(d) The Commission shall require the replacement of any antenna or periscope antenna system of a permanent fixed station operating at 932.5 MHz or higher that does not meet performance Standard A specified in paragraph (c)

of this section, at the expense of the licensee operating such antenna, upon a showing that said antenna causes or is likely to cause interference to (or receive interference from) any other authorized or applied for station whereas a higher performance antenna is not likely to involve such interference. Antenna performance is expected to meet the standards of paragraph (c) of this section for parallel polarization. For cases of potential interference, an antenna will not be considered to meet Standard A unless the parallel polarization performance for the discrimination angle involved meets the requirements, even if the cross-polarization performance controls the interference.

(e) In cases where passive reflectors are employed in conjunction with transmitting antenna systems, the foregoing paragraphs of this section also will be applicable. However, in such instances, the center of the major lobe of radiation from the antenna normally must be directed at the passive reflector, and the center of the major lobe of radiation from the passive reflector directed toward the receiving station with which it communicates.

(f) Periscope antennas used at an electric power facility plant area will be excluded from the requirements of paragraph (c) of this section on a case-by-case basis where technical considerations or safety preclude the use of other types of antenna systems.

(g) In the event harmful interference is caused to the operation of other stations, the Commission may, after notice and opportunity for hearing, order changes to be made in the height, orientation, gain and radiation pattern of the antenna system.

§ 101.117 Antenna polarization.

Except as set forth herein, stations operating in the radio services included in this part are not limited as to the type of polarization of the radiated signal, provided, however, that in the event interference in excess of permissible levels is caused to the operation of other stations the Commission may, after notice and opportunity for hearing, order the licensee to change the polarization of the radiated signal. No change in polarization may be made without prior authorization from the Commission. Unless otherwise allowed, only linear polarization (horizontal or vertical) shall be used.

§ 101.119 Simultaneous use of common antenna structures.

The simultaneous use of common antenna structures by more than one radio station, or by one of more domestic public radio stations and one or more stations of any other class or service, may be authorized: provided, however, that each licensee or user of any such structure is responsible for maintaining the structure, and for painting and illuminating the structure when obstruction marking is required by the Commission. (See § 101.21(a).)

§ 101.121 Marking of antenna structures.

The owner of each antenna structure required to be painted and/or illuminated under the provision of section 303(q) of the Communications Act of 1934, as amended, shall operate and maintain the antenna structure painting and lighting in accordance with part 17 of this chapter. In the event of default by the owner, each licensee or permittee shall be individually responsible for conforming to the requirements pertaining to antenna structure painting and lighting. For complete regulations relative to antenna marking requirements, see part 17 of this chapter.

§ 101.123 Quiet zones.

Quiet zones are those areas where it is necessary to restrict radiation so as to minimize possible impact on the operations of radio astronomy or other facilities that are highly sensitive to radio frequency interference.

(a) In order to minimize possible harmful interference at the National Radio Astronomy Observatory site located at Green Bank, Pocohontas County, W. Va., and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, W. Va., any applicant for a station authorization other than temporary-fixed seeking a station license for a new station or to modify an existing station in a manner

which would change either the frequency, power, antenna height or directivity, or location of such a station within the area boarded by 39°15′ N. on the north, 78°30′ W. on the east, 37°30′ N. on the south, and 80°30′ W. on the west must at the time of filing such application with the Commission, simultaneously notify the Director, National Radio Astronomy Observatory, Post Office Box No. 2, Green Bank, W. Va. 24944, in writing, of the technical particulars of the proposed station. Such notification must include the geographical coordinates of the antenna, antenna height, antenna directivity if any, proposed frequency, type of emission and power. In addition, the applicant must indicate in his application to the Commission the date notification was made to the Observatory. After receipt of such applications, the Commission will allow a period of twenty (20) days for comments or objections in response to the notifications indicated. If an objection to the proposed operation is received during the 20-day period from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the Commission will consider all aspects of the problem and take whatever action is deemed appropriate.

(b) Protection for Table Mountain Radio Receiving Zone, Boulder County, Colorado. Applicants for a station authorization to operate in the vicinity of Boulder County, Colorado under this part are advised to give due consideration, prior to filing applications, to the need to protect the Table Mountain Radio Receiving Zone from harmful interference. These are the research laboratories of the Department of Commerce, Boulder County, Colorado. To prevent degradation of the present ambient radio signal level at the site, the Department of Commerce seeks to ensure that the field strengths of any radiated signals (excluding reflected signals) received on this 1800 acre site (in the vicinity of coordinates 40°07′50″ N. Latitude, 105°14′40″ W. Longitude), resulting from new assignments or from the modification or relocation of existing facilities do not exceed 1 mV/m in the authorized bandwidth of service. (A field strength of 1 mV/m is equivalent to a power flux density of 85.8 dBW/M^2 assuming a free-space characteristic impedance of 376.7 ohms.)

(1) Advance consultation is recommended particularly for those applicants who have no reliable data which indicates whether the field strength or power flux density figures would be exceeded by their proposed radio facilities. In such instances, the following is a suggested guide for determining whether coordination is recommended:

(i) All stations within 2.4 km;

(ii) Stations within 4.8 km with 50 watts or more effective radiated power (ERP) in the primary plane of polarization in the azimuthal direction of the Table Mountain Receiving Zone;

(iii) Stations within 16 km with 1 kW or more ERP in the primary plane of polarization in the azimuthal direction of the Table Mountain Receiving Zone; or

(iv) Stations within 80 km with 25 kW or more ERP in the primary plane of polarization in the azimuthal direction of the Table Mountain Receiving Zone.

(2) Applicants concerned are urged to communicate with the Radio Frequency Management Coordinator, Department of Commerce, Research Support Services, NOAA/R/E5X2, Boulder Laboratories, Boulder CO 80303; telephone (303) 497–6548, in advance of filing their applications with the Commission.

(3) The Commission will not screen applications to determine whether advance consultation has taken place. However, applicants are advised that such consultation can avoid objections from the Department of Commerce or proceedings to modify any authorization which may be granted which, in fact, delivers a signal at the site in excess of the field strength specified herein.

(c) Protection for Federal Communications Commission monitoring stations:

(1) Applicants in the vicinity of an FCC monitoring station for a radio station authorization to operate new transmitting facilities or changed transmitting facilities which would increase the field strength produced over the monitoring station over that previously authorized are advised to give

consideration, prior to filing applications, to the possible need to protect the FCC stations from harmful interference. Geographical coordinates of the facilities which require protection are listed in §0.121(c) of this chapter. Applications for stations (except mobile stations) which will produce on any frequency a direct wave fundamental field strength of greater than 10 mV/m in the authorized bandwidth of service (−65.8 dBW/m² power flux density assuming a free space characteristic impedance of 120 ohms) at the referenced coordinates, may be examined to determine extent of possible interference. Depending on the theoretical field strength value and existing root-sum-square or other ambient radio field signal levels at the indicated coordinates, a clause protecting the monitoring station may be added to the station authorization.

(2) In the event that calculated value of expected field exceeds 10 mV/m (−65.8 dBW/m²) at the reference coordinates, or if there is any question whether field strength levels might exceed the threshold value, advance consultation with the FCC to discuss any protection necessary should be considered. Prospective applicants may communicate with: Chief, Compliance and Information Bureau, Federal Communications Commission, Washington, DC 20554, Telephone (202) 418–1100.

(3) Advance consultation is suggested particularly for those applicants who have no reliable data which indicates whether the field strength or power flux density figure indicated would be exceeded by their proposed radio facilities (except mobile stations). In such instances, the following is a suggested guide for determining whether an applicant should coordinate:

(i) All stations within 2.4 kilometers;

(ii) Stations within 4.8 kilometers with 50 watts or more average effective radiated power (ERP) in the primary plane of polarization in the azimuthal direction of the Monitoring Stations;

(iii) Stations within 16 kilometers with 1 kW or more average ERP in the primary plane of polarization in the azimuthal direction of the Monitoring Station; or

(iv) Stations within 80 kilometers with 25 kW or more average ERP in the primary plane of polarization in the azimuthal direction of the Monitoring Station.

(4) Advance coordination for stations operating above 1000 MHz is recommended only where the proposed station is in the vicinity of a monitoring station designated as a satellite monitoring facility in §0.121(c) of this chapter and also meets the criteria outlined in paragraphs (c)(2) and (c)(3) of this section.

(5) The Commission will not screen applications to determine whether advance consultation has taken place. However, applicants are advised that such consultation can avoid objections from the Federal Communications Commission or modification of any authorization which will cause harmful interference.

§101.125 Temporary fixed antenna height restrictions.

The overall antenna structure heights employed by mobile stations in the Local Television Transmission Service and by stations authorized to operate at temporary fixed locations may not exceed the height criteria set forth in §17.7 of this chapter, unless in each instance, authorization for use of a specific maximum antenna height (above ground and above mean sea level) for each location has been obtained from the Commission prior to erection of the antenna. Requests for such authorization must show the inclusive dates of the proposed operation. (Complete information as to rules concerning the construction, marking and lighting of antenna structures is contained in part 17 of this chapter.)

§101.127 Topographical data.

Determining the location and height above sea level of the antenna site, the elevation or contour intervals must be taken from United States Geological Survey Topographic Quadrangle Maps, United States Army Corps of Engineers maps or Tennessee Valley Authority maps, whichever is the latest, for all areas for which such maps are available. If such maps are not published for the area in question, the next best topographic information should be used. Topographic data may sometimes be obtained from State and municipal

agencies. Data from Sectional Aeronautical Charts (including bench marks) or railroad depot elevations and highway elevations from road maps may be used where no better information is available. In cases where limited topographic data is available, use may be made of an altimeter in a car driven along roads extending generally radially from the transmitter site. If it appears necessary, additional data may be requested. United States Geological Survey Topographic Quadrangle Maps may be obtained from the Department of the Interior, Geological Survey, Washington, DC 20242. Sectional Aeronautical Charts are available from the Department of Commerce, Coast and Geodetic Survey, Washington, DC 20230.

§ 101.129 Transmitter location.

(a) The applicant must determine, prior to filing an application for a radio station authorization, that the antenna site specified therein is adequate to render the service proposed. In cases of questionable antenna locations, it is desirable to conduct propagation tests to indicate the field intensity which may be expected in the principal areas or at the fixed points of communication to be served, particularly where severe shadow problems may be expected. In considering applications proposing the use of such locations, the Commission may require site survey tests to be made pursuant to a developmental authorization in the particular service concerned. In such cases, propagation tests should be conducted in accordance with recognized engineering methods and should be made with a transmitting antenna simulating, as near as possible, the proposed antenna installation. Full data obtained from such surveys and its analysis, including a description of the methods used and the name, address and qualifications of the engineer making the survey, must be supplied to the Commission.

(b) Antenna structures should be so located and constructed as to avoid making them hazardous to air navigation. (See part 17 of this chapter for provisions relating to antenna structures.) Such installation must be maintained in good structural condition together with any required painting or lighting.

§ 101.131 Transmitter construction and installation.

(a) The equipment at the operating and transmitting positions must be so installed and protected that it is not accessible to, or capable of being operated by, persons other than those duly authorized by the licensee.

(b) In any case where the maximum modulating frequency of a transmitter is prescribed by the Commission, the transmitter must be equipped with a low-pass or band-pass modulation filter of suitable performance characteristics. In those cases where a modulation limiter is employed, the modulation filter must be installed between the transmitter stage in which limiting is effected and the modulated stage of the transmitter.

(c) Each transmitter employed in these services must be equipped with an appropriately labeled pilot lamp or meter which will provide continuous visual indication at the transmitter when its control circuits have been placed in a condition to activate the transmitter. In addition, facilities must be provided at each transmitter to permit the transmitter to be turned on and off independently of any remote control circuits associated therewith.

(d) At each transmitter control point the following facilities must be installed:

(1) A carrier operated device which will provide continuous visual indication when the transmitter is radiating, or, in lieu thereof, a pilot lamp or meter which will provide continuous visual indication when the transmitter control circuits have been placed in a condition to activate the transmitter; and

(2) Facilities which will permit the operator to turn transmitter carrier on and off at will.

(e) Transmitter control circuits from any control point must be so installed that grounding or shorting any line in the control circuit will not cause the transmitter to radiate: provided, however, That this provision will not be applicable to control circuits of stations which normally operate with continuous radiation or to control circuits

which are under the effective operational control of responsible operating personnel 24 hours per day.

§ 101.133 Limitations on use of transmitters.

(a) Transmitters licensed for operation in Common Carrier services may be concurrently licensed or used for non-common carrier communication purposes. Mobile units may be concurrently licensed or used for non-common carrier communication purposes provided that the transmitter is type-accepted for use in each service.

(b) Private operational fixed point-to-point microwave stations authorized in this service may communicate with associated operational-fixed stations and fixed receivers and with units of associated stations in the mobile service licensed under Private Radio Service rule parts. In addition, intercommunication is permitted with other licensed stations and with U.S. Government stations in those cases which require cooperation or coordination of activities or when cooperative use arrangements in accordance with § 101.135 are contemplated; provided, however, that where communication is desired with stations authorized to operate under the authority of a foreign jurisdiction, prior approval of this Commission must be obtained; And provided further, That the authority under which such other stations operate does not prohibit the intercommunication.

(c) Two or more persons or governmental entities eligible for private operational fixed point-to-point microwave licenses may use the same transmitting equipment under the following terms and conditions:

(1) Each licensee complies with the general operating requirements set out in this part;

(2) Each licensee is eligible for the frequency(ies) on which the facility operates; and

(3) Each licensee must have the ability to access the transmitter(s) that it is authorized to operate under the multiple licensing arrangement.

(d) *LMDS subscriber transmissions.* LMDS licensees shall not operate transmitters from subscriber locations in the 29.1–29.25 GHz band.

[61 FR 26677, May 28, 1996, as amended at 61 FR 44183, Aug. 28, 1996]

EFFECTIVE DATE NOTE: At 61 FR 44183, Aug. 28, 1996, § 101.133 was amended by adding paragraph (d), effective Oct. 28, 1996.

§ 101.135 Shared use of radio stations and the offering of private carrier service.

Licensees of Private Operational Fixed Point-to-Point Microwave radio stations may share the use of their facilities on a non-profit basis or may offer service on a for-profit private carrier basis, subject to the following conditions and limitations:

(a) Persons or governmental entities licensed to operate radio systems on any of the private radio frequencies set out in § 101.101 may share such systems with, or provide private carrier service to, any eligible for licensing under this part, regardless of individual eligibility restrictions, provided that the communications being carried are permissible under § 101.603. In addition, persons or governmental entities licensed to operate low power systems under the provisions of § 101.147(r)(10) may share such systems with, or provide private carrier services to, Federal Government entities, provided the communications carried are permissible under § 101.603;

(b) The licensee must maintain access to and control over all facilities authorized under its license;

(c) All sharing and private carrier arrangements must be conducted pursuant to a written agreement to be kept as part of the station records; and

(d) The licensee must keep an up-to-date list of system sharers and private carrier subscribers and the basis of their eligibility under this part. Such records must be kept current and must be made available upon request for inspection by the Commission.

§ 101.137 Interconnection of private operational fixed point-to-point microwave stations.

Private operational fixed point-to-point microwave stations may be interconnected with facilities of common carriers subject to applicable tariffs.

§ 101.139 Authorization of transmitters.

(a) Except for transmitters used at developmental stations or for fixed point-to-point operation pursuant to subparts H and I of this part, each transmitter must be a type which has been type accepted by the Commission for use under the applicable rules of this part. Transmitters used in the private operational fixed and common carrier fixed point-to-point microwave services under subparts H and I of this part must be of a type that has been either notified or type accepted by the Commission (see § 2.904(d) of this chapter). Effective March 5, 1984, only grants of notification will be issued for transmitters used exclusively for fixed point-to-point operation. Transmitters designed for use in the 31.0 to 31.3 GHz band will be authorized under the notification procedure.

(b) Any manufacturer of a transmitter to be produced for use under the rules of this part may request type acceptance or notification by following the applicable procedures set forth in part 2 of this chapter. Type accepted and notified transmitters are included in the Commission's Radio Equipment List. Copies of this list are available for inspection at the Commission's office in Washington, DC and at each of its field offices.

(c) Type acceptance or notification for an individual transmitter may also be requested by an applicant for a station authorization, pursuant to the procedures set forth in part 2 of this chapter. An individual transmitter will not normally be included in the Radio Equipment List but will be enumerated on the station authorization.

(d) A transmitter presently shown on an instrument of authorization, which operates on an assigned frequency in the 890–940 MHz band and has not been type accepted, may continue to be used by the licensee without type acceptance provided such transmitter continues otherwise to comply with the applicable rules and regulations of the Commission.

(e) Type acceptance or notification is not required for portable transmitters operating with peak output power not greater than 250 mW. If operation of such equipment causes harmful interference the FCC may, at its discretion, require the licensee to take such corrective action as is necessary to eliminate the interference.

(f) After July 15, 1996, the manufacture (except for export) or importation of equipment employing digital modulation techniques in the 3700–4200, 5925–6425, 6525–6875, 10,550–10,680 and 10,700–11,700 MHz bands must meet the minimum payload capacity requirements of § 101.141.

§ 101.141 Microwave modulation.

(a) Microwave transmitters employing digital modulation techniques and operating below 19.7 GHz must, with appropriate multiplex equipment, comply with the following additional requirements:

(1) The bit rate, in bits per second, must be equal to or greater than the bandwidth specified by the emission designator in Hertz (*e.g.*, to be acceptable, equipment transmitting at a 20 Mb/s rate must not require a bandwidth of greater than 20 MHz), except the bandwidth used to calculate the minimum rate may not include any authorized guard band.

NOTE TO (a)(1): Systems authorized prior to December 1, 1988, may install equipment after that date with no minimum bit rate.

(2) Equipment to be used for voice transmission placed in service, authorized, or applied for on or before June 1, 1997 in the 2110 to 2130 and 2160 to 2180 MHz bands must be capable of satisfactory operation within the authorized bandwidth to encode at least 96 voice channels. Equipment placed in service, authorized, or applied for on or before June 1, 1997 in the 3700–4200, 5925–6425 (30 MHz bandwidth), and 10,700–11,700 MHz (30 and 40 MHz bandwidths) bands must be capable of satisfactory operation within the authorized bandwidth to encode at least 1152 voice channels. These required loading levels may be reduced by a factor of 1/N provided that N transmitters may be operated satisfactorily, over the same radio path, within an authorized bandwidth less than, or equal to, the maximum authorizable bandwidth (*e.g.*, the 1152 channel requirement may be reduced to 576 if two transmitters can be satisfactorily operated over the same path

within the maximum bandwidth). Where type accepted equipment is designed to operate on the same frequency in a cross polarized configuration to meet the above capacity requirements, the Commission will require, at the time additional transmitters are authorized, that both polarizations of a frequency be used before a new frequency assignment is made, unless a single transmitter installation was found to be justified by the Commission at the time it authorized the first transmitter.

(3) The following capacity and loading requirements must be met for equipment applied for, authorized, and placed in service after June 1, 1997 in the 3700–4200 MHz (4 GHz), 5925–6425 and 6525–6875 MHz (6 GHz), 10,550–10,680 MHz (10 GHz), and 10,700–11,700 MHz (11 GHz) bands:

Nominal channel bandwidth (MHz)	Minimum payload capacity (Mbits/s) [1]	Minimum traffic loading payload (as percent of payload capacity)	Typical utilization [2]
0.400	1.54	N/A	1 DS–1
0.800	3.08	N/A	2 DS–1
1.25	3.08	N/A	2 DS–1
1.60	6.17	N/A	4 DS–1
2.50	6.17	N/A	4 DS–1
3.75	12.3	N/A	8 DS–1
5.0	18.5	N/A	12 DS–1
10.0	44.7	[3] 50	1 DS–3/STS–1
20.0	89.4	[3] 50	2 DS–3/STS–1
30.0 (11 GHz).	89.4	[3] 50	2 DS–3/STS–1
30.0 (6 GHz)	134.1	[3] 50	3 DS–3/STS–1
40.0	134.1	[3] 50	3 DS–3/STS–1

[1] Per polarization

[2] DS and STS refer to the number of voice circuits a channel can accommodate. 1 DS–1 = 24 voice circuits; 2 DS–1 = 48; 4 DS–1 = 96; 8 DS–1 = 192; 12 DS–1 = 288; 1 DS–3/STS–1 = 672; 2 DS–3/STS–1 = 1344; 3 DS–3/STS–1 = 2016.

[3] This loading requirement must be met within 30 months of licensing. If two transmitters simultaneously operate on the same frequency over the same path, the requirement is reduced to 25 percent.

(4) If a transmitter is authorized to operate in a bandwidth that is not listed in paragraph (a)(3) of this section, it must meet the minimum payload capacity and traffic loading requirements of the next largest channel bandwidth listed in the table; *e.g.*, if the authorized bandwidth is 3.5 MHz, the minimum payload capacity must be 12.3 Mbits/s.

(5) Transmitters carrying digital motion video motion material are exempt from the requirements specified in paragraphs (a)(2) and (a)(3) of this section, provided that at least 50 percent of the payload is digital video motion material and the minimum bit rate specified in paragraph (a)(1) of this section is met. In the 6, 10, and 11 GHz bands, concatenation of multiple contiguous channels is permitted for channels of equal bandwidth on center frequencies, provided no other channels are available and the minimum payload capacity requirements are met.

(6) Digital systems using bandwidths of 10 MHz or larger will be considered 50 percent loaded when the following condition is met: at least 50 percent of their total DS–1 capacity is being used. A DS–1 channel is being used when it has been connected to a DS–0/DS–1 multiplexer. For non-DS–0 services, such as, but not limited to, video or broadband data transmission, the next largest DS–1 equivalent will be considered for the computation of a loading percentage.

(7) For digital systems, minimum payload capacities shall be expressed in numbers of DS–1s, DS–3s or STS–1s. The payload capacity required by the Commission shall correspond to commercially available equipment.

(b) For purposes of compliance with the emission limitation requirements of § 101.111(a)(2) and the requirements of paragraph (a) of this section, digital modulation techniques are considered as being employed when digital modulation occupies 50 percent or more to the total peak frequency deviation of a transmitted radio frequency carrier. The total peak frequency deviation will be determined by adding the deviation produced by the digital modulation signal and the deviation produced by any frequency division multiplex (FDM) modulation used. The deviation (D) produced by the FDM signal must be determined in accordance with § 2.202(f) of this chapter.

(c) Analog Modulation. Except for video transmission, an application for an initial working channel for a given route will not be accepted for filing where the anticipated loading (within five years for voice, or other period subject to reasonable projection) is less

than the minimum specified for the following frequency bands. Absent extraordinary circumstances, applications proposing additional frequencies over existing routes will not be granted unless it is shown that the traffic load will shortly exhaust the capacity of the existing equipment. Where no construction of radio facilities is requested, licensees must submit this evidence with their filing of any necessary authority required pursuant to section 214 of the Communications Act and part 63 of this chapter.

Frequency band (MHz)	Minimum number of voice channels (4 KHz or equivalent)
3700 to 4200 (20 MHz bandwidth)	900
5925 to 6425 (10 MHz bandwidth)	300
5925 to 6425 (20 MHz bandwidth)	600
5925 to 6425 (30 MHz bandwidth)	900
6525 to 6875 (10 MHz bandwidth)	300
10,700 to 11,700 (10 MHz bandwidth)	300
10,700 to 11,700 (20 MHz bandwidth)	600
10,700 to 11,700 (30 MHz bandwidth)	900
10,700 to 11,700 (40 MHz bandwidth)	900

§ 101.143 Minimum path length requirements.

(a) The distance between end points of a fixed link in the private operational fixed point-to-point and the common carrier fixed point-to-point microwave services must equal or exceed the value set forth in the table below or the EIRP must be reduced in accordance with the equation set forth below:

Frequency band (MHz)	Minimum path length (km)
Below 1,850	N/A
1,850 to 7,125	17
10,550 to 13,250	5
Above 17,700	N/A

(b) For paths shorter than those specified in the Table, the EIRP shall not exceed the value derived from the following equation:

EIRP = MAX EIRP—40*log(A/B) dBW

Where:

EIRP=Equivalent isotropically radiated power in dBW.

A=Minimum path length from the Table for the frequency band in kilometers.

B=The actual path length in kilometers.

NOTE TO PARAGRAPH (b): For transmitters using Automatic Transmit Power Control, EIRP that corresponds to the maximum transmitter power must satisfy this requirement.

(c) Upon an appropriate technical showing, applicants and licensees unable to meet the minimum path length requirement may be granted an exception to these requirements.

NOTE TO PARAGRAPH (c): Links authorized prior to April 1, 1987, need not comply with this requirement.

§ 101.145 Interference to geostationary-satellites.

These limitations are necessary to minimize the probability of harmful interference to reception in the bands 2655–2690 MHz, 5925–6875 MHz, and 12.7–12.75 GHz on board geostationary-space stations in the fixed-satellite service.

(a) Stations authorized prior to July 1, 1976 in the band 2655–2690 MHz, which exceed the power levels in paragraphs (a) and (b) of this section are permitted to operate indefinitely, provided that the operations of such stations does not result in harmful interference to reception in these band on board geostationary space stations.

(b) 2655 to 2690 MHz and 5925 to 6875 MHz. No directional transmitting antenna utilized by a fixed station operating in these bands may be aimed within 2 degrees of the geostationary-satellite orbit, taking into account atmospheric refraction. However, exception may be made in unusual circumstances upon a showing that there is no reasonable alternative to the transmission path proposed. If there is no evidence that such exception would cause possible harmful interference to an authorized satellite system, said transmission path may be authorized on waiver basis where the maximum value of the equivalent isotropically radiated power (EIRP) does not exceed:

(1) +47 dBW for any antenna beam directed within 0.5 degrees of the stationary satellite orbit; or

(2) +47 to +55 dBW, on a linear decibel scale (8 dB per degree) for any antenna beam directed between 0.5 degrees and 1.5 degrees of the stationary orbit.

(c) 12.7 to 12.75 GHz. No directional transmitting antenna utilized by a fixed station operating in this band may be aimed within 1.5 degrees of the geostationary-satellite orbit, taking into account atmospheric refraction. However, exception may be made in unusual circumstances upon a showing that there is no reasonable alternative to the transmission path proposed. If there is no evidence that such exception would cause possible harmful interference to an authorized satellite system, said transmission path may be authorized on waiver basis where the maximum value of the equivalent isotropically radiated power (EIRP) does not exceed +45 dBW for any antenna beam directed within 1.5 degrees of the stationary satellite orbit.

(d) Methods for calculating the azimuths to be avoided may be found in: CCIR Report No. 393 (Green Books), New Delhi, 1970; in ''Radio-Relay Antenna Pointing for controlled Interference With Geostationary-Satellites'' by C. W. Lundgren and A. S. May, Bell System Technical Journal, Vol. 48, No. 10, pp. 3387–3422, December 1969; and in ''Geostationary Orbit Avoidance Computer Program'' by Richard G. Gould, Common Carrier Bureau Report CC–7201, FCC, Washington, DC, 1972. This latter report is available through the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22151, in printed form (PB–211 500) or source card deck (PB–211 501).

§ 101.147 Frequency assignments.

(a) Frequencies in the following bands are available for assignment to fixed radio point-to-point microwave stations.

928.0–929.0 MHz (22)
932.0–932.5 MHz (27)
932.5–935 MHz (17)
941.0–941.5 MHz (17) (18)
941.5–944 MHz (27)
952.0–960.0 MHz (22)
1,850–1,990 MHz (20) (22)
2,110–2,130 MHz) (1) (3) (7) (20)
2,130–2,150 MHz (20) (22)
2,150–2,160 MHz (20) (22)
2,160–2,180 MHz (1) (2) (20) (21)
2,180–2,200 MHz (20) (22)
2,450–2,500 MHz (22)
2,650–2,690 MHz (22)
3,700–4,200 MHz (8) (14) (25)
5,925–6,425 MHz (6) (14) (25)
6,425–6,525 MHz (24)
6,525–6,875 MHz (14)
10,550–10,680 MHz (19)
10,700–11,700 MHz (8) (9) (19) (25)
11,700–12,200 MHz (24)
12,200–12,500 MHz (22)
12,500–12,700 MHz (22)
12,700–13,200 MHz (22)
13,200–13,250 MHz (4) (24) (25)
14,200–14,400 MHz (24)
17,700–18,820 MHz (5) (10) (15)
18,820–18,920 MHz (22)
18,920–19,160 MHz (5 (10) (15)
19,160–19,260 MHz (22)
19,260–19,700 MHz (5) (10) (15)
21,200–22,000 MHz (4) (11) (12) (13) (24) (25) (26)
22,000–23,600 MHz (4) (11) (12) (24) (25) (26)
27,500–29,500 MHz (5)
31,000–31,300 MHz (16) (24)
38,600–40,000 MHz (4)
Bands Above 40,000 MHz

Notes

(1) Frequencies in this band are shared with control and repeater stations in the Domestic Public Land Mobile Radio Service and with stations in the International Fixed Public Radiocommunication Services located south of 25° 30′ north latitude in the State of Florida and U. S. possessions in the Caribbean area. Additionally, the band 2160–2162 MHz is shared with stations in the Multipoint Distribution Service.

(2) Except upon showing that no alternative frequencies are available, no new assignments will be made in the band 2160–2162 MHz for stations located within 80.5 kilometers (50 miles) of the coordinates of the cities listed in §) 21.901(c) of this chapter.

(3) Television transmission in this band is not authorized and radio frequency channel widths may not exceed 3.5 MHz.

(4) Frequencies in this band are shared with fixed and mobile stations licensed in other services.

(5) Frequencies in this band are shared with stations in the fixed-satellite service.

(6) These frequencies are not available for assignment to mobile earth stations.

(7) Frequencies in the band 2110–2120 MHz may be authorized on a case-by-case basis to Government or non-Government space research earth stations for telecommand purposes in connection with deep space research.

(8) This frequency band is shared with station(s) in the Local Television Transmission Service and, in the U.S. Possessions in the Caribbean area, with stations in the International Fixed Public Radiocommunications Services.

(9) The band segments 10.95–11.2 and 11.45–11.7 GHz are shared with space stations (space to earth) in the fixed-satellite service.

(10) This band is co-equally shared with stations in the fixed services under parts 74, 78 and 101 of this chapter.

(11) Frequencies in this band are shared with Government stations.

(12) Assignments to common carriers in this band are normally made in the segments 21.2–21.8 GHz and 22.4–23.8 GHz and to operational fixed users in the segments 21.8–22.4 GHz and 23.0–23.6 GHz. Assignments may be made otherwise only upon a showing that no interference free frequencies are available in the appropriate band segments.

(13) Frequencies in this band are shared with stations in the earth exploration satellite service (space to earth).

(14) Frequencies in this band are shared with stations in the fixed-satellite and private operational fixed point-to-point microwave services.

(15) Stations licensed as of September 9, 1983 to use frequencies in the 17.7–19.7 GHz band may, upon proper application, continue to be authorized for such operation.

(16) Frequencies in this band are co-equally shared with stations in the Auxiliary Broadcasting, Cable Television Relay, Private Operational Fixed Point-to-Point Microwave, and General Mobile Radio Services. Use of this spectrum for direct delivery of video programs to the general public or multi-channel cable distribution is not permitted.

(17) Frequencies in these bands are shared with Government fixed stations and stations in the Private Operational Fixed Point-to-Point Microwave Service (part 101).

(18) Frequencies in the 942 to 944 MHz band are also shared with broadcast auxiliary stations.

(19) Frequencies in this band are shared with stations in the private-operational fixed point-to-point microwave service.

(20) New facilities in these bands will be licensed only on a secondary basis. Facilities licensed or applied for before January 16, 1992, are permitted to make modifications and minor extensions in accordance with § 101.77 and still retain primary status.

(21) Any authorization of additional stations to use the 2160–2162 MHz band for Multipoint Distribution Service applied for after January 16, 1992, will be secondary to use of the band for emerging technology services.

(22) Frequencies in these bands are for the exclusive use of Private Operational Fixed Point-to-Point Microwave Service (part 101).

(23) Frequencies in these bands are for the exclusive use of Common Carrier Fixed Point-to-Point Microwave Service (part 101).

(24) Frequencies in these bands are available for assignment to television pickup and television non-broadcast pickup stations. The maximum power for the local television transmission service in the 14.2–14.4 GHz band is +45 dBW except that operations are not permitted within 1.5 degrees of the geostationary orbit.

(25) Frequencies in these bands are available for assignment to television STL stations.

(26) Frequency pairs 21.825/23.025 GHz, 21.875/23.075 GHz, 21.925/23.125 GHz, and 21.975/23.175 GHz may be authorized for low power, limited coverage, systems subject to the provisions of paragraph (s) of this section.

(27) Frequencies in the 932 to 932.5 MHz and 941 to 941.5 MHz bands are shared with Government fixed point-to-multipoint stations and point-to-multipoint stations in the Public Land Mobile Service. Frequencies in these bands are paired with one another and are available for point-to-multipoint transmission of the licensee's products and information services, excluding video entertainment material, to the licensee's customers.

(b) Frequencies normally available for assignment in this service are set forth with applicable limitations in the following tables: *928–960 MHz* Multiple address system (MAS) frequencies are available for the point-to-multipoint transmission of a licensee's products or services, excluding video entertainment material, to a licensee's customer or for its own internal communications. The paired frequencies listed in this section are used for two-way interrogate/response communications between a master station and remote stations. Each master station operating on these frequencies is required to serve a minimum of four separate active remote stations. Ancillary one-way communications on paired frequencies are permitted on a case-by-case basis. Ancillary communications between interrelated master stations are permitted on a secondary basis. The normal channel bandwidth assigned will be 12.5 kHz. Upon adequate justification, however, channels with bandwidths up to 50 kHz may be authorized. Tables 2, 4, and 6 list frequencies with 25 kHz bandwidth channels. When licensed for a larger bandwidth, the system still is required to use equipment that meets the ±0.00015 percent tolerance requirement. (See § 101.107). Any bandwidth (12.5 kHz, 25 kHz or greater) authorized in accordance with this section may be subdivided into narrower bandwidths to create additional (or sub) frequencies without the need to specify each discrete frequency within the specific bandwidth. Equipment that is used to

create additional frequencies by narrowing bandwidth (whether authorized for a 12.5 kHz, 25 kHz or greater bandwidth) will be required to meet, at a minimum, the ±0.00015 percent tolerance requirement so that all subfrequencies will be within the emission mask. When using subfrequencies, licensees are subject to the construction requirement of one master and four remotes per authorized bandwidth (12.5 kHz, 25 kHz or greater. Systems licensed for frequencies in these MAS bands prior to August 1, 1975, may continue to operate as authorized until June 11, 1996, at which time they must comply with current MAS operations based on the 12.5 KHz channelization set forth in this paragraph. Systems licensed between August 1, 1975, and January 1, 1981, inclusive, are required to comply with the grandfathered 25 kHz standard bandwidth and channelization requirements set forth in this paragraph. Systems originally licensed after January 1, 1981, and on or before May 11, 1988, with bandwidths of 25 kHz and above, will be grandfathered indefinitely.

(1) *General access pool.* Frequencies listed in this paragraph are available to all persons eligible under this part for use in multiple address radio systems. Except as noted, however, the frequencies may be used by eligibles in the Power Radio Service only if the frequencies in paragraph (b)(2) of this section are exhausted in the particular geographic area. The frequencies are also available for shared use by part 22 Public Land Mobile Service users if frequencies listed in § 22.50(g) of this chapter are exhausted in the particular geographic area. Applications for use of these frequencies under part 22 of this chapter are subject to part 101 requirements.

TABLE 1.—PAIRED FREQUENCIES (MHz)

[12.5 kHz bandwidth]

Remote transmit	Master transmit
928.00625	952.00625
928.01875	952.01875
928.03125	952.03125
928.04375	952.04375
928.05625	952.05625
928.06875	952.06875
928.08125	952.08125
928.09375	952.09375
928.10625	952.10625

TABLE 1.—PAIRED FREQUENCIES (MHz)—Continued

[12.5 kHz bandwidth]

Remote transmit	Master transmit
928.11875	952.11875
928.13125	952.13125
928.14375	952.14375
928.15625	952.15625
928.16875	952.16875
928.18125	952.18125
928.19375	952.19375
928.20625	952.20625
928.21875	952.21875
928.23125	952.23125
928.24375	952.24375
928.25625	952.25625
928.26875	952.26875
928.28125	952.28125
928.29375	952.29375
928.30625	952.30625
928.31875	952.31875
928.33125	952.33125
928.34375	952.34375

UNPAIRED FREQUENCIES (MHz) [1]

[12.5 kHz bandwidth]

956.25625	956.33125	956.39375
956.26875	956.34375	956.40625
956.28125	956.35625	956.41875
956.29375	956.36875	956.43125
956.30625	956.38125	956.44375
956.31875		

[1] Available to power eligibles regardless of whether frequencies in the power pool are exhausted.

TABLE 2.—PAIRED FREQUENCIES (MHz)

[25 kHz bandwidth]

Remote transmit	Master transmit
928.0125	952.0125
928.0375	952.0375
928.0625	952.0625
928.0875	952.0875
928.1125	952.1125
928.1375	952.1375
928.1625	952.1625
928.1875	952.1875
928.2125	952.2125
928.2375	952.2375
928.2625	952.2625
928.2875	952.2875
928.3125	952.3125
928.3375	952.3375

UNPAIRED FREQUENCIES (MHz) [1]

[25 kHz bandwidth]

956.2625	956.3375	956.4125
956.2875	956.3625	956.4375
956.3125	956.3875	

[1] Available to power eligibles regardless of whether frequencies in the power pool are exhausted.

(2) *Power pool.* Frequencies listed in this paragraph are available to persons eligible under § 90.63 of this chapter for licensing in the Power Radio Service for use in multiple address radio systems. After January 1, 1992, the frequencies are also available for use by general access pool users and part 22 Public Land Mobile Service users (§ 22.501(g) of this chapter) provided frequencies listed in their respective pools are exhausted in the particular geographic area. Applications for use of these frequencies under part 22 of this chapter are subject to part 101 requirements.

TABLE 3.—PAIRED FREQUENCIES (MHZ)

[12.5 kHz bandwidth]

Remote transmit	Master transmit
928.35625	952.35625
928.36875	952.36872
928.38125	952.38125
928.39375	952.39375
928.40625	952.40625
928.41875	952.41875
928.43125	952.43125
928.44375	952.44375
928.45625	952.45625
928.46875	952.46875
928.48125	952.48125
928.49375	952.49375
928.50625	952.50625
928.51875	952.51875
928.53125	952.53125
928.54375	952.54375
928.55625	952.55625
928.56875	952.56875
928.58125	952.58125
928.59375	952.59375
928.60625	952.60625
928.61875	952.61875
928.63125	952.63125
928.64375	952.64375
928.65625	952.65625
928.66875	952.66875
928.68125	952.68125
928.69375	952.69375
928.70625	952.70625
928.71875	952.71875
928.73125	952.73125
928.74375	952.74375
928.75675	952.75625
928.76875	952.76875
928.78125	952.78125
928.79375	952.79375
928.80625	952.80625
928.81875	952.81875
928.83125	952.83125
928.84375	952.84375

TABLE 4.—PAIRED FREQUENCIES (MHZ)

[25 kHz bandwidth]

Remote transmit	Master transmit
928.3625	952.3625

TABLE 4.—PAIRED FREQUENCIES (MHZ)—Continued

[25 kHz bandwidth]

Remote transmit	Master transmit
928.3875	952.3875
928.4125	952.4125
928.4375	952.4375
928.4625	952.4625
928.4875	952.4875
928.5125	952.5125
928.5375	952.5375
928.5625	952.5625
928.5875	952.5875
928.6125	952.6125
928.6375	952.6375
928.6625	952.6625
928.6875	952.6875
928.7125	952.7125
928.7375	952.7375
928.7625	952.7625
928.7875	952.7875
928.8125	952.8125
928.8375	952.8375

(3) Frequencies listed in this paragraph are available for shared use by general access pool users for multiple address operations if frequencies listed in paragraph (b)(1) of this section are exhausted in the particular geographic area: The frequencies are also available to eligibles in the power pool provided there are no other frequencies available for the type of operation contemplated. The frequencies in this pool may be assigned for paired or unpaired operation. If paired, the corresponding lower frequency is for remote unit use. Applications for these frequencies are subject to the conditions outlined in § 22.27 of this chapter.

TABLE 5.—PUBLIC MOBILE SERVICE CATEGORY FREQUENCIES (MHZ)

[12.5 kHz bandwidth]

Remote transmit	Master transmit
928.85625	959.85625
928.86875	959.86875
928.88125	959.88125
928.89375	959.89375
928.90625	959.90625
928.91875	959.91875
928.93125	959.93125
928.94375	959.94375
928.95625	959.95625
928.96875	959.96875
928.98125	959.98125
928.99375	959.99375

TABLE 6.—PUBLIC MOBILE SERVICE CATEGORY FREQUENCIES (MHz)

[25 kHz bandwidth]

Remote transmit	Master transmit
928.8625	959.8625
928.8875	959.8875
928.9125	959.9125
928.9375	959.9375
928.9625	959.9625
928.9875	959.9875

(4) Frequencies listed in this paragraph are shared with stations in the Public Land Mobile Service, part 22 of this chapter.

TABLE 7.—PAIRED FREQUENCIES

[12.5 kHz bandwidth]

Remote transmit	Master transmit
932.00625	941.00625
932.01875	941.01875
932.03125	941.03125
932.04375	941.04375
932.05625	941.05625
932.06875	941.06875
932.08125	941.08125
932.09375	941.09375
932.10625	941.10625
932.11875	941.11875
932.13125	941.13125
932.14375	941.14375
932.15625	941.15625
932.16875	941.16875
932.18125	941.18125
932.19375	941.19375
932.20625	941.20625
932.21875	941.21875
932.23125	941.23125
932.24375	941.24375
932.25625	941.25625
932.26875	941.26875
932.28125	941.28125
932.29375	941.29375
932.30625	941.30625
932.31875	941.31875
932.33125	941.33125
932.34375	941.34375
932.35625	941.35625
932.36875	941.36875
932.38125	941.38125
932.39375	941.39375
932.40625	941.40625
932.41875	941.41875
932.43125	941.43125
932.44375	941.44375
932.45625	941.45625
932.46875	941.46875
932.48125	941.48125
932.49375	941.49375

(5) Equivalent power and antenna heights for multiple address master stations:

Antenna height (AAT) in meters	Maximum effective radiated power	
	Watts	dBm
Above 305	200	53
Above 274 to 305	250	54
Above 244 to 274	315	55
Above 213 to 244	400	56
Above 182 to 213	500	57
Above 152.5 to 182	630	58
152.5 and below	1,000	60

For mobile operations the maximum ERP is 25 watts (44 dBm).

(6) Fixed point-to-point frequencies.

TABLE 8.—PAIRED FREQUENCIES

[All frequencies may be used by Common Carrier Fixed Point-to-Point and Private Operational Fixed Point-to-Point Microwave Service licensees; 25 kHz bandwidth]

Transmit (receive) (MHz)	Receive (transmit) (MHz)
932.5125	941.5125
932.5375	941.5375
932.5625	941.5625
932.5875	941.5875
932.6125	941.6125
932.6375	941.6375
932.6625	941.6625
934.8375	943.8375
934.8625	943.8625
934.8875	943.8875
934.9125	943.9125
934.9375	943.9375
934.9625	943.9625
934.9875	943.9875

TABLE 9.—PAIRED FREQUENCIES

[Frequencies may be used only by Private Operational Fixed Point-to-Point Microwave Service licensees, unless otherwise noted; 50 kHz bandwidth]

Transmit (receive) (MHz)	Receive (transmit) (MHz)
932.70 [1]	[1] 941.70
932.75 [1]	[1] 941.75
934.80 [1]	[1] 943.80
956.65	953.05
956.75	953.15
956.85	953.25
956.95	953.35
957.05	953.45
957.25	953.65
957.35	953.75
957.45	953.85
957.65	954.05
957.75	954.15
957.85	954.25
958.05	954.45
958.15	954.55
958.25	954.65
958.45	954.85
958.55	954.95
958.65	955.05
958.85	955.25
958.95	955.35
959.05	955.45
959.25	955.65
959.35	955.75

TABLE 9.—PAIRED FREQUENCIES—Continued

[Frequencies may be used only by Private Operational Fixed Point-to-Point Microwave Service licensees, unless otherwise noted; 50 kHz bandwidth]

Transmit (receive) (MHz)	Receive (transmit) (MHz)
959.45	955.85
959.55	955.95
959.65	956.05

[1] These frequencies also may be used by Common Carrier Fixed Point-to-Point Microwave licensees.

TABLE 10.—PAIRED FREQUENCIES

[Frequencies may be used only by Private Operational Fixed Point-to-Point Microwave licensees, unless otherwise noted; 100 kHz bandwidth]

Transmit (receive) (MHz)	Receive (transmit) (MHz)
932.8250 [1]	[1] 941.8250
932.9250 [1]	[1] 941.9250
933.0250 [1]	[1] 942.0250
934.5250 [1]	[1] 943.5250
934.6250 [1]	[1] 943.6250
934.7250 [1]	[1] 943.7250
956.6	953.0
956.7	953.1
956.8	953.2
956.9	953.3
957.0	953.4
957.1	953.5
957.2	953.6
957.3	953.7
957.4	953.8
957.5	953.9
957.6	954.0
957.7	954.1
957.8	954.2
957.9	954.3
958.0	954.4
958.1	954.5
958.2	954.6
958.3	954.7
958.4	954.8
958.5	954.9
958.6	955.0
958.7	955.1
958.8	955.2
958.9	955.3
959.0	955.4
959.1	955.5
959.2	955.6
959.3	955.7
959.4	955.8
959.5	955.9
959.6	956.0
959.7	956.1

[1] These frequencies also may be used by Common Carrier Fixed Point-to-Point Microwave licensees.

TABLE 11.—PAIRED FREQUENCIES

[Frequencies may be used only by Private Operational Fixed Point-to-Point Microwave licensees, unless otherwise noted; 200 kHz bandwidth]

Transmit (receive) (MHz)	Receive (transmit) (MHz)
933.1750 [1]	[1] 942.1750
933.3750 [1]	[1] 942.3750

TABLE 11.—PAIRED FREQUENCIES—Continued

[Frequencies may be used only by Private Operational Fixed Point-to-Point Microwave licensees, unless otherwise noted; 200 kHz bandwidth]

Transmit (receive) (MHz)	Receive (transmit) (MHz)
933.5750 [1]	[1] 942.5750
933.7750 [1]	[1] 942.7750
933.9750 [1]	[1] 942.9750
933.1750 [1]	[1] 943.1750
933.3750 [1]	[1] 943.3750
957.15	953.55
957.55	953.95
957.95	954.35
958.35	954.75
958.75	955.15
959.15	955.55

[1] These frequencies also may be used by Common Carrier Fixed Point-to-Point Microwave licensees.

(c) *1850–1990 MHz.* (1) 10 MHz maximum bandwidth.

PAIRED FREQUENCIES

Transmit (receive) (MHz)	Receive (transmit) (MHz)
1855	1935
1865	1945
1875	1955
1885	1965
1895	1975
1905	1985

UNPAIRED FREQUENCIES

1915 [1]
1925 [1]

[1] Available for systems employing one-way transmission.

(2) 5 MHz maximum bandwidth.

PAIRED FREQUENCIES

Transmit (receive) (MHz)	Receive (transmit) (MHz)
1860	1940
1870	1950
1880	1960
1890	1970
1900	1980

(d) *2130–2150 MHz; 2180–2200 MHz.* 800 kHz maximum bandwidth, unless noted.

PAIRED FREQUENCIES

2130–2150	2180–2200
Transmit (receive) (MHz)	Receive (transmit) (MHz)
2130.8	2180.8

Transmit (receive) (MHz)	Receive (transmit) (MHz)
2131.6	[1] 2181.6
2132.4	2182.4
2133.2	[1] 2183.2
2134.0	2184.0
2134.8	[1] 2184.8
2135.6	2185.6
2136.4	[1] 2186.4
2137.2	2187.2
2138.0	[1] 2188.0
2139.6	[1] 2189.6
2138.8	2188.8
2140.4	2190.4
2141.2	[1] 2191.2
2142.0	2192.0
2142.8	[1] 2192.8
2143.6	2193.6
2144.4	[1] 2194.4
2145.2	2195.2
2146.0	[1] 2196.0
2146.8	2196.8
2147.6	[1] 2197.6
2148.4	2198.4
2149.2	2199.2

[1] Consideration will be given on a case-by-case basis to assigning these frequency pairs to systems employing 1600 KHz bandwidth transmissions.

(e) *2150–2160 MHz.* Specific frequency of operation to be set forth in authorization. Omnidirectional transmission only may be authorized, subject to providing protection from harmful interference to previously authorized stations in this service and in other services sharing this band.

(f) *2450–2500 MHz.* (1) This band is shared with other communications services and is not subject to protection from interference from industrial, scientific, and medical devices operating on 2450 MHz.

(2) Stations licensed in this band under this part prior to March 1, 1996, are grandfathered and may continue their authorized operations. Stations licensed in the 2483.5–2500 MHz portion of the band as of July 25, 1985, or on a subsequent date as a result of submitting an application on or before July 25, 1985, are grandfathered, and may continue operations, subject only to license renewal, on a co-primary basis with the Radiodetermination Satellite Service.

(3) 625 KHz bandwidth channels. The normal bandwidth authorized will be 625 KHz. Upon adequate justification, additional contiguous channels may be authorized to provide up to a 2500 KHz bandwidth.

PAIRED FREQUENCIES

Transmit (receive) (MHz)	Receive (transmit) (MHz)
2450.3125	2467.5625
2450.9375	2468.1875
2451.5625	2468.8125
2452.1875	2469.4375
2452.8125	2470.0625
2453.4375	2470.6875
2454.0625	2471.3125
2454.6875	2471.9375
2455.3125	2472.5625
2455.9375	2473.1875
2456.5625	2473.8125
2457.1875	2474.4375
2457.8125	2475.0625
2458.4375	2475.6875
2459.0625	2476.3125
2459.6875	2476.9375
2460.3125	2477.5625
2460.9375	2478.1875
2461.5625	2478.8125
2462.1875	2479.4375
2462.8125	2480.0625
2463.4375	2480.6875
2464.0625	2481.3125
2464.6875	2481.9375
2465.3125	2482.5625
2465.9375	2483.1875

(g) *2500–2690 MHz.* Operational-fixed stations may be authorized on the following frequencies:

FREQUENCIES (MHz)

2686.9375
2687.9375
2688.5625
2688.6875
2688.9375
2689.5625
2689.6875

NOTE TO (g): Operational-Fixed stations authorized in this band as of July 16, 1971, which do not comply with the provisions of this part may continue to operate on the frequencies assigned on a coequal basis with other stations operating in accordance with the Table of Frequency allocations. Requests for subsequent license renewals or modifications for such stations will be considered. However, expansion of systems comprised of such stations will not be permitted, except pursuant to the provisions of this part. No new licenses will be issued under this part until specific operating parameters are established for this band.

(h) *3,700 to 4,200 MHz.* 20 MHz maximum authorized bandwidth.

20 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
3710	3750

Transmit (receive) (MHz)	Receive (transmit) (MHz)
3730	3770
3790	3830
3810	3850
3870	3910
3890	3930
3950	3990
3970	4010
4030	4070
4050	4090
4110	4150
4130	4170
N/A	[1] 4190

[1] This frequency may be assigned for unpaired use.

(i) *5,925 to 6,425 MHz*. 30 MHz authorized bandwidth.

(1) 400 kHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
5925.225	6177.100
5925.625	6177.500
5926.050	6177.925
5926.450	6178.325
5926.875	6178.750
5927.275	6179.150
5927.725	6179.600
5928.125	6180.000
5928.550	6180.425
5928.950	6180.825
5929.375	6181.250
5929.775	6181.650
6168.350	6420.225
6168.750	6420.625
6169.175	6421.050
6169.575	6421.450
6170.000	6421.875
6170.400	6422.275
6170.850	6422.725
6171.250	6423.125
6171.675	6423.550
6172.075	6423.950
6172.500	6424.375
6172.900	6424.775

(2) 800 kHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
5925.425	6177.300
5926.250	6178.125
5927.075	6178.950
5927.925	6179.800
5928.750	6180.625
5929.575	6181.450
6168.550	6420.425
6169.375	6421.250
6170.200	6422.075
6171.050	6422.925
6171.875	6423.750
6172.700	6424.575

(3) 1.25 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
5925.625	6177.500
5926.875	6178.750
5928.125	6180.000
5929.375	6181.250
6108.893	6360.933
6110.128	6362.168
6111.364	6363.404
6112.599	6364.639
6113.834	6365.874
6115.070	6367.110
6116.305	6368.345
6117.541	6369.581
6118.776	6370.816
6120.011	6372.051
6121.247	6373.287
6122.482	6374.522
6123.718	6375.758
6124.953	6376.993
6126.189	6378.229
6127.424	6379.464
6128.659	6380.699
6129.895	6381.935
6131.130	6383.170
6132.366	6384.406
6133.601	6385.641
6134.836	6386.876
6136.072	6388.112
6137.307	6389.347
6138.543	6390.583
6139.778	6391.818
6141.014	6393.054
6142.249	6394.289
6143.484	6395.524
6144.720	6396.760
6145.955	6397.995
6147.191	6399.231
6148.426	6400.466
6149.661	6401.701
6150.897	6402.937
6152.132	6404.172
6153.368	6405.408
6154.603	6406.643
6155.839	6407.879
6157.074	6409.114
6158.309	6410.349
6159.545	6411.585
6160.780	6412.820
6162.016	6414.056
6163.251	6415.291
6164.486	6416.526
6165.722	6417.762
6166.957	6418.997
6168.750	6420.625
6170.000	6421.875
6171.250	6423.125
6172.500	6424.375
6173.750 [1]	N/A
6175.000 [1]	N/A
6176.250 [1]	N/A

[1] These frequencies may be assigned for unpaired use.

(4) 2.5 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
5926.250	6178.125
5928.750	6180.625
6109.510	6361.550
6111.981	6364.021
6114.452	6366.492

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6116.923	6368.963
6119.394	6371.434
6121.865	6373.905
6124.335	6376.375
6126.806	6378.846
6129.277	6381.317
6131.748	6383.788
6134.219	6386.259
6136.690	6388.730
6139.160	6391.200
6141.631	6393.671
6144.102	6396.142
6146.573	6398.613
6149.044	6401.084
6151.515	6403.555
6153.985	6406.025
6156.456	6408.496
6158.927	6410.967
6161.398	6413.438
6163.869	6415.909
6166.340	6418.380
6169.375	6421.250
6171.875	6423.750
6175.625 [1]	N/A

[1] This frequency may be assigned for unpaired use.

(5) 3.75 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6111.364	6363.404
6116.305	6368.345
6121.247	6373.287
6126.189	6378.229
6131.130	6383.170
6136.072	6388.112
6141.014	6393.054
6145.955	6397.995
6150.897	6402.937
6155.839	6407.879
6160.780	6412.820
6165.722	6417.762
6175.000 [1]	N/A

[1] This frequency may be assigned for unpaired use.

(6) 5 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6110.75	6362.79
6115.69	6367.73
6120.63	6372.67
6125.57	6377.61
6130.51	6382.55
6135.45	6387.49
6140.40	6392.44
6145.34	6397.38
6150.28	6402.32
6155.22	6407.26
6160.16	6412.20
6165.10	6417.14

(7) 10 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
5935.32	6187.36
5945.20	6197.24
5955.08	6207.12
5964.97	6217.01
5974.85	6226.89
5984.73	6236.77
5994.62	6246.66
6004.50	6256.54
6014.38	6266.42
6024.27	6276.31
6034.15	6286.19
6044.03	6296.07
6053.92	6305.96
6063.80	6315.84
6073.68	6325.72
6083.57	6335.61
6093.45	6345.49
6103.33	6355.37
6113.22 [1]	[1] 6365.26
6123.10 [1]	[1] 6375.14
6132.98 [1]	[1] 6385.02
6142.87 [1]	[1] 6394.91
6152.75 [1]	[1] 6404.79
6162.63 [1]	[1] 6414.67

[1] Alternate channels. These channels are set aside for narrow bandwidth systems and should be used only if all other channels are blocked.

(8) 30 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
5945.20	6197.24
5974.85	6226.89
6004.50	6256.54
6034.15	6286.19
6063.80	6315.84
6093.45	6345.49
6123.10 [1]	[1] 6375.14
6152.75 [1]	[1] 6404.79

[1] Alternate channels. These channels are set aside for narrow bandwidth systems and should be used only if all other channels are blocked.

(j) *6,425 to 6,525 MHz.* Mobile. Paired and un-paired operations permitted. Use of this spectrum for direct delivery of video programs to the general public or multi-channel cable distribution is not permitted. This band is co-equally shared with mobile stations licensed pursuant to parts 21, 74, and 78 of this chapter. Stations not intended to be operated while in motion will be licensed under the provision of § 101.13(b). The following channel plans apply.

(1) 1 MHz maximum authorized bandwidth channels:

Transmit (or receive) (MHz)	Receive (or transmit) (MHz)
6425.5	6475.5
6450.5	6500.5

(2) 8 MHz maximum authorized bandwidth channels:

Transmit (or receive) (MHz)	Receive (or transmit) (MHz)
6430.0	6480.0
6438.0	6488.0
6446.0	6596.0
6455.0	6505.0
6463.0	6513.0
6471.0	6521.0

(3) 25 MHz maximum authorized bandwidth channels:

Transmit (or receive) (MHz)	Receive (or transmit) (MHz)
6437.5	6487.5
6462.5	6512.5

(k) On the condition that harmful interference will not be caused to services operating in accordance with the Table of Frequency Allocations, persons holding valid station authorizations on July 15, 1963, to provide television nonbroadcast pickup service in the 6525–6575 MHz band may be authorized to continue use of the frequencies specified in their authorization for such operations until July 15, 1968.

(l) *6,525 to 6,875 MHz*. 10 MHz authorized bandwidth.

(1) 400 kHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6525.225	6870.225
6525.625	6870.625
6526.050	6871.050
6526.450	6871.450
6526.875	6871.875
6527.275	6872.275
6527.725	6872.725
6528.125	6873.125
6528.550	6873.550
6528.950	6873.950
6529.375	6874.375
6529.775	6874.775

(2) 800 kHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6525.425	6870.425
6526.250	6871.250
6527.075	6872.075
6527.925	6872.925
6528.750	6873.750
6529.575	6874.575

(3) 1.25 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6525.625	6870.625
6526.875	6871.875
6528.125	6873.125
6529.375	6874.375
6540.625 [1]	[1] 6718.125
6541.875 [1]	[1] 6719.375
6543.125 [1]	[1] 6713.125
6544.375 [1]	[1] 6714.375
6545.625 [1]	[1] 6715.625
6546.875 [1]	[1] 6716.875
6548.125	6728.125
6549.375	6729.375
6550.625	6730.625
6551.875	6731.875
6553.125 [1]	[1] 6723.125
6554.375 [1]	[1] 6724.375
6555.625 [1]	[1] 6725.625
6556.875 [1]	[1] 6726.875
6558.125	6738.125
6559.375	6739.375
6560.625	6740.625
6561.875	6741.875
6563.125	6733.125
6564.375	6734.375
6565.625	6735.625
6566.875	6736.875
6568.125 [1]	[1] 6720.625
6569.375 [1]	[1] 6721.875
6580.625 [1]	[1] 6868.125
6581.875 [1]	[1] 6869.375
6583.125	6743.125
6584.375	6744.375
6585.625	6745.625
6586.875	6746.875
6588.125	6748.125
6589.375	6749.375
6590.625	6750.625
6591.875	6751.875
6593.125	6753.125
6594.375	6754.375
6595.625	6755.625
6596.875	6756.875
6598.125	6758.125
6599.375	6759.375
6600.625	6760.625
6601.875	6761.875
6603.125	6763.125
6604.375	6764.375
6605.625	6765.625
6606.875	6766.875
6608.125	6768.125
6609.375	6769.375
6610.625	6770.625
6611.875	6771.875
6613.125	6773.125
6614.375	6774.375
6615.625	6775.625
6616.875	6776.875
6618.125	6778.125
6619.375	6779.375
6620.625	6780.625
6621.875	6781.875
6623.125	6783.125
6624.375	6784.375
6625.625	6785.625
6626.875	6786.875
6628.125	6788.125
6629.375	6789.375
6630.625	6790.625
6631.875	6791.875
6633.125	6793.125
6634.375	6794.375

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6635.625	6795.625
6636.875	6796.875
6638.125	6798.125
6639.375	6799.375
6640.625	6800.625
6641.875	6801.875
6643.125	6803.125
6644.375	6804.375
6645.625	6805.625
6646.875	6806.875
6648.125	6808.125
6649.375	6809.375
6650.625	6810.625
6651.875	6811.875
6653.125	6813.125
6654.375	6814.375
6655.625	6815.625
6656.875	6816.875
6658.125	6818.125
6659.375	6819.375
6660.625	6820.625
6661.875	6821.875
6663.125	6823.125
6664.375	6824.375
6665.625	6825.625
6666.875	6826.875
6668.125	6828.125
6669.375	6829.375
6670.625	6830.625
6671.875	6831.875
6673.125	6833.125
6674.375	6834.375
6675.625	6835.625
6676.875	6836.875
6678.125	6838.125
6679.375	6839.375
6680.625	6840.625
6681.875	6841.875
6683.125	6843.125
6684.375	6844.375
6685.625	6845.625
6686.875	6846.875
6688.125	6848.125
6689.375	6849.375
6690.625	6850.625
6691.875	6851.875
6693.125	6853.125
6694.375	6854.375
6695.625	6855.625
6696.875	6856.875
6698.125	6858.125
6699.375	6859.375
6700.625	6860.625
6701.875	6861.875
6703.125	6863.125
6704.375	6864.375
6705.625	6865.625
6706.875	6866.875
6708.125 [1]	[1] 6710.625
6709.375 [1]	[1] 6711.875

[1] These frequencies may be assigned for unpaired use.

(4) 2.5 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6526.25	6871.25
6528.75	6873.75
6541.25 [1]	[1] 6718.75
6543.75 [1]	[1] 6713.75
6546.25 [1]	[1] 6716.25
6548.75	6728.75
6551.25	6731.25
6553.75 [1]	[1] 6723.75
6556.25 [1]	[1] 6726.25
6558.75	6738.75
6561.25	6741.25
6563.75	6733.75
6566.25	6736.25
6568.75 [1]	[1] 6721.25
6581.25 [1]	[1] 6868.75
6583.75	6743.75
6586.25	6746.25
6588.75	6748.75
6591.25	6751.25
6593.75	6753.75
6596.25	6756.25
6598.75	6758.75
6601.25	6761.25
6603.75	6763.75
6606.25	6766.25
6608.75	6768.75
6611.25	6771.25
6613.75	6773.75
6616.25	6776.25
6618.75	6778.75
6621.25	6781.25
6623.75	6783.75
6626.25	6786.25
6628.75	6788.75
6631.25	6791.25
6633.75	6793.75
6636.25	6796.25
6638.75	6798.75
6641.25	6801.25
6643.75	6803.75
6646.25	6806.25
6648.75	6808.75
6651.25	6811.25
6653.75	6813.75
6656.25	6816.25
6658.75	6818.75
6661.25	6821.25
6663.75	6823.75
6666.25	6826.25
6668.75	6828.75
6671.25	6831.25
6673.75	6833.75
6676.25	6836.25
6678.75	6838.75
6681.25	6841.25
6683.75	6843.75
6686.25	6846.25
6688.75	6848.75
6691.25	6851.25
6693.75	6853.75
6696.25	6856.25
6698.75	6858.75
6701.25	6861.25
6703.75	6863.75
6706.25	6866.25
6708.75 [1]	[1] 6711.25

[1] These frequencies may be assigned for unpaired use.

(5) 3.75 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6545.625 [1]	6715.625 [1]
6550.625	6730.625

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6555.625 [1]	6725.625 [1]
6560.625	6740.625
6565.625	6735.625
6585.625	6745.625
6590.625	6750.625
6595.625	6755.625
6600.625	6760.625
6605.625	6765.625
6610.625	6770.625
6615.625	6775.625
6620.625	6780.625
6625.625	6785.625
6630.625	6790.625
6635.625	6795.625
6640.625	6800.625
6645.625	6805.625
6650.625	6810.625
6655.625	6815.625
6660.625	6820.625
6665.625	6825.625
6670.625	6830.625
6675.625	6835.625
6680.625	6840.625
6685.625	6845.625
6690.625	6850.625
6695.625	6855.625
6700.625	6860.625
6705.625	6865.625
6710.625 [1]	[1] 6720.625

[1] These frequencies may be assigned for unpaired use.

(6) 5 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6545 [1]	[1] 6715
6550	6730
6555 [1]	[1] 6725
6560	6740
6565	6735
6585	6745
6590	6750
6595	6755
6600	6760
6605	6765
6610	6770
6615	6775
6620	6780
6625	6785
6630	6790
6635	6795
6640	6800
6645	6805
6650	6810
6655	6815
6660	6820
6665	6825
6670	6830
6675	6835
6680	6840
6685	6845
6690	6850
6695	6855
6700	6860
6705	6865
6710 [1]	[1] 6720

[1] These frequencies may be assigned for unpaired use.

(7) 10 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6545 [1]	[1] 6715
6555 [1]	[1] 6725
6565	6735
6585	6745
6595	6755
6605	6765
6615	6775
6625	6785
6635	6795
6645	6805
6655	6815
6665	6825
6675	6835
6685	6845
6695	6855
6705	6865
6535 [2]	[2] 6575

[1] These frequencies may be assigned for unpaired use.
[2] Available only for emergency restoration, maintenance bypass, or other temporary-fixed purposes. Such uses are authorized on a non-interference basis to other frequencies in this band. Interference analysis required by § 101.105 does not apply to this frequency pair.

(m) *10,550 to 10,680 MHz.* 5 MHz authorized bandwidth.

(1) 400 kHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
10605.225	10670.225
10605.625	10670.625
10606.050	10671.050
10606.450	10671.450
10606.875	10671.875
10607.275	10672.275
10607.725	10672.725
10608.125	10673.125
10608.550	10673.550
10608.950	10673.950
10609.375	10674.375
10609.775	10674.775
10610.225	10675.225
10610.625	10675.625
10611.050	10676.050
10611.450	10676.450
10611.875	10676.875
10612.275	10677.275
10612.725	10677.725
10613.125	10678.125
10613.550	10678.550
10613.950	10678.950
10614.375	10679.375
10614.775	10679.775

(2) 800 kHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
10605.425	10670.425
10606.250	10671.250
10607.075	10672.075
10607.925	10672.925
10608.750	10673.750
10609.575	10674.575
10610.425	10675.425
10611.250	10676.250
10612.075	10677.075

Transmit (receive) (MHz)	Receive (transmit) (MHz)
10612.925	10677.925
10613.750	10678.750
10614.575	10679.575

(3) 1.25 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
10550.625	10615.625
10551.875	10616.875
10553.125	10618.125
10554.375	10619.375
10555.625	10620.625
10556.875	10621.875
10558.125	10623.125
10559.375	10624.375
10560.625	10625.625
10561.875	10626.875
10563.125	10628.125
10564.375	10629.375
10565.625	10630.625
10566.875	10631.875
10568.125	10633.125
10569.375	10634.375
10570.625	10635.625
10571.875	10636.875
10573.125	10638.125
10574.375	10639.375
10575.625	10640.625
10576.875	10641.875
10578.125	10643.125
10579.375	10644.375
10580.625	10645.625
10581.875	10646.875
10583.125	10648.125
10584.375	10649.375
10585.625	10650.625
10586.875	10651.875
10588.125	10653.125
10589.375	10654.375
10590.625	10655.625
10591.875	10656.875
10593.125	10658.125
10594.375	10659.375
10595.625	10660.625
10596.875	10661.875
10598.125	10663.125
10599.375	10664.375
10600.625	10665.625
10601.875	10666.875
10603.125	10668.125
10604.375	10669.375
10605.625	10670.625
10606.875	10671.875
10608.125	10673.125
10609.375	10674.375
10610.625	10675.625
10611.875	10676.875
10613.125	10678.125
10614.375	10679.375

(4) 2.5 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
10551.25	10616.25
10553.75	10618.75
10556.25	10621.25
10558.75	10623.75
10561.25	10626.25
10563.75	10628.75
10566.25	10631.25
10568.75	10633.75
10571.25	10636.25
10573.75	10638.75
10576.25	10641.25
10578.75	10643.75
10581.25 [1]	[1] 10646.25
10583.75 [1]	[1] 10648.75
10586.25 [1]	[1] 10651.25
10588.75 [1]	[1] 10653.75
10591.25 [1]	[1] 10656.25
10593.75 [1]	[1] 10658.75
10596.25 [1]	[1] 10661.25
10598.75 [1]	[1] 10663.75
10601.25 [1]	[1] 10666.25
10603.75 [1]	[1] 10668.75
10606.25 [1]	[1] 10671.25
10608.75 [1]	[1] 10673.75
10611.25 [1]	[1] 10676.25
10613.75 [1]	[1] 10678.75

[1] These frequencies are also available for DEMS stations licensed, in operation, or applied for prior to July 15, 1993.

(5) 3.75 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
10553.125	10618.125
10558.125	10623.125
10563.125	10628.125
10568.125	10633.125
10573.125	10638.125
10578.125	10643.125
10583.125	10648.125
10588.125	10653.125
10593.125	10658.125
10598.125	10663.125
10603.125	10668.125

(6) 5 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
10552.5	10617.5
10557.5	10622.5
10562.5	10627.5
10567.5 [1]	[1] 10632.5
10572.5 [1]	[1] 10637.5
10577.5 [1]	[1] 10642.5
10582.5 [1]	[1] 10647.5
10587.5	10652.5
10592.5	10657.5
10597.5	10662.5
10602.5	10667.5

[1] These frequencies are also available for DEMS stations licensed, in operation, or applied for prior to July 15, 1993.

(n) Point-to-multipoint systems licensed, in operation, or applied for in the 10,550–10,680 MHz band prior to July 15, 1993, are permitted to use the DEMS frequencies noted above if they prior coordinate such usage with the necessary parties including 10 GHz point-

to-point applicants and licensees. DEMS Nodal Stations shall use the band 10,565–10,615 MHz while DEMS User Stations shall use the band 10,630–10,680 MHz.

(o) *10,700 to 11,700 MHz*. 40 MHz authorized bandwidth.

(1) 1.25 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
11130.625	11620.625
11131.875	11621.875
11133.125	11623.125
11134.375	11624.375
11135.625	11625.625
11136.875	11626.875
11138.125	11628.125
11139.375	11629.375
11140.625	11630.625
11141.875	11631.875
11143.125	11633.125
11144.375	11634.375
11145.625	11635.625
11146.875	11636.875
11148.125	11638.125
11149.375	11639.375
11150.625	11640.625
11151.875	11641.875
11153.125	11643.125
11154.375	11644.375
11155.625	11645.625
11156.875	11646.875
11158.125	11648.125
11159.375	11649.375
11160.625	11650.625
11161.875	11651.875
11163.125	11653.125
11164.375	11654.375
11165.625	11655.625
11166.875	11656.875
11168.125	11658.125
11169.375	11659.375
11170.625	11660.625
11171.875	11661.875
11173.125	11663.125
11174.375	11664.375
11175.625	11665.625
11176.875	11666.875
11178.125	11668.125
11179.375	11669.375
11180.625	11680.625
11181.875	11681.875
11183.125	11683.125
11184.375	11684.375
11185.625	11685.625
11186.875	11686.875
11188.125	11688.125
11189.375	11689.375
11190.625	11690.625
11191.875	11691.875
11193.125	11693.125
11194.375	11694.375
11195.625	11695.625
11196.875	11696.875
11198.125	11698.125
11199.375	11699.375

(2) 2.5 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
11131.25	11621.25
11133.75	11623.75
11136.25	11626.25
11138.75	11628.75
11141.25	11631.25
11143.75	11633.75
11146.25	11636.25
11148.75	11638.75
11151.25	11641.25
11153.75	11643.75
11156.25	11646.25
11158.75	11648.75
11161.25	11651.25
11163.75	11653.75
11166.25	11656.25
11168.75	11658.75
11171.25	11661.25
11173.75	11663.75
11176.25	11666.25
11178.75	11668.75
11181.25	11681.25
11183.75	11683.75
11186.25	11686.25
11188.75	11688.75
11191.25	11691.25
11193.75	11693.75
11196.25	11696.25
11198.75	11698.75

(3) 3.75 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
11133.125	11623.125
11138.125	11628.125
11143.125	11633.125
11148.125	11638.125
11153.125	11643.125
11158.125	11648.125
11163.125	11653.125
11168.125	11658.125
11173.125	11663.125
11178.125	11668.125
11183.125	11683.125
11188.125	11688.125
11193.125	11693.125
11198.125	11698.125

(4) 5 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
11132.5	11622.5
11137.5	11627.5
11142.5	11632.5
11147.5	11637.5
11152.5	11642.5
11157.5	11647.5
11162.5	11652.5
11167.5	11657.5
11172.5	11662.5
11177.5	11667.5
11182.5	11682.5
11187.5	11687.5
11192.5	11692.5
11197.5	11697.5

(5) 10 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
10705	11205
10715	11215
10725 [2]	[1] 11675
10735	11225
10745	11235
10755	11245
10765	11255
10775	11265
10785	11275
10795	11285
10805	11295
10815	11305
10825	11315
10835	11325
10845	11335
10855	11345
10865	11355
10875	11365
10885	11375
10895	11385
10905	11395
10915	11405
10925	11415
10935	11425
10945	11435
10955	11445
10965	11455
10975	11465
10985	11475
10995	11485
11005	11495
11015	11505
11025	11515
11035	11525
11045	11535
11055	11545
11065	11555
11075	11565
11085	11575
11095	11585
11105	11595
11115	11605
11125	11615
11135 [1]	[1] 11625
11145 [1]	[1] 11635
11155 [1]	[1] 11645
11165 [1]	[1] 11655
11175 [1]	[1] 11665
11185 [1]	[1] 11685
11195 [1]	[1] 11695

[1] Alternate channels. These channels are set aside for narrow bandwidth systems and should be used only if all other channels are blocked.
[2] These frequencies may be assigned for unpaired use.

(6) 30 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
10715	11215
10755	11245
10795	11285
10835	11325
10875	11365
10915	11405
10955	11445
10995	11485
11035	11525
11075	11565
11115	11605
11155 [1]	[1] 11645
11185 [1]	[1] 11685

[1] Alternate channels. These channels are set aside for narrow bandwidth systems and should be used only if all other channels are blocked.

(7) 40 MHz bandwidth channels:[2]

Transmit (receive) (MHz)	Receive (transmit) (MHz)
10735	11225
10775	11265
10815	11305
10855	11345
10895	11385
10935	11425
10975	11465
11015	11505
11055	11545
11095	11585
11135 [1]	[1] 11625
11175 [1]	[1] 11665

[1] Alternate channels. These channels are set aside for narrow bandwidth systems and should be used only if all other channels are blocked.
[2] In congested areas where 40 MHz channels block most 30 MHz channels, radios authorized for 30 MHz bandwidths may use the 40 MHz channels. In uncongested areas, 30 MHz channels should be used.

(p) *12,000–12700 MHz.* The Commission has allocated the 12.2–12.7 GHz band for use by the broadcasting-satellite service. Private operational fixed point-to-point microwave stations authorized after September 9, 1983, will be licensed on a noninterference basis and are required to make any and all adjustments necessary to prevent interference to operating domestic broadcasting-satellite systems. Notwithstanding any other provisions, no private operational fixed point-to-point microwave stations are permitted to cause interference to broadcasting-satellite stations of other countries operating in accordance with the Region 2 plan for the broadcasting-satellite service established at the 1983 WARC.

(q) Special provisions for low power, limited coverage systems in the band segments 12.2 12.7 GHz. Notwithstanding any contrary provisions in this part the frequency pairs 12.220/12.460 GHz, 12.260/12.500 GHz, 12.300/12.540 GHz and 12.340/12.580 GHz may be authorized for low power, limited coverage systems subject to the following provisions:

(1) Maximum equivalent isotropically radiated power (EIRP) shall be 55 dBm;

(2) The rated transmitter output power shall not exceed 0.500 watts;

(3) Frequency tolerance shall be maintained to within 0.01 percent of the assigned frequency;

(4) Maximum beamwidth not to exceed 4 degrees. However, the sidelobe suppression criteria contained in § 101.115 of this part shall not apply, except that a minimum front-to-back ratio of 38 dB shall apply;

(5) Upon showing of need, a maximum bandwidth of 12 MHz may be authorized per frequency assigned;

(6) Radio systems authorized under the provisions of this section shall have no more than three hops in tandem, except upon showing of need, but in any event the maximum tandem length shall not exceed 40 km (25 miles);

(7) Interfering signals at the receiver antenna terminals of stations authorized under this section shall not exceed −90 dBm and −70 dBm respectively, for co-channel and adjacent channel interfering signals, and

(8) Stations authorized under the provisions of this section shall provide the protection from interference specified in § 101.105 to stations operating in accordance with the provisions of this part.

(r) *17,700 to 19,700 MHz.* Applicants may use either a two-way link or one frequency of a frequency pair for a one-way link and must coordinate proposed operations pursuant to the procedures required in § 101.103. (Note, however, that stations authorized as of September 9, 1983, to use frequencies in the band 17.7–19.7 GHz may, upon proper application, continue to be authorized for such operations.)

(1) 2 MHz maximum authorized bandwidth channel:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
18141.0	N/A

(2) 5 MHz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
340 MHz Separation	
18762.5	19102.5
18767.5	19107.5
18772.5	19112.5
18777.5	19117.5
18782.5	19122.5
18787.5	19127.5
18792.5	19132.5
18797.5	19137.5
18802.5	19142.5
18807.5	19147.5
18812.5	19152.5
18817.5	19157.5

(3) 6 MHz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
216 MHz Separation	
18145.0	N/A
18151.0	18367.0
18157.0	18373.0
18163.0	18379.0
18169.0	18385.0
18175.0	18391.0
18181.0	18397.0
18187.0	18403.0
18193.0	18409.0
18199.0	18415.0
18205.0	18421.0
18211.0	18427.0
18217.0	18433.0
18223.0	18439.0
18229.0	18445.0
18235.0	18451.0
18241.0	18457.0
18247.0	18463.0
18253.0	18469.0
18259.0	18475.0
18265.0	18481.0
18271.0	18487.0
18277.0	18493.0
18283.0	18499.0
18289.0	18505.0
18295.0	18511.0
18301.0	18517.0
18307.0	18523.0
18313.0	18529.0
18319.0	18535.0
18325.0	18541.0
18331.0	18547.0
18337.0	18533.0
18343.0	18559.0
18349.0	18565.0
18355.0	18571.0
18361.0	18577.0

(4) 10 MHz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
1560 MHz Separation	
17705.0	19265.0
17715.0	19275.0
17725.0	19285.0
17735.0	19295.0
17745.0	19305.0
17755.0	19315.0

Transmit (receive) (MHz)	Receive (transmit) (MHz)
17765.0	19325.0
17775.0	19335.0
17785.0	19345.0
17795.0	19355.0
17805.0	19365.0
17815.0	19375.0
17825.0	19385.0
17835.0	19395.0
17845.0	19405.0
17855.0	19415.0
17865.0	19425.0
17875.0	19435.0
17885.0	19445.0
17895.0	19455.0
17905.0	19465.0
17915.0	19475.0
17925.0	19485.0
17935.0	19495.0
17945.0	19505.0
17955.0	19515.0
17965.0	19525.0
17975.0	19535.0
17985.0	19545.0
17995.0	19555.0
18005.0	18565.0
18015.0	19575.0
18025.0	19585.0
18035.0	19595.0
18045.0	19605.0
18055.0	19615.0
18065.0	19625.0
18075.0	19635.0
18085.0	19645.0
18095.0	19655.0
18105.0	19665.0
18115.0	19675.0
18125.0	19685.0
18135.0	19695.0
340 MHz Separation	
18585.0	18925.0
18595.0	18935.0
18605.0	18945.0
18615.0	18955.0
18625.0	18965.0
18635.0	18975.0
18645.0	18985.0
18655.0	18995.0
18665.0	19005.0
18675.0	19015.0
18685.0	19025.0
18695.0	19035.0
18705.0	19045.0
18715.0	19055.0
18725.0	19065.0
18735.0	19075.0
18745.0	19085.0
18755.0	19095.0
18765.0	19105.0
18775.0	19115.0
18785.0	19125.0
18795.0	19135.0
18805.0	19145.0
18815.0	19155.0

(5) 20 MHz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
1560 MHz Separation	
17710.0	19270.0
17730.0	19290.0
17750.0	19310.0
17770.0	19330.0
17790.0	19350.0
17810.0	19370.0
17830.0	19390.0
17850.0	19410.0
17870.0	19430.0
17890.0	19450.0
17910.0	19470.0
17930.0	19490.0
17950.0	19510.0
17970.0	19530.0
17990.0	19550.0
18010.0	19570.0
18030.0	19590.0
18050.0	19610.0
18070.0	19630.0
18090.0	19650.0
18110.0	19670.0
18130.0	19690.0
18590.0	18930.0
340 MHz Separation	
18610.0	18950.0
18630.0	18970.0
18650.0	18990.0
18670.0	19010.0
18690.0	19030.0
18710.0	19050.0
18730.0	19070.0
18750.0	19090.0
18770.0	19110.0
18790.0	19130.0
18810.0	19150.0

(6) 40 MHz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
1560 MHz Separation	
17720.0	19280.0
17760.0	19320.0
17800.0	19360.0
17840.0	19400.0
17880.0	19440.0
17920.0	19480.0
17960.0	19520.0
18000.0	19560.0
18040.0	19600.0
18080.0	19640.0
18120.0	19680.0

(7) 80 MHz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
1560 MHz Separation	
17740.0	19300.0
17820.0	19380.0
17900.0	19460.0

Transmit (receive) (MHz)	Receive (transmit) (MHz)
17980.0	19540.0
18060.0	19620.0

(8) 220 MHz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
17810.0	18470.0
18030.0	19370.0
18250.0	19590.0

(9) The following frequencies are available for point-to-multipoint DEMS Systems:

Channel No.	Nodal station frequency band (MHz) limits	User station frequency band (MHz) limits
25	18,820–18,830	19,160–19,170
26	18,830–18,840	19,170–19,180
27	18,840–18,850	19,180–19,190
28	18,850–18,860	19,190–19,200
29	18,860–18,870	19,200–19,210
30	18,870–18,880	19,210–19,220
31	18,880–18,890	19,220–19,230
32	18,890–18,900	19,230–19,240
33	18,900–18,910	19,240–19,250
34	18,910–18,920	19,250–19,260

(i) Each station will be limited to one frequency pair per SMSA. Additional channel pairs may be assigned upon a showing that the service to be provided will fully utilize the spectrum requested. A channel pair may be subdivided as desired by the licensee.

(ii) A frequency pair may be assigned to more than one licensee in the same SMSA or service area so long as the interference protection criteria of § 101.105 are met.

(10) Special provision for low power systems in the 17–700–19700 MHz band. Notwithstanding other provisions in this Rule part, licensees of point-to-multipoint channel pairs 25–29 may operate multiple low power transmitting devices within a defined service area. The service area will be a 28 kilometer omnidirectional radius originating from specified center reference coordinates. The specified center coordinates must be no closer than 56 kilometers from any co-channel nodal station or the specified center coordinates of another co-channel system. Applicants/licensees do not need to specify the location of each individual transmitting device operating within their defined service areas. Such operations are subject to the following requirements on the low power transmitting devices:

(i) Power must not exceed one watt EIRP and 100 milliwatts transmitter output power,

(ii) A frequency tolerance of 0.001% must be maintained; and

(iii) The mean power of emissions shall be attenuated in accordance with the following schedule:

(A) In any 4 kHz band, the center frequency of which is removed from the center frequency of the assigned channel by more than 50 percent of the channel bandwidth and is within the bands 18,820–18870 MHz or 19,19160–19,210 MHz:

$A=35+.003(F-0.5B)$ dB

or,

80 dB (whichever is the lesser attenuation).

Where

A=Attenuation (in decibels) below output power level contained within the channel for a given polarization.

B=Bandwidth of channel in kHz.

F=Absolute value of the difference between the center frequency of the 4 kHz band measured at the center frequency of the channel in kHz.

(B) In any 4 kHz band the center frequency of which is outside the bands 18.820–18.870 GHz: At least $43+10\log_{10}$(mean output power in watts) decibels.

(s) Special provisions for low power, limited coverage systems in the band segments 21.8–22.0 GHz and 23.0–23.2 GHz. Notwithstanding any contrary provisions in this part the frequency pairs 21.825/23.025 GHz, 21.875/23.075 GHz, 21.925/23.125 GHz and 21.975/23.175 GHz may be authorized for low power, limited coverage systems subject to the following provisions:

(1) Maximum effective radiated power (ERP) shall be 55 dBm;

(2) The rated transmitter output power shall not exceed 0.100 watts;

(3) Frequency tolerance shall be maintained to within 0.05 percent of the assigned frequency;

(4) Maximum beamwidth not to exceed 4 degrees. However, the sidelobe suppression criteria contained in § 101.115 shall not apply, except that a

minimum front-to-back ratio of 38 dB shall apply;

(5) Upon showing of need, a maximum bandwidth of 50 MHz may be authorized per frequency assigned;

(6) Radio systems authorized under the provisions of this section shall have no more than five hops in tandem, except upon showing of need, but in any event the maximum tandem length shall not exceed 40 km (25 miles);

(7) Interfering signals at the antenna terminals of stations authorized under this section shall not exceed −90 dBm and −70 dBm respectively, for co-channel and adjacent channel interfering signals; and

(8) Stations authorized under the provisions of this section shall provide the protection from interference specified in § 101.105 to stations operating in accordance with the provisions of this part.

(t) *31.0 to 31.3 GHz.* These frequencies are shared on a co-equal basis with other stations in the fixed and mobile services (see parts 74 of this chapter, 95 of this chapter, and this part 101). No interference protection is afforded to fixed or mobile stations operating in this band.

(1) 25 MHz authorized bandwidth channels, 150 MHz separation:

Transmit (receive) (MHz)	Receive) (transmit) (MHz)
31,012.5	31,162.5
31,037.5	31,187.5
31,062.5	31,212.5
31,087.5	31,237.5
31,112.5	31,262.5
31,137.5	31,287.5

(2) 50 MHz authorized bandwidth channels, 150 MHz separation:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
31,025.0	31,175.0
31,075.0	31,225.0
31,125.0	31,275.0

(u) Assignments in the band 38,600–40,000 MHz must be according to the following frequency plan:

Channel group A		Channel group B	
Channel No.	Frequency band limits MHz	Channel No.	Frequency Band limits MHz
1–A	38,600–38,650	1–B	39,300–39,350
2–A	38,650–38,700	1–B	39,350–39,400
3–A	38,700–38,750	3–B	39,400–39,450
4–A	38,750–38,800	4–B	39,450–39,500
5–A	38,800–38,850	5–B	39,500–39,550
6–A	38,850–38,900	6–B	39,550–39,600
7–A	38,900–38,950	7–B	39,600–39,650
8–A	38,950–39,000	8–B	39,650–39,700
9–A	39,000–39,050	9–B	39,700–39,750
10–A	39,050–39,100	10–B	39,750–39,800
11–A	39,100–39,150	11–B	39,800–39,850
12–A	39,150–39,200	12–B	39,850–39,900
13–A	39,200–39,250	13–B	39,900–39,950
14–A	39,250–39,300	14–B	39,950–40,000

NOTE TO (u): These channels are assigned for use within a rectangular service area to be described in the application by the maximum and minimum latitudes and longitudes. Such service area must be as small as practical consistent with the local service requirements of the carrier. These frequency plans may be subdivided as desired by the licensee and used within the service area as desired without further authorization subject to the terms and conditions set forth in § 101.149. These frequencies may be assigned only where it is shown that the applicant will have reasonable projected requirements for a multiplicity of service points or transmission paths within the area.

(v) Fixed systems licensed, in operation, or applied for in the 3,700–4,200, 5925–6425, 6,525–6,875, 10,550–10,680, and 10,700–11,700 MHz bands prior to July 15, 1993, are permitted to use channel plans in effect prior to that date, including adding channels under those plans.

(w) Operations on other than the listed frequencies may be authorized where it is shown that the objectives or

requirements of the interference criteria prescribed in § 101.105 could not otherwise be met to resolve the interference problems.

(x) The frequency 27.255 MHz in the 27.23–27.28 MHz band is allocated for assignment to microwave auxiliary stations in this service on a shared basis with other radio services. Assignments to stations on this frequency will not be protected from such interference as may be experienced from the emissions of industrial, scientific and medical equipment operating on 27.12 MHz in accordance with § 2.106 of this chapter.

(y) *Special requirements for operations in the band 29.1–29.25 GHz.* (1)(i) LMDS receive stations operating on frequencies in the 29.1–29.25 GHz band within a radius of 75 nautical miles of the geographic coordinates provided by a non-GSO MSS licensee pursuant to paragraphs (c)(2) or (c)(3)(i) of this section (the ''feeder link earth station complex protection zone'') shall accept any interference caused to them by such earth station complexes and shall not claim protection from such earth station complexes.

(ii) LMDS licensees operating on frequencies in the 29.1–29.25 GHz band outside a feeder link earth station complex protection zone shall cooperate fully and make reasonable efforts to resolve technical problems with the non-GSO MSS licensee to the extent that transmissions from the non-GSO MSS operator's feeder link earth station complex interfere with an LMDS receive station.

(2) No more than 15 days after the release of a public notice announcing the commencement of LMDS auctions, feeder link earth station complexes to be licensed pursuant to Section 25.257 shall be specified by a set of geographic coordinates in accordance with the following requirements: no feeder link earth station complex may be located in the top eight (8) metropolitan statistical areas (''MSAs''), ranked by population, as defined by the Office of Management and Budget as of June 1993, using estimated populations as of December 1992; two (2) complexes may be located in MSAs 9 through 25, one of which must be Phoenix, AZ (for a complex at Chandler, AZ); two (2) complexes may be located in MSAs 26 to 50; three (3) complexes may be located in MSAs 51 to 100, one of which must be Honolulu, Hawaii (for a complex at Waimea); and the three (3) remaining complexes must be located at least 75 nautical miles from the borders of the 100 largest MSAs or in any MSA not included in the 100 largest MSAs. Any location allotted for one range of MSAs may be taken from an MSA below that range.

(3)(i) Any non-GSO MSS licensee may at any time specify sets of geographic coordinates for feeder link earth station complexes with each earth station contained therein to be located at least 75 nautical miles from the borders of the 100 largest MSAs.

(ii) For purposes of paragraph (c)(3)(i) of this section, non-GSO MSS feeder link earth station complexes shall be entitled to accommodation only if the affected non-GSO MSS licensee preapplies to the Commission for a feeder link earth station complex or certifies to the Commission within sixty days of receiving a copy of an LMDS application that it intends to file an application for a feeder link earth station complex within six months of the date of receipt of the LMDS application.

(iii) If said non-GSO MSS licensee application is filed later than six months after certification to the Commission, the LMDS and non-GSO MSS entities shall still cooperate fully and make reasonable efforts to resolve technical problems, but the LMDS licensee shall not be obligated to re-engineer its proposal or make changes to its system.

(4) LMDS licensees or applicants proposing to operate hub stations on frequencies in the 29.1–29.25 GHz band at locations outside of the 100 largest MSAs or within a distance of 150 nautical miles from a set of geographic coordinates specified under paragraph (c)(2) or (c)(3)(i) of this section shall serve copies of their applications on all non-GSO MSS applicants, permitees or licensees meeting the criteria specified in § 25.257(a). Non-GSO MSS licensees or applicants shall serve copies of their feeder link earth station applications, after the LMDS auction, on any LMDS applicant or licensee within a distance of 150 nautical miles from the geographic coordinates that it specified

under paragraph (c)(2) or (c)(3)(i) of this section. Any necessary coordination shall commence upon notification by the party receiving an application to the party who filed the application. The results of any such coordination shall be reported to the Commission within sixty days. The non-GSO MSS earth station licensee shall also provide all such LMDS licensees with a copy of its channel plan.

[61 FR 26677, May 28, 1996, as amended at 61 FR 29695, June 12, 1996; 61 FR 44183, Aug. 28, 1996]

EFFECTIVE DATE NOTE: At 61 FR 44183, Aug. 28, 1996, § 101.147 was amended by adding paragraph (y), effective Oct. 28, 1996.

§ 101.149 Special requirements for operation in the band 38,600–40,000 MHz

Assigned frequency channels in the band 38,600–40,000 MHz may be subdivided and used anywhere in the authorized service area, subject to the following terms and conditions:

(a) No interference may be caused to a previously existing station operating in another authorized service area;

(b) Each operating station must have posted a copy of the service area authorization; and

(c) The antenna structure height employed at any location may not exceed the criteria set forth in § 17.7 of this chapter unless, in each instance, authorization for use of a specific maximum antenna structure for each location has been obtained from the FAA prior to the erection of the antenna.

§ 101.151 Use of signal boosters.

Private operational-fixed licensees authorized to operate multiple address systems in the 928–929/952–960 MHz and 932–932.5/941–941.5 MHz bands may employ signal boosters at fixed locations in accordance with the following criteria:

(a) The amplified signal is retransmitted only on the exact frequency(ies) of the originating base, fixed, mobile, or portable station(s). The booster will fill in only weak signal areas and cannot extend the system's normal signal coverage area.

(b) Class A narrowband signal boosters must be equipped with automatic gain control circuitry which will limit the total effective radiated power (ERP) of the unit to a maximum of 5 watts under all conditions. Class B broadband signal boosters are limited to 5 watts ERP for each authorized frequency that the booster is designed to amplify.

(c) Class A narrowband boosters must meet the out-of-band emission limits of § 101.111 for each narrowband channel that the booster is designed to amplify. Class B broadband signal boosters must meet the emission limits of § 101.111 for frequencies outside of the booster's design passband.

(d) Class B broadband signal boosters are permitted to be used only in confined or indoor areas such as buildings, tunnels, underground areas, etc., or remote areas, *i.e.*, areas where there is little or no risk of interference to other users.

(e) The licensee is given authority to operate signal boosters without separate authorization from the Commission. Type-accepted equipment must be employed and the licensee must ensure that all applicable rule requirements are met.

(f) Licensees employing either Class A narrowband or Class B broadband signal boosters as defined in § 101.3 are responsible for correcting any harmful interference that the equipment may cause to other systems.

[61 FR 31052, June 19, 1996]

Subpart D—Operational Requirements

§ 101.201 Station inspection.

The licensee of each station authorized in the radio services included in this part must make the station available for inspection by representatives of the Commission at any reasonable hour.

§ 101.203 Communications concerning safety of life and property.

(a) Handling and transmission of messages concerning the safety of life or property which is in imminent danger must be afforded priority over other messages.

(b) No person may knowingly cause to be transmitted any false or fraudulent message concerning the safety of

life or property, or refuse upon demand immediately to relinquish the use of a radio circuit to enable the transmission of messages concerning the safety of life or property which is in imminent danger, or knowingly interfere or otherwise obstruct the transmission of such messages.

§ 101.205 Operation during emergency.

The licensee of any station in these services may, during a period of emergency in which normal communication facilities are disrupted as a result of hurricane, flood, earthquake, or similar disaster, utilize such station for emergency communication service in a manner other than that specified in the instrument of authorization: Provided:

(a) That as soon as possible after the beginning of such emergency use, notice be sent to the Commission at Washington, DC stating the nature of the emergency and the use to which the station is being put;

(b) That the emergency use of the station must be discontinued as soon as substantially normal communication facilities are again available;

(c) That the Commission at Washington, DC must be notified immediately when such special use of the station is terminated;

(d) That, in no event, will any station engage in emergency transmission on frequencies other than, or with power in excess of, that specified in the instrument of authorization or as otherwise expressly provided by the Commission, or by law; and

(e) That the Commission may, at any time, order the discontinuance of any such emergency communication.

§ 101.207 Suspension of transmission.

Transmission must be suspended immediately upon detection by the station or operator licensee or upon notification by the Commission of a deviation from the technical requirements of the station authorization and must remain suspended until such deviation is corrected, except for transmission concerning the immediate safety of life or property, in which case transmission must be suspended immediately after the emergency is terminated.

§ 101.209 Operation of stations at temporary fixed locations for communication between the United States and Canada or Mexico.

Stations authorized to operate at temporary fixed locations may not be used for transmissions between the United States and Canada, or the United States and Mexico, without prior specific notification to, and authorization from, the Commission. Notification of such intended usage of the facilities should include a detailed showing of the operation proposed, including the parties involved, the nature of the communications to be handled, the terms and conditions of such operations, the time and place of operation, such other matters as the applicant deems relevant, and a showing as to how the public interest, convenience and necessity would be served by the proposed operation. Such notification should be given sufficiently in advance of the proposed date of operation to permit any appropriate correlation with the respective foreign government involved (see §§ 101.31, 101.811, 101.813, and 101.815).

§ 101.211 Operator requirements.

(a) Any person, with the consent or authorization of the licensee, may employ stations in this service for the purpose of telecommunications in accordance with the conditions and limitations set forth in § 101.135.

(b) The station licensee is responsible for the proper operation of the station at all times and is expected to provide for observations, servicing and maintenance as often as may be necessary to ensure proper operation.

(c) The provisions of paragraph (a) of this section may not be construed to change or diminish in any respect the responsibility of station licensees to have and to maintain control over the stations licensed to them (including all transmitter units thereof), or for the proper functioning and operation of those stations (including all transmitter units thereof) in accordance with the terms of the licenses of those stations.

§ 101.213 Station identification.

Stations in these services are exempt from the requirement to identify transmissions by call sign or any other station identifier.

§ 101.215 Posting of station authorization and transmitter identification cards, plates, or signs.

(a) Each licensee shall post at the station the name, address and telephone number of the custodian of the station license or other authorization if such license or authorization is not maintained at the station.

(b) The requirements in paragraph (a) of this section do not apply to remote stations using frequencies listed in § 101.147(b).

§ 101.217 Station records.

Each licensee of a station subject to this part shall maintain records in accordance with the following:

(a) For all stations, the results and dates of transmitter measurements and the name of the person or persons making the measurements;

(b) For all stations, when service or maintenance duties are performed, which may affect their proper operation, the responsible operator shall sign and date an entry in the station record concerned, giving:

(1) Pertinent details of all transmitter adjustments performed by him or under his supervision; and

(2) His name and address, provided that this information, so long as it remains unchanged, is not required to be repeated in the case of a person who is regularly employed as operator on a full-time basis at the station.

(c) The records shall be kept in an orderly manner, and in such detail that the data required are readily available. Key letters or abbreviations may be used if proper meaning or explanation is set forth in the record.

(d) Each entry in the records of each station shall be signed by a person qualified to do so, having actual knowledge of the facts to be recorded.

(e) No record or portion thereof shall be erased, obliterated, or willfully destroyed within the required retention period. Any necessary correction may be made only by the person originating the entry, who shall strike out the erroneous portion, initial the correction made and indicate the date of correction.

(f) Records required by this part shall be retained by the licensee for a period of at least one year.

Subpart E—Miscellaneous Common Carrier Provisions

§ 101.301 National defense; free service.

Any common carrier authorized under the rules of this part may render to any agency of the United States Government free service in connection with the preparation for the national defense. Every such carrier rendering any such free service must make and file, in duplicate, with the Commission, on or before the 31st of July and on or before the 31st day of January in each year, reports covering the periods of 6 months ending on the 30th of June and the 31st of December, respectively, next prior to said dates. These reports must show the names of the agencies to which free service was rendered pursuant to this rule, the general character of the communications handled for each agency, and the charges in dollars which would have accrued to the carrier for such service rendered to each agency if charges for such communications had been collected at the published tariff rates.

§ 101.303 Answers to notices of violation.

Any person receiving official notice of a violation of the terms of the Communications Act of 1934, as amended, any other Federal statute or Executive Order pertaining to radio or wire communications or any international radio or wire communications treaty or convention, or regulations annexed thereto to which the United States is a party, or the rules and regulations of the Federal Communications Commission, must, within 10 days from such receipt, send a written answer to the office of the Commission originating the official notice. If an answer cannot be sent or an acknowledgment made within such 10-day period by reason of

illness or other unavoidable circumstances, acknowledgment and answer must be made at the earliest practicable date with a satisfactory explanation of the delay. The answer to each notice must be complete in itself and may not be abbreviated by reference to other communications or answers to other notices. If the notice relates to some violation that may be due to the physical or electrical characteristics of transmitting apparatus, the answer must state fully what steps have been taken to prevent future violations, and, if any new apparatus is to be installed, the date such apparatus was ordered, the name of the manufacturer, and promised date of delivery. If the installation of such apparatus requires a construction permit, the file number of the application must be given or, if a file number has not been assigned by the Commission, such identification as will permit ready reference thereto. If the notice of violation relates to inadequate maintenance resulting in improper operation of the transmitter, the name and license number of the operator performing the maintenance must be given. If the notice of violation relates to some lack of attention to, or improper operation of, the transmitter by other employees, the reply must enumerate the steps taken to prevent a recurrence of such lack of attention or improper operation.

§ 101.305 Discontinuance, reduction or impairment of service.

(a) If the public communication service provided by a station in the Common Carrier Radio Services is involuntarily discontinued, reduced or impaired for a period exceeding 48 hours, the station licensee must promptly notify the Commission, in writing, at Federal Communications Commission, Common Carrier Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325. In every such case, the licensee must furnish full particulars as to the reasons for such discontinuance, reduction or impairment of service, including a statement as to when normal service is expected to be resumed. When normal service is resumed, prompt notification thereof must be given in writing to the Federal Communications Commission, Common Carrier Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325.

(b) No station licensee subject to title II of the Communications Act of 1934, as amended, may voluntarily discontinue, reduce or impair public communication service to a community or part of a community without obtaining prior authorization from the Commission pursuant to the procedures set forth in part 63 of this chapter. In the event that permanent discontinuance of service is authorized by the Commission, the station licensee must promptly send the station license to the Federal Communications Commission, Common Carrier Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325 for cancellation.

(c) Any common carrier station licensee, not subject to title II of the Communications Act of 1934, as amended, who voluntarily discontinues, reduces or impairs public communication service to a community or a part of a community must give written notification to the Commission within 7 days thereof. In the event of permanent discontinuance of service, the station licensee must promptly send the station license to the Federal Communications Commission, Common Carrier Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325 for cancellation.

(d) If any common carrier radio frequency should not be used to render any service as authorized during a consecutive period of twelve months at any time after construction is completed under circumstances that do not fall within the provisions of paragraph (a), (b), or (c) of this section, or, if removal of equipment or facilities has rendered the station not operational, the licensee must, within thirty days of the end of such period of nonuse:

(1) Submit for cancellation the station license (or licenses) to the Federal Communications Commission, Common Carrier Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325 for cancellation;

(2) File an application for modification of the license (or licenses) to delete the unused frequency (or frequencies); or

(3) Request waiver of this rule and demonstrate either that the frequency

will be used (as evidenced by appropriate requests for service, etc.) within six months of the end of the initial period of nonuse, or that the frequency will be converted to allow rendition of other authorized public services within one year of the end of the initial period of nonuse by the filing of appropriate applications within six months of the end of the period of nonuse.

§ 101.307 Tariffs, reports, and other material required to be submitted to the Commission.

Sections 1.771 through 1.815 of this chapter contain summaries of certain materials and reports, including schedule of charges and accounting and financial reports, which, when applicable, must be filed with the Commission.

§ 101.309 Requirement that licensees respond to official communications.

All licensees in these services are required to respond to official communications from the Commission with reasonable dispatch and according to the tenor of such communications. Failure to do so will be given appropriate consideration in connection with any subsequent applications which the offending party may file and may result in the designation of such applications for hearing, or in appropriate cases, the institution of proceedings looking to the modification or revocation of the pertinent authorizations.

§ 101.311 Equal employment opportunities.

Equal opportunities in employment must be afforded by all common carrier licensees in accordance with the provisions of § 21.307 of this chapter.

Subpart F—Developmental Authorizations

§ 101.401 Eligibility.

Developmental authorizations for stations in the radio services included in this part will be issued only to existing and proposed licensees who are legally, financially and otherwise qualified to conduct experimentation for the development of engineering or operational data, or techniques, directly related to a proposed radio service or to a regularly established radio service regulated by the rules of this part.

§ 101.403 Scope of service.

Developmental authorizations may be issued for:

(a) Field strength surveys relative to or precedent to the filing of applications for licenses, in connection with the selection of suitable locations for stations proposed to be established in any of the regularly established radio services regulated by the rules of this part; or

(b) The testing of existing or authorized antennas, wave guides, paths, or other equipment used in a system subject to this part.

§ 101.405 Adherence to program of research and development.

The program of research and development, as stated by an applicant in the application for license or stated in the instrument of station authorization, must be substantially adhered to unless the licensee is otherwise authorized by the Commission.

§ 101.407 Special procedure for the development of a new service or for the use of frequencies not in accordance with the provisions of the rules in this part.

(a) An authorization for the development of a new service not in accordance with the provisions of the rules in this part may be granted for a limited time, but only after the Commission has made a preliminary determination with respect to the factors set forth in this paragraph, as each case may require. This procedure also applies to any application that involves use of a frequency which is not in accordance with the provisions of the rules in this part, although in accordance with the Table of Frequency Allocations contained in part 2 of this chapter. (An application which involves use of a frequency which is not in accordance with the Table of Frequency Allocations in part 2 of this chapter should be filed in accordance with the provisions of part 5 of this chapter, Experimental Radio Services.) The factors with respect to which the Commission will make a preliminary determination before acting

on an application filed under this paragraph are as follows:

(1) That the public interest, convenience or necessity warrants consideration of the establishment of the proposed service or the use of the proposed frequency;

(2) That the proposed operation appears to warrant consideration to effect a change in the provisions of the rules in this part; and/or

(3) That some operational data should be developed for consideration in any rule making proceeding which may be initiated.

(b) Applications for stations that are intended to be used in the development of a proposed service must be accompanied by a petition to amend the Commission's rules with respect to frequencies and such other items as may be necessary to provide for the regular establishment of the proposed service.

§ 101.409 Terms of grant; general limitations.

(a) Developmental authorizations normally will be issued for one year, or such shorter term as the Commission may deem appropriate in any particular case, and will be subject to cancellation without hearing by the Commission at any time upon notice to the licensee.

(b) Where some phases of the developmental program are not covered by the general rules of the Commission or by the rules of this part, the Commission may specify supplemental or additional requirements or conditions in each case as it may deem necessary in the public interest, convenience or necessity.

(c) Frequencies allocated to the service toward which such development is directed will be assigned for developmental operation on the basis that no interference will be caused to the regular services of stations operating in accordance with the Commission's Table of Frequency Allocations (§ 2.106 of this chapter).

(d) The rendition of communication service for hire is not permitted under any developmental authorizations unless specifically authorized by the Commission.

(e) The grant of a developmental authorization carries with it no assurance that the developmental program, if successful, will be authorized on a permanent basis either as to the service involved or the use of the frequencies assigned or any other frequencies.

§ 101.411 Supplementary showing required.

(a) Authorizations for development of a proposed radio service in the services included in this part will be issued only upon a showing that the applicant has a definite program of research and development, the details of which must be set forth, which has reasonable promise of substantial contribution to these services within the term of such authorization. A specific showing should be made as to the factors which qualify the applicant technically to conduct the research and development program, including a description of the nature and extent of engineering facilities that the applicant has available for such purposes.

(b) Expiring developmental authorizations may be renewed only upon the applicant's compliance with the applicable requirements of § 101.413 (a) and (b) relative to the authorization sought to be renewed and upon a factual showing that further progress in the program of research and development requires further radio transmission and that the public interest, convenience or necessity would be served by renewal of such authorization.

§ 101.413 Developmental report required.

(a) Upon completion of the program of research and development, or, in any event, upon the expiration of the instrument of station authorization under which such investigations were permitted, or at such times during the term of the station authorization as the Commission may deem necessary to evaluate the progress of the developmental program, the licensee must submit, in duplicate, a comprehensive report on the following items, in the order designated:

(1) Report on the various phases of the project which were investigated;

(2) Total number of hours of operation on each frequency assigned;

(3) Copies of any publication on the project;

(4) Detailed analysis of the result obtained; and

(5) Any other pertinent information.

(b) In addition to the information required by paragraph (a) of this section, the developmental report of a station authorized for the development of a proposed radio service must include comprehensive information on the following items:

(1) Probable public support and methods of its determination;

(2) Practicability of service operations;

(3) Interference encountered;

(4) Pertinent information relative to merits of the proposed service;

(5) Propagation characteristics of frequencies used, particularly with respect to the service objective;

(6) Frequencies believed to be more suitable and reasons therefor; and

(7) Type of signals or communications employed in the experimental work.

(c) Developmental reports will be made a part of the Commission's public records, except upon the applicant's specific request for confidentiality and Commission approval in accordance with § 0.459 of this chapter. Information determined confidential by the Commission will not be publicly disclosed.

Subpart G—Digital Electronic Message Service

§ 101.501 Eligibility.

Applications will be granted only in cases in which the applicant establishes it is legally, technically, financially and otherwise qualified to render the services proposed and that the public interest, convenience and necessity would be served by such a grant. Each application will identify the Standard Metropolitan Statistical Area (SMSA) within which boundaries the Digital Electronic Message Service (DEMS) nodal station will be constructed and which the facility will serve.

§ 101.503 Digital Electronic Message Service Nodal Stations.

DEMS Nodal Stations may be authorized only as a part of an integrated communication system wherein DEMS User Stations associated therewith also are licensed to the DEMS Nodal Station licensee. Applications for DEMS Nodal Station licenses should specify the maximum number of DEMS User Stations to be served by that nodal station. Any increase in that number must be applied for pursuant to § 101.15.

§ 101.505 Frequencies.

(a) Frequencies in the 17,700–19,700 MHz band are available for assignment for all DEMS applicants. Assignment will consist of a pair of channels as set out in paragraph (c) of this section plus internodal channels as set out in paragraph (d) of this section.

(b) Licensees may apply for an additional channel pair in an SMSA only when it is operating its previously authorized DEMS at or near the expected capacity and the service to be provided will fully utilize all spectrum requested.

(c) DEMS assignments will be made according to the following plan, except that systems licensed, in operation, or applied for in the 10,565–10,615 and 10,630–10,680 MHz bands prior to July 15, 1993 are permitted to use frequencies in those bands if they prior coordinate with 10 GHz point-to-point licensees:

Channel No	Nodal station frequency band (MHz)	User station frequency band (MHz)
30	18,870–18,880	19,210–19,220
31	18,880–18,890	19,220–19,230
32	18,890–18,900	19,230–19,240
33	18,900–18,910	19,240–19,250
34	18,910–18,920	19,250–19,260

NOTE TO (c): These channel pairs will be assigned in each SMSA and may be subdivided as desired by the licensee.

(d) Internodal link assignments are to be made in accordance with the provisions of subpart I of this part, applying to point-to-point operations.

§ 101.507 Frequency stability.

The frequency stability of each DEMS Nodal Station transmitter authorized for this service in the 17,700–19,700 MHz band must be ±0.001%. The frequency stability of each DEMS User Station transmitter authorized for this service in this band must be ±0.003%.

§ 101.509 Interference protection criteria.

(a) All harmful interference to other users and blocking of adjacent channel use in the same city and cochannel use in nearby Standard Metropolitan Statistical Areas is prohibited. In areas where SMSA's are in close proximity, careful consideration should be given to minimum power requirements and to the location, height, and radiation pattern of the transmitting antenna. Licensees and applicants are expected to cooperate fully in attempting to resolve problems of potential interference before bringing the matter to the attention of the Commission.

(b) As a condition for use of frequencies in this service each carrier is required to:

(1) Engineer the system to be reasonably compatible with adjacent channel operations in the same city; and

(2) Cooperate fully and in good faith to resolve whatever potential interference and transmission security problems may be present in adjacent channel operation.

(c) The following interference studies, as appropriate, must be included with each application for a new or major modification in a DEMS Nodal Station:

(1) An analysis of the potential for harmful interference with other stations if the coordinates of any proposed station are located within 80 kilometers (50 miles) of the coordinates of any authorized, or previously proposed station(s) that utilizes, or would utilize, the same frequency or an adjacent potentially interfering frequency; and

(2) An analysis concerning possible adverse impact upon Canadian communications if the station's transmitting antenna is to be located within 55 kilometers (35 miles) of the Canadian border.

(d) In addition a copy of the interference analysis submitted in response to paragraph (c)(1) of this section must be served on all applicants and/or grantees concerned within 5 days of its submission to the Commission.

§ 101.511 Purpose and permissible service.

(a) The DEMS is intended to provide for the exchange of digital information among and between subscribers using one or more DEMS Systems.

(b) Unless otherwise directed or conditioned in the applicable instrument of authorization, DEMS may be used to exchange any type of digital information consistent with the Commission's Rules and the applicable tariff of the carrier.

(c) The carrier's tariff must fully describe the parameters of the service to be provided, including the degree of communications security a subscriber can expect in ordinary service.

§ 101.513 Transmitter power.

The transmitter power will be governed by § 101.113. Further, each application must contain an analysis demonstrating compliance with § 101.113(a).

§ 101.515 Emissions and bandwidth.

Different types of emissions may be authorized if the applicant describes fully the modulation and bandwidth desired, and demonstrates that the bandwidth desired is no wider than needed to provide the intended service. In no event, however, may the necessary or occupied bandwidth exceed the specified channel width of the assigned pair.

§ 101.517 Antennas.

(a) Transmitting antennas may be omnidirectional or directional, consistent with coverage and interference requirements.

(b) The use of horizontal or vertical plane wave polarization, or right hand or left hand rotating elliptical polarization must be used to minimize harmful interference between stations.

(c) Directive antennas must be used at all DEMS User Stations and may be elevated no higher than necessary to assure adequate service. Antenna structures requiring FAA notification under part 17 of this chapter must be registered with the Commission. The structure owner is responsible for registering, painting, and lighting the structure if applicable. Requests for such authorization must show the inclusive dates of the proposed operation.

§ 101.519 Interconnection.

(a) All DEMS licensees must make available to the public all information necessary to allow the manufacture of

user equipment that will be compatible with the licensee's network.

(b) All DEMS licensees must make available to the public all information necessary to allow interconnection of DEMS networks.

§ 101.521 Spectrum utilization.

All applicants for DEMS frequencies must submit as part of the original application a detailed plan indicating how the bandwidth requested will be utilized. In particular the application must contain detailed descriptions of the modulation method, the channel time sharing method, any error detecting and/or correcting codes, any spatial frequency reuse system and the total data throughput capacity in each of the links in the system. Further, the application must include a separate analysis of the spectral efficiency including both information bits per unit bandwidth and the total bits per unit bandwidth.

Subpart H—Private Operational Fixed Point-to-Point Microwave Service

§ 101.601 Eligibility

Any person, or any governmental entity or agency, eligible for licensing in a radio service under parts 80, 87, or 90 of this chapter or any person proposing to provide communications service to such persons, governmental entities or agencies is eligible to hold a license under this subpart.

§ 101.603 Permissible communications.

(a) Except as provided in paragraph (b) of this section, stations in this radio service may transmit communications as follows:

(1) On frequencies below 21,200 MHz, licensees may transmit their own communications, including the transmission of their products and information services, to their customers except that the distribution of video entertainment material to customers is permitted only as indicated in § 101.101 and paragraph (a)(2) of this section.

(2) In the frequency bands 6425–6525 MHz, 18,142–18,580 MHz and on frequencies above 21,200 MHz, licensees may deliver any of their own products and services to any receiving location;

(3) Licensees may transmit the communications of their parent corporation, or of another subsidiary of the same parent, or their own subsidiary where the party to be served is regularly engaged in any of the activities that constitute the basis for eligibility to use the frequencies assigned;

(4) Licensees may transmit the communications of other parties in accordance with § 101.135;

(5) Licensees may transmit emergency communications unrelated to their activities in accordance with § 101.205;

(6) Licensees may transmit communications on a commercial basis to eligible users, among different premises of a single eligible user, or from one eligible user to another as part of transmissions by Digital Electronic Message Service systems on the frequencies provided for this purpose;

(7) Licensees may transmit program material from one location to another, provided that the frequencies do not serve as the final RF link in the chain of distribution of the program material to broadcast stations;

(b) Stations licensed in this radio service shall not:

(1) Render a common carrier communications service of any kind;

(2) Transmit program material for use in connection with broadcasting, except as provided in paragraphs (a)(2), and (a)(7)) of this section; and/or

(3) Be used to provide the final RF link in the chain of transmission of program material to cable television systems, multipoint distribution systems or master antenna TV systems, except in the frequency bands 6425–6525 and 18,142–18,580 MHz and on frequencies above 21,200 MHz.

Subpart I—Common Carrier Fixed Point-to-Point Microwave Service

§ 101.701 Eligibility.

(a) Authorizations for stations in this service will be issued to existing and proposed common carriers. Applications will be granted only in cases in which it is shown that:

(1) The applicant is legally, technically, financially and otherwise

qualified to render the proposed service;

(2) There are frequencies available to enable the applicant to render a satisfactory service; and

(3) The public interest, convenience, and necessity would be served by a grant thereof.

(b) If the content is originated, selected, controlled, or otherwise substantively influenced by the applicant, licensee, or a closely affiliated entity, no station or radio frequency in this service will be authorized, or may be utilized, to transmit any closed circuit television signals or television signals other than broadcast television signals, unless:

(1) Such service is otherwise permitted for a specific length of time by grant of an acceptable petition for waiver of this rule; or

(2) Such service is otherwise permitted by a condition in the applicable instrument of authorization; or

(3) Such service is provided pursuant to applicable FCC tariff and is temporary and occasional intra-company television communication for management, network supervision, or other internal carrier functions. For purposes of this paragraph, an entity will be considered to be ''closely affiliated'' with an applicant if it is in a parent-subsidiary relationship, or both are commonly controlled, or they have any common officers or management employees.

(c) Applications for stations or frequencies that will be used primarily to relay broadcast television signals must include a demonstration (including appropriate system diagrams and tables) that at least fifty percent of the customers (or points of service) on the microwave system involved, including those served through an interconnecting carrier(s), receiving applicant's service, will not be related or affiliated in any degree with the applicant, and that the proposed usage by such customers, in terms of hours of use and channels delivered, must constitute at least fifty percent of the usage of the applicant's microwave service. Applications that do not contain these demonstrations will be returned as unacceptable for filing.

§ 101.703 Permissible communications.

Stations in this service are authorized to render any kind of communication service provided for in the legally applicable tariffs of the carrier, unless otherwise directed in the applicable instrument of authorization or limited by § 101.147 or §§ 101.111 and 101.113.

§ 101.705 Renewal of station licenses.

(a) An application for renewal of a station license in the Common Carrier Fixed Point-to-Point Microwave Service primarily used to relay television signals must contain:

(1) A statement that such use complies with § 101.701(b); and

(2) The demonstration required by § 101.701(c). Applications that do not contain these items as appropriate will be returned as unacceptable for filing.

(b) Any application for renewal of license, for a term commencing January 1, 1975, or after, involving facilities utilizing frequency diversity must contain a statement showing compliance with § 101.103(c) or the exceptions recognized in paragraph 141 of the ''First Report and Order'' in Docket No. 18920 (29 FCC 2d 870). (This document is available at: Federal Communications Commission, Library (Room 639), 1919 M Street, NW., Washington, DC.) If not in compliance, a complete statement with the reasons therefor must be submitted.

Subpart J—Local Television Transmission Service

§ 101.801 Eligibility.

Authorizations for stations in this service will be granted to existing and proposed communication common carriers. Applications will be granted only in cases where it is shown that:

(a) The applicant is legally, financially, technically and otherwise qualified to render the proposed service;

(b) There are frequencies available to enable the applicant to render a satisfactory service; and

(c) The public interest, convenience or necessity would be served by a grant thereof.

§ 101.803 Frequencies.

(a) Frequencies in the following bands are available for assignment to

television pickup and television non-broadcast pickup stations in this service:

6,425 to 6,525 MHz. (6)
11,700 to 12,200 MHz. (3)
13,200 to 13,250 MHz. (1)
14,200 to 14,400 MHz.
21,200 to 22,000 MHz. (1), (2), (4), (5)
22,000 to 23,600 MHz. (1), (2), (5)
31,000 to 31,300 MHz. (7)

Notes

(1) This frequency band is shared with fixed and mobile stations licensed under this and other parts of the Commission's Rules.

(2) This frequency band is shared with Government stations.

(3) This frequency band is shared, on a secondary basis, with stations in the broadcasting-satellite and fixed-satellite services.

(4) This frequency band is shared with stations in the earth-exploration satellite service.

(5) Assignments to common carriers in this band are normally made in the segments 21,200–21,800 MHz and 22,400–23,800 MHz and to operational fixed users in the segments 21,800–22,400 MHz and 23,000–23,600 MHz. Assignments may be made otherwise only upon a showing that interference free frequencies are not available in the normally assigned band segments. The maximum power for the local television transmission service in the 14.2–14.4 GHz band is +45 dBW except that operations are not permitted within 1.5 degrees of the geostationary orbit.

(6) This band is co-equally shared with mobile stations licensed pursuant to parts 74 and 78 of this chapter, and subpart H of this part.

(7) Use of this spectrum for direct delivery of video programs to the general public or multi-channel cable distribution is not permitted.

(b) Communications common carriers in the Local Television Transmission Service may be assigned frequencies listed in §§ 74.602(a), 78.18(a)(7) and 78.18(a)(8) of this chapter to provide service to television broadcast stations, television broadcast network-entities, cable system operators and cable network-entities. Frequency availability is subject to the provisions of § 74.604 of this chapter and the use of the facility is limited to the permissible uses described in §§ 74.631 and 78.11 of this chapter. Operations on these frequencies are subject to the technical provisions of part 74, subpart F, and part 78, subpart D of this chapter.

(c) [Reserved]

(d) Frequencies in the following bands are available for assignment to television STL stations in this service:

3,700 to 4,200 MHz (1)
5,925 to 6,425 MHz (1),(5)
10,700 to 11,700 MHz (1),(6)
13,200 to 13,250 MHz (2)
21,200 to 22,000 MHz (2),(4),(7),(8)
22,000 to 23,600 MHz (2),(6),(8)
31,000 to 31,300 MHz (9)

Notes

(1) This frequency band is shared with stations in the Point to Point Microwave Radio Service and, in United States Possessions in the Caribbean area, with stations in the International Fixed Radiocommunications Services.

(2) This frequency band is shared with fixed and mobile stations licensed under this and other parts of the Commission's rules.

(3) This frequency band is shared with space stations (space to earth) in the fixed-satellite service.

(4) This frequency band is shared with Government stations.

(5) This frequency band is shared with earth stations (earth to space) in the fixed-satellite services.

(6) The band segments 10.95–11.2 and 11.45–11.7 GHz are shared with space stations (space to earth) in the fixed-satellite service.

(7) This frequency band is shared with space stations (space to earth) in the earth exploration satellite service.

(8) Assignments to common carriers in this band are normally made in the segments 21,200–21,800 MHz and 22,400–23,000 MHz and to operational fixed users in the segments 21,800–22,400 MHz and 23,000–23,600 MHz. Assignments may be made otherwise only upon a showing that interference free frequencies are not available in the appropriate band segments.

(9) Frequencies in this band are co-equally shared with stations in the Auxiliary Broadcasting (part 74) of this chapter, Cable Television Relay (part 78) of this chapter, Private Operational-Fixed Microwave (subpart H) of this part, and General Mobile Radio Services (part 95) of this chapter.

(e) *31.0 to 31.3 GHz.* These frequencies are shared on a co-equal basis with other stations in the fixed and mobile services (see parts 74, 78, and 95 of this chapter, and subpart H of this part). No interference protection is afforded to fixed or mobile stations operating in this band.

(1) 25 MHz authorized bandwidth channels, 150 MHz separation.

Transmit (receive) (MHz)	Receive (transmit) (MHz)
31,012.5	31,162.5
31,037.5	31,187.5
31,062.5	31,212.5
31,087.5	31,237.5
31,112.5	31,262.5
31,137.5	31,287.5

(2) 50 MHz authorized bandwidth channels, 150 MHz separation.

Transmit (receive) (MHz)	Receive (transmit) (MHz)
31,025.0	31,175.0
31,075.0	31,225.0
31,125.0	31,275.0

(f) On the condition that harmful interference will not be caused to services operating in accordance with the Table of Frequency Allocations, persons holding valid station authorizations on July 15, 1963, to provide television nonbroadcast pickup service in the 6525–6575 MHz band may be authorized to continue use of the frequencies specified in their authorization for such operations until July 15, 1968.

(g) *6425 to 6525 MHz—Mobile Only*. Paired and un-paired operations permitted. Use of this spectrum for direct delivery of video programs to the general public or for multi-channel cable distribution is not permitted. This band is co-equally shared with mobile stations licensed pursuant to parts 74 and 78 of this chapter. The following channel plans apply.

(1) 1 MHz maximum authorized bandwidth channels.

Transmit (or receive) (MHz)	Receive (or transmit) (MHz)
6425.5	6475.5
6450.5	6500.5

(2) 8 MHz maximum authorized bandwidth channels.

Transmit (or receive) (MHz)	Receive (or transmit) (MHz)
6430.0	6480.0
6438.0	6488.0
6446.0	6596.0
6455.0	6505.0
6463.0	6513.0
6471.0	6521.0

(3) 25 MHz maximum authorized bandwidth channels.

Transmit (or receive) (MHz)	Receive (or transmit) (MHz)
6437.5	6487.5
6462.5	6512.5

(h) The frequency 27.255 MHz in the 27.23–27.28 MHz band is allocated for assignment to microwave auxiliary stations in this service on a shared basis with other radio services. Assignments to stations on this frequency will not be protected from such interference as may be experienced from the emissions of industrial, scientific and medical equipment operating on 27.12 MHz in accordance with § 2.106 of this chapter.

§ 101.805 Assignment of frequencies to mobile stations.

The assignment of frequencies to mobile stations in this service will not be limited to a single licensee within any area. However, geographical limits within which mobile units may operate may be imposed by the Commission.

§ 101.807 Transmitter power.

Stations in this service will not be authorized to use transmitters having a rated power output in excess of the limits set forth in § 101.113(b) and a standby transmitter having a rated power output in excess of that of the main transmitter with which it is associated will not be authorized.

§ 101.809 Bandwidth and emission limitations.

(a) Stations in this service operating on frequencies in the 27.23–27.28 MHz band will be authorized to employ only amplitude modulated or frequency modulated emission for radiotelephony. The authorization to use such emissions will be construed to include authority to employ unmodulated emission only for temporary or short periods necessary for equipment testing incident to the construction and maintenance of the station.

(b) Stations in the service operating on frequencies above 940 MHz may be authorized to use amplitude modulated, frequency modulated or pulse type of emission for radiotelephony

and television. In addition, the use of unmodulated emission may be authorized in appropriate cases.

(c) The maximum bandwidths which will normally be authorized for single channel operation on frequencies below 500 MHz in this service must not exceed the limits set forth below:

Type of emission	Authorized bandwidth (kHz)
A3E	8
F3E or (G3E)	40

(d) Maximum bandwidths in the following frequency bands must not exceed the limits set forth below:

Frequency band (MHz)	Maximum authorized bandwidth (MHz)
3,700 to 4,200	20
5,925 to 6,425	30
6,425 to 6,525	25
10,700 to 12,200	40
13,200 to 13,250	25
22,000 to 23,600	100

(e) The bandwidths authorized on frequencies above 500 MHz must be appropriate to the type of operation in any particular case. An application requesting such authorization must fully describe the modulation, emission, and bandwidth desired and must specify the bandwidth to be occupied.

§ 101.811 Modulation requirements.

(a) The use of modulating frequencies higher than 3000 hertz for single channel radiotelephony or tone signaling on frequencies below 500 MHz is not authorized.

(b) When amplitude modulation is used, the modulation percentage must be sufficient to provide efficient communication and must normally be maintained above 70 percent on positive peaks, but may not exceed 100 percent on negative peaks.

(c) When phase or frequency modulation is used for single channel radiotelephony on frequencies below 500 MHz, the deviation arising from modulation may not exceed plus or minus 15 kHz from the unmodulated carrier.

(d) Each unmultiplexed radiotelephone transmitter having more than 3 watts plate power input to the final radio frequency stage and initially installed at the station in this service after September 4, 1956, must be provided with a device that will automatically prevent modulation in excess of that specified in paragraphs (b) and (c) of this section which may be caused by greater than normal audio level.

§ 101.813 Remote control operation of mobile television pickup stations.

(a) Mobile television pickup stations (including nonbroadcast) may be operated by remote control from the fixed locations for periods not to exceed 6 months.

(b) The Commission may, upon adequate showing by the licensee as to why the television pickup operations should not be conducted under a fixed station authorization, renew the authority granted under the provisions of paragraph (a) of this section.

(c) Reference should be made to § 101.125 concerning mobile station antenna height restrictions and to paragraphs (c) and (f) of § 101.131 concerning control points.

§ 101.815 Stations at temporary fixed locations.

(a) Authorizations may be issued upon proper application for the use of frequencies listed in § 101.803 by stations in the Local Television Transmission Service for rendition of temporary service to subscribers under the following conditions:

(1) When a fixed station is to remain at a single location for less than 6 months, the location is considered to be temporary. Services that are initially known to be of longer than 6 months' duration may not be provided under a temporary fixed authorization but rendered pursuant to a regular license.

(2) When a fixed station authorized to operate at temporary locations is installed and it subsequently becomes necessary for the station to operate from such location for more than six months, application FCC Form 494 for a station authorization to specify the permanent location must be filed at least thirty days prior to the expiration of the six month period.

(3) The station must be used only for rendition of communication service at

a remote point where the provision of wire facilities is not practicable.

(4) The antenna structure height employed at any location may not exceed the criteria set forth in § 17.7 of this chapter unless, in each instance, authorization for use of a specific maximum antenna structure height for each location has been obtained from the Commission prior to erection of the antenna. See § 101.125.

(5) Applications for such stations must comply with the provisions of § 101.713.

(b) Applications for authorizations to operate stations at temporary locations under the provisions of this section may be made upon FCC Form 494. Blanket applications may be submitted for the required number of transmitters.

(c) Prior coordination of mobile assignments will be in accordance with the procedures in § 101.103(d) except that the prior coordination process for mobile (temporary fixed) assignments may be completed orally and the period allowed for response to a coordination notification may be less than 30 days if the parties agree.

§ 101.817 Notification of station operation at temporary locations.

(a) The licensee of stations authorized pursuant to § 101.813 must notify the Commission prior to each period of operation. This notification may be oral or written and must include:

(1) The call sign, manufacturer's name, type or model number, output power and specific location of the transmitter(s);

(2) The maintenance location for the transmitter;

(3) The location of the transmitting or receiving station with which it will communicate and the identity of the correspondent operating such facilities;

(4) The exact frequency or frequencies to be used;

(5) The public interest, convenience and necessity to be served by operation of the proposed installation;

(6) The commencement and anticipated termination dates of operation from each location. In the event the actual termination date differs from the previous notification, written notice thereof promptly must be given to the Commission;

(7) Where the notification contemplates initially a service that is to be rendered for a period longer than 90 days, the notification must contain a showing as to why application should not be made for regular authorization; and

(8) A notification must include compliance with the provisions of § 101.813(c).

(b) A copy of the notification must be kept with the station license.

§ 101.819 Stations affected by coordination contour procedures.

In frequency bands shared with the communication-satellite service, applicants must also comply with the requirements of § 101.21.

CHAPTER II—OFFICE OF SCIENCE AND TECHNOLOGY POLICY AND NATIONAL SECURITY COUNCIL

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PART 201—EXECUTIVE POLICY

Sec.
201.0 Background.
201.1 Authority.
201.2 Definitions.
201.3 Policy.

AUTHORITY: 61 Stat. 496 (50 U.S.C. 401); 64 Stat. 798 (50 U.S.C. app. 2061); 64 Stat. 1245 (50 U.S.C. app. 2251); 90 Stat. 463 (42 U.S.C. 6611); E.O. 12046, March 27, 1978 (43 FR 13349; 3 CFR, 1978 Comp., p. 158); E.O. 12472, April 3, 1984 (49 FR 13471; 3 CFR, 1984 Comp., p. 193); E.O. 12656, November 18, 1988 (53 FR 47491; 3 CFR, 1988 Comp., p. 585).

SOURCE: 55 FR 51056, Dec. 11, 1990, unless otherwise noted.

§ 201.0 Background.

National policy with respect to the conservation, allocation and use of the Nation's telecommunications resources during crises and emergencies is set forth in Executive Order 12472. The following parts of this chapter address specific responsibilities with respect to management of telecommunications resources and related procedures which bear upon provision, restoration and continuity of telecommunications services during crises and emergencies. In doing so, the chapter encompasses both national security and emergency preparedness activities, consistent with Executive Order 12472. This concept of national security and emergency preparedness telecommunications services (as defined in § 201.2(g)) includes crises that do not necessarily entail serious degradation of, or serious threats to, national security. It therefore is a broader concept than the term ''national security emergency preparedness activities'' in Executive Order 12656, which concerns only national security emergencies, and preparedness activities necessarily related to such emergencies.

§ 201.1 Authority.

(a) Authorities and responsibilities related to and bearing upon national security and emergency preparedness telecommunications matters are set forth in:

(1) Section 706 of the Communications Act of 1934 (48 Stat. 1104, 47 U.S.C. 606), as amended.

(2) The National Security Act of 1947, as amended (61 Stat. 496, 50 U.S.C. 402).

(3) The Federal Civil Defense Act of 1950, as amended (50 U.S.C. app. 2251 *et seq.*).

(4) The Disaster Relief Act of 1974 (42 U.S.C. 5121 *et seq.*).

(5) The National Science and Technology Policy, Organization, and Priorities Act of 1976 (90 State. 463, 42 U.S.C. 6611).

(6) Executive Order 12046, ''Relating to the Transfer of Telecommunications Functions,'' March 27, 1978 (43 FR 13349; 3 CFR, 1978 Comp., p. 158).

(7) Executive Order 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' April 3, 1984 (49 FR 13471; 3 CFR, 1984 Comp., p. 193).

(b) Authorities to be exercised in the execution and performance of emergency functions are subject to the provisions of the National Emergencies Act of 1976 (90 Stat. 1255, 50 U.S.C. 1601).

§ 201.2 Definitions.

The following definitions apply herein:

(a) *Communications common carrier, specialized carrier,* or *carrier* means any individual, partnership, association, joint stock company, trust, or corporation subject to Federal or State regulation engaged in providing telecommunications facilities or services, for use by the public, for hire.

(b) *Government* means Federal, State, county, municipal, and other local government authority. Specific qualification will be provided whenever reference to a particular level of government is intended.

(c) *Joint Telecommunications Resources Board (JTRB)* means that organization established by the Director, Office of Science and Technology Policy, pursuant to Executive Order 12472 to assist the Director, OSTP, in exercising the non-wartime emergency telecommunications functions assigned by Executive Order 12472.

(d) *The National Communications System (NCS)* means that organization established by Executive Order 12472 consisting of the telecommunications assets of the entities represented on the NCS Committee of Principals and an administrative structure consisting of

the Executive Agent, the NCS Committee of Principals and the Manager. The NCS Committee of Principals consists of representatives from those Federal departments, agencies or entities, designated by the President, which lease or own telecommunications facilities or services of significance to national security and emergency preparedness, and, to the extent permitted by law, other Executive entities which bear policy, regulatory or enforcement responsibilities of importance to national security and emergency preparedness telecommunications capabilities. The NCS is a confederative arrangement in which member Federal agencies participate with their owned and leased telecommunications assets to provide necessary communications services for the Federal Government, under all conditions, including nuclear war.

(e) *National Coordinating Center (NCC)* refers to the joint industry-government telecommunications entity established by the NCS pursuant to Executive Order 12472 to assist in the initiation, coordination, restoration and reconstitution of national security and emergency preparedness telecommunications services or facilities under all conditions of crisis or emergency.

(f) *National priorities* means those essential actions and activities in which the government and the private sector must become engaged in the interests of national survival and recovery.

(g) *National security and emergency preparedness* (NS/EP) *telecommunications services,* or *NS/EP services,* means those telecommunication services which are used to maintain a state of readiness or to respond to and manage any event or crisis (local, national, or international) which causes or could cause injury or harm to the population, damage to or loss of property, or degrades or threatens the NS/EP posture of the United States.

(h) *NS/EP treatment* refers to the provisioning of a telecommunications service before others based on the provisioning priority level assigned by the Executive Office of the President.

(i) *National Telecommunications Management Structure (NTMS)* means a survivable and enduring management structure which will support the exercise of the war power functions of the President under section 706 of the Communications Act of 1934 (47 U.S.C. 606), as amended.

(j) *Private sector* means those sectors of non-government entities that are users of telecommunications services.

(k) *Telecommunications* means any transmission, emission, or reception of signs, signals, writing, images, graphics, and sounds or intelligence of any nature by wire, radio, optical, or other electromagnetic systems.

(l) *Telecommunications resources* include telecommunications personnel, equipment, material, facilities, systems, and services, public and private, wheresoever located within the jurisdiction of the United States.

(m) *Wartime emergency* means a crisis or event which permits the exercise of the war power functions of the President under section 706 of the Communications Act of 1934 (47 U.S.C. 606), as amended.

§201.3 Policy.

(a) The Federal Government is responsible for resources mobilization, including determination of the need for and the extent of mobilization necessary in all crises and emergencies, wartime and non-wartime.

(b) The President has limited non-wartime NS/EP telecommunications functions, and wartime NS/EP functions under the Communications Act of 1934 (as amended), which have been delegated to Federal agencies under Executive Order 12472. Federal, State, and local governments share the responsibility for conservation of the Nation's telecommunications resources.

(1) The achievement of survival and recovery during a crisis or emergency would establish an unavoidable interdependence between and among Federal, State, and local authorities; therefore, there should be no barriers between Federal and State levels of authorities and between State and local levels of authorities which would impede, obstruct, or otherwise hinder effective conservation and equitable allocation of telecommunications resources and services to the needs of the Nation.

(2) The Federal Government will rely upon State governments and their telecommunications management organizations for management or control of intrastate carrier services and continuity of interconnectivity with interstate carriers to assure that national objectives and priorities are properly served. Applicable regulations of the Federal Communications Commission govern the extent of the allocation of responsibility between Federal and State authorities for the management of NS/EP intrastate carrier services and the interconnectivity of intrastate services for NS/EP telecommunications functions.

(c) A system of telecommunications service priorities will be established which facilitates the provisioning and early restoration of services considered vital to national interests during those events or crises which warrant NS/EP treatment.

(d) The President is authorized during, or in anticipation of, an emergency or major disaster (as defined in the Disaster Relief Act of 19/4) to establish temporary telecommunications systems and to make such telecommunications available to State and local government officials and such other persons as deemed appropriate (42 U.S.C. 5185).

(e) The President also is authorized, during war, when necessary in the interest of national defense and security, to direct or establish priorities for essential communications with any commercial or governmental carrier and to prevent obstruction of telecommunications. The President may also suspend or amend rules and regulations, close stations and facilities, and authorize U.S. government use and control of telecommunications resources with regard to:

(1) Radio communications (during war, or Presidentially declared threat of war, public peril, disaster or national emergency or a need to preserve the neutrality of the U.S.) and

(2) Wire communications (during war or threat of war).

(f) During an attack on the United States by an aggressor nation, and in an immediate postattack period, all decisions regarding the use of telecommunications resources will be directed to the objective of national survival and recovery. In order to achieve this objective, postattack resources will be assigned to activities concerned with the maintenance and saving of lives, immediate military defense and response, and economic activities essential to continued economic survival and recovery.

(g) The Director of the Office of Science and Technology Policy will serve as the central authority to control, coordinate, and direct the activities of the Nation's telecommunications facilities, systems, and services during periods of wartime emergency as determined under section 706 of the Communications Act of 1934 (47 U.S.C. 606), as amended.

(h) Telecommunications resources of the Federal Government will be employed, as required, to best serve the continuity of government and national interests.

(i) Federal agencies will, in the development of emergency operational plans, minimize, to the extent feasible, dependence upon telecommunications services for continuity of essential operations.

PART 202—NATIONAL SECURITY AND EMERGENCY PREPAREDNESS PLANNING AND EXECUTION

Sec.
202.0 Objectives.
202.1 Policies.
202.2 Criteria and guidance.
202.3 Plans preparation and execution.

AUTHORITY: 61 Stat. 496 (50 U.S.C. 401); 64 Stat. 798 (50 U.S.C. app. 2061); 64 Stat. 1245 (50 U.S.C. app. 2251); 90 Stat. 463 (42 U.S.C. 6611); E.O. 12046, March 27, 1978 (43 FR 13349; 3 CFR, 1978 Comp., p. 158); E.O. 11021, May 7, 1962 (27 FR 4409; 3 CFR, 1959–1963 Comp., p. 600); E.O. 12472, April 3, 1984 (49 FR 13471; 3 CFR, 1984 Comp., p. 193).

SOURCE: 55 FR 51058, Dec. 11, 1990, unless otherwise noted.

§ 202.0 Objectives.

(a) During, or in anticipation of, a non-wartime emergency or natural disaster, a telecommunications capacity must exist to provide temporary telecommunications service to State and local government officials and other

persons deemed appropriate by the President.

(b) In the event of a general war and attack upon the Nation, a national telecommunications capability must exist that will support telecommunications requirements with respect to national security, survival and recovery. The development of survivable telecommunications to support essential functions (including an emergency broadcasting system), and technical compatibility of signaling methods, transmission modes, switching facilities, and terminal devices to permit exchange of communications over the surviving media of all systems, government or commercial, are crucial elements of such a national capability. In addition, a survivable national telecommunications management structure is necessary to manage initiation, coordination and restoration of telecommunications services. The management structure must include the following:

(1) Legal authority for telecommunications management.

(2) A control mechanism to manage the initiation, coordination and restoration of telecommunications services.

(3) Procedures to ensure timely damage assessment and allocation of residual resources and controlled restoration of services based on national policy/direction.

(4) The capability to execute a telecommunications recovery plan based on national policy/guidance.

(c) Notwithstanding any provision regarding NS/EP Planning and Execution, nothing in this part shall be deemed to affect the authorities or responsibilities of the Director of the Office of Management and Budget, or any Office or official thereof; or reassign any function assigned any agency under the Federal Property and Administrative Services Act of 1949, as amended, or under any other law, or any function vested by law in the Federal Communications Commission.

§202.1 Policies.

(a) The telecommunications resources of the Nation will be available for government use during crises and emergencies, wartime and non-wartime, and to satisfy the needs of the public welfare and safety.

(b) The National Plan for Telecommunications Support in Non-Wartime Emergencies provides procedures for planning and using National telecommunications assets and resources in support of non-wartime emergencies, including those covered by the Disaster Relief Act of 1974, in Presidentially declared Emergencies and Major Disasters, Extraordinary Situations, and other emergencies.

(c) An NS/EP Telecommunications Service Priority (TSP) System will provide procedures to authorize priority treatment for the provisioning and restoration of NS/EP telecommunications services for wartime and non-wartime emergencies.

(d) In wartime emergencies, facilities management will remain decentralized to the extent feasible to assure continued flexibility of operational response to critical needs, subject to the management direction and overriding authority of those officials delegated to act for and with the consent of the central point of authority within the Federal Government.

(1) Federally owned, leased, and/or operated telecommunications facilities, systems, and networks will be managed during such an emergency by the agency normally controlling the facility, system, or network except that all operations will be subject to the management direction and authority of the officials delegated overall management responsibility for Federal Government systems.

(2) Facilities other than those of the Federal Government, with the exception of radio stations in the Aviation Services and certain classes of radio stations in the Maritime Services, will be managed by the authorized common carrier or other person owning and operating such facilities subject to Federal Communications Commission (FCC) guidance and direction or in accordance with State or local plans if not subject to FCC jurisdiction.

(3) Radio stations in the Aviation Services and those aboard vessels in the Maritime Service will be subject to the control of the Secretary of Defense during a national emergency.

(e) The Director of the Office of Science and Technology Policy is the single point of authority within the Federal Government for the wartime emergency functions under section 706 of the Communications Act (47 U.S.C. 606) with respect to the allocation and use of surviving resources in support of national objectives enunciated by the President. Authority may be redelegated as necessary and when it can be exercised within boundaries established by Presidential authority.

(f) Radio frequency utilization during a wartime emergency will be in accordance with authorizations, assignments, and mobilization plans in existence at the onset of the emergency. Subject to the overriding control of the Director, OSTP, under the President's War Emergency Powers, spectrum management regarding the authorization and assignment of radio frequencies will be made by the National Telecommunications and Information Administration (NTLA) for the Federal Government, and the Director, OSTP, through the FCC, for all other entities subject to the Commission's jurisdiction. Radio stations are subject to closure if considered a threat to national security.

(g) Section 706 of the Communications Act of 1934, as amended, confers authority to the President in the matter of suspension of all rules and regulations pertaining to the use and operation of telecommunications facilities, public or private during wartime emergencies.

§ 202.2 Criteria and guidance.

NS/EP planning in government and industry with respect to effective conservation and use of surviving telecommunications resources in a disaster, emergency or postattack period must provide for orderly and uninhibited restoration of services by the carriers and authoritative control of services allocation which will assure that priority will be afforded the most critical needs of government and the private sector with respect to these objectives.

(a) The preservation of the integrity of characteristics and capabilities of the Nation's telecommunications systems and networks during wartime or non-wartime emergencies is of the utmost importance. This can best be accomplished by centralized policy development, planning, and broad direction. Detailed operations management will remain decentralized in order to retain flexibility in the use of individual systems in responding to the needs of national security, survival and recovery. Each Federal agency responsible for telecommunications systems operations, and the carriers, are responsible for planning with respect to emergency operations. Guidance in this matter has been issued from a number of sources and contained in:

(1) Annex C–XI (Telecommunications), Federal Emergency Plan D (Classified).

(2) National Plan for Telecommunications Support in Non-wartime Emergencies.

(3) The National Communications System Management Plan for Annex C–XI (Telecommunications) Federal Emergency Plan D (Classified).

(b) The continuity of essential communications services will be maintained through the use of controls and operational procedures to assure that priority is given to vital services. NS/EP telecommunications services entail policies, procedures and responsibilities as described in parts 211 and 213 of this chapter.

(c) The Nation's telecommunications systems facilities are vulnerable to physical and radiological damage. Planning factors with respect to the resumption of services in a disaster or postattack period must consider the probable loss of facilities which formerly provided direct and/or alternate intercity services among surviving population centers. Since surviving areas and population centers would serve as the sources of support to crippled areas of the Nation, the resumption of services between and among surviving metropolitan areas will be a high priority with the carriers.

§ 202.3 Plans preparation and execution.

Federal authority, substantive provisions, and functional responsibilities of the executive office are summarized in the following:

(a) Wartime Emergency Functions. (1) The Assistant to the President for National Security Affairs (the National Security Advisor) shall provide general policy direction for the exercise of the war power functions of the President under section 706 of the Communications Act (47 U.S.C. 606), as amended, should the President issue implementing instructions in accordance with the National Emergencies Act (50 U.S.C. 1601).

(2) The Director of the Office of Science and Technology Policy shall direct the exercise of the war power functions of the President under section 706(a), (c)–(e) of the Communications Act (47 U.S.C. 606), as amended, should the President issue implementing instructions in accordance with the National Emergencies Act (50 U.S.C. 1601).

(b) Non-wartime Emergency Functions. (1) The National Security Advisor shall:

(i) Advise and assist the President in coordinating the development of policy, plans, programs and standards within the Federal Government for the identification, allocation and use of the Nation's telecommunications resources by the Federal Government, and by State and local governments, private industry and volunteer organizations, upon request, to the extent practicable and otherwise consistent with the law, during those crises or emergencies in which the exercise of the President's war power functions is not required or permitted by law.

(ii) Provide policy oversight and direction of the activities of the NCS.

(2) The Director of the Office of Science and Technology Policy shall:

(i) Provide information, advice, guidance and assistance, as appropriate, to the President and to those Federal departments and agencies with responsibilities for the provision, management or allocation of telecommunications resources during those crises or emergencies in which the exercise of the President's war power functions is not required or permitted by law.

(ii) Establish a Joint Telecommunications Resources Board (JTRB) to assist the Director in providing information, advice, guidance and assistance, as appropriate, to the President and to those Federal Departments and agencies with responsibilities for the provision, management, or allocation of telecommunications resources, during those crises or emergencies in which the exercise of the President's war power functions is not required or permitted by law.

(c) Planning and Oversight Responsibilities.

(1) The National Security Advisor shall advise and assist the President in:

(i) Coordination and development of policy, plans, programs and standards for the mobilization and use of the Nation's commercial, government, and privately owned telecommunications resources to meet national security and emergency preparedness telecommunications requirements.

(ii) Providing policy oversight and direction of the activities of the NCS; and

(iii) Providing policy oversight and guidance for the execution of the responsibilities assigned to the Federal departments and agencies by Executive Order 12472.

(2) The Director of the Office of Science and Technology Policy (or a designee) shall:

(i) Advise and assist the President in the administration of a system of radio spectrum priorities for those spectrum dependent telecommunications resources of the Federal government which support national security and emergency preparedness telecommunications functions.

(ii) Certify or approve priorities for radio spectrum use by the Federal government, including the resolution of any conflicts in or among priorities under all conditions or crisis or emergency.

(3) The National Security Advisor, the Director of the Office of Science and Technology Policy and the Director of the Office of Management and Budget shall, in consultation with the Executive Agent for the NCS and the NCS Committee of Principals, determine what constitutes national security and emergency preparedness telecommunications requirements.

(4) The Director of the Office of Management and Budget, in consultation with the National Security Advisor and

the NCS, will prescribe general guidelines and procedures for reviewing the financing of the NCS within the budgetary process and for preparation of budget estimates by participating agencies.

(d) Performance of essential government and public services during a national emergency, as defined in section 706 of the Communications Act (47 U.S.C. 606), as amended, will require a means for communications between government and the private sector, communications essential to operations of elements of the national economy, and communications for national defense and civil defense purposes. The needs of the private sector and those of government should be properly coordinated to ensure that responses to each of these communities of interest, government and private sector, are appropriately balanced. For this reason, with regard to wartime emergency functions, the Director, Office of Science and Technology Policy (OSTP), has delegated the responsibility for the private sector to the Chairman, Federal Communications Commission (FCC), and responsibility for the needs of government to the Executive Agent, National Communications System (NCS). A parity of level of authority of these officials is established. They will coordinate and negotiate telecommunications conflicts with respect to the allocation and use of the Nation's telecommunications resources, reporting to the Director on unresolved issues which are within the domain of their respective responsibilities and authorities.

(e) In order to support the NS/EP telecommunications needs of the Federal government, State and local governments, private industry and volunteer organizations, under all circumstances, including those of crisis or emergency, the following functions shall be performed:

(1) The Secretary of Commerce, for all conditions of crisis or emergency, shall:

(i) Develop plans and procedures concerning radio spectrum assignments, priorities and allocations for use by Federal departments, agencies and entities; and

(ii) Develop, maintain and publish policy, plans and procedures for the control and assignment of radio frequencies, including the authority to amend, modify or revoke such assignments, in those parts of the electromagnetic spectrum allocated to the Federal Government.

(2) The Director of the Federal Emergency Management Agency shall:

(i) Plan for and provide, operate and maintain telecommunications services and facilities, as part of its National Emergency Management System, adequate to support its assigned emergency management responsibilities.

(ii) Advise and assist State and local governments and volunteer organizations, upon request and to the extent consistent with law, in developing plans and procedures for identifying and satisfying their NS/EP telecommunications requirements.

(iii) Ensure, to the maximum extent practicable, that national security and emergency preparedness telecommunications planning by State and local governments and volunteer organizations is mutually supportive of and consistent with the planning of the Federal Government.

(iv) Develop, upon request and to the extent consistent with law and in consonance with regulations promulgated by and agreements with the Federal Communications Commission, plans and capabilities for, and provide policy and management oversight of, the Emergency Broadcast System, and advise and assist private radio licensees of the Commission in developing emergency communications plans, procedures and capabilities.

(v) Act as sponsor for State and local governments' requests for telecommunications service priority (TSP) in accordance with the Federal Communications Commissions regulations and with procedures in approved NCS issuances.

(3) The Secretary of State, in accordance with assigned responsibilities within the Diplomatic Telecommunications Service, shall plan for and provide, operate and maintain rapid, reliable and secure telecommunications services to those Federal entities represented at United States diplomatic missions and consular offices overseas.

This responsibility shall include the provision and operation of domestic telecommunications in support of assigned national security and emergency preparedness responsibilities.

(4) The Secretary of Defense shall:

(i) Plan for and provide, operate and maintain telecommunications services and facilities adequate to support the National Command Authorities and to execute responsibilities assigned by Executive Order 12333, December 4, 1981 (46 FR 59941; 3 CFR, 1981 Comp., p. 200).

(ii) Ensure that the Director of the National Security Agency provides the technical support necessary to develop and maintain plans adequate to provide for the security and protection of national security and emergency preparedness telecommunications.

(iii) Provide protection for interstate or foreign communication as directed by the President when the public interest requires under section 706(b) of the Communications Act (47 U.S.C. 606(b)).

(iv) In consultation with the Secretary of Transportation, develop policy, plans and procedures adequate to enable a transfer of control over radio stations in the Aviation Service and aboard vessels in the Maritime Service to the Department of Defense during a national emergency pursuant to §202.1(b)(3) of these regulations.

(5) The Attorney General shall, as necessary, review for legal sufficiency, including consistency with the antitrust laws, all policies, plans or procedures developed pursuant to these regulations.

(6) The Director, Central Intelligence Agency, shall plan for and provide, operate and maintain telecommunications services adequate to support the Agency's assigned responsibilities, including the dissemination of intelligence within the Federal government.

(7) Except as otherwise assigned pursuant to these regulations, the Administrator of General Services shall ensure that Federally owned or managed domestic communications facilities and services meet the NS/EP requirements of Federal civilian departments, agencies and entities. The Administrator shall perform these responsibilities consistent with policy guidance of the Director of the Office of Management and Budget.

(8) The Secretary of the Interior shall develop and execute emergency plans with respect to the administration of telecommunications activities in the territorial and trusteeship areas under the jurisdiction of the United States and within the responsibility previously assigned to him by appropriate laws and other authority.

(9) The Federal Communications Commission, consistent with its statutory authority, shall:

(i) Review the policies, plans and procedures of all entities licensed or regulated by the Commission that are developed to provide national security and emergency preparedness telecommunications services to ensure that such policies, plans and procedures are consistent with the public interest, convenience and necessity.

(ii) Perform such functions as required by law with respect to all entities licensed or regulated by the Commission, including (but not limited to) the extension, discontinuance or reduction of common carrier facilities or services; the control of common carrier rates, charges, practices and classifications; the construction, authorization, activation, deactivation or closing of radio stations, services and facilities; the assignment of radio frequencies to Commission licensees; the investigation of violations of pertinent law and regulation; and the initiation of appropriate enforcement actions.

(iii) Develop policy, plans and procedures adequate to execute the responsibilities assigned pursuant to these regulations under all conditions of crisis or emergency.

(iv) Consult as appropriate with authorized officials of the NCS to ensure continued coordination of their respective NCS activities.

(10) The National Communications System (comprised of the Executive Agent for the NCS, the NCS Committee of Principals, and the Manager, NCS) shall assist the President, the Director of the Office of Science and Technology Policy, National Security Advisor and

the Director of the Office of Management and Budget in the exercise of national security and emergency preparedness telecommunications functions and responsibilities and in the coordination of the planning for and provision of national security and emergency preparedness communications for the Federal government under all circumstances, including crisis or emergency, attack, recovery and reconstitution.

(11) The Executive Agent for the NCS shall:

(i) Ensure that the NCS conducts unified planning and operations, in order to coordinate the development and maintenance of an effective and responsive capability for meeting the domestic and international national security and emergency preparedness needs of the Federal government.

(ii) Ensure that the activities of the NCS are conducted in conjunction with the emergency management activities of the Federal Emergency Management Agency.

(12) The Manager, NCS shall:

(i) Develop for consideration by the NCS Committee of Principals and the Executive Agent:

(A) A recommended evolutionary telecommunications architecture designed to meet current and future Federal government national security and emergency preparedness telecommunications requirements.

(B) Plans and procedures for the management, allocation and use, including the establishment of priorities or preferences, of Federally owned or leased telecommunications assets under all conditions of crisis or emergency.

(C) Plans, procedures and standards for minimizing or removing technical impediments to the interoperability of government-owned and/or commercially provided telecommunications systems.

(D) Test and exercise programs and procedures for the evaluation of the capability of the Nation's telecommunications resources to meet national security and emergency preparedness telecommunications requirements.

(E) Alternative mechanisms for funding, through the budget review process, NS/EP telecommunications initiatives which benefit multiple Federal departments, agencies or entities. Those mechanisms recommended by the NCS Committee of Principals and the Executive Agent shall be submitted to the Executive Office of the President.

(ii) Implement and administer any approved plans or programs as assigned, including any system of priorities and preferences for the provision of telecommunications service, in consultation with the NCS Committee of Principals and the Federal Communications Commission, to the extent practicable or otherwise required by law or regulation.

(iii) Implement, with the assistance of appropriate Federal agencies, a decentralized National Telecommunications Management Structure (NTMS) capable of functioning independently in support of appropriate authority within the terms and guidelines delineated in the White House approved Implementation Concept.

(iv) Conduct technical studies or analyses, and examine research and development programs, for the purpose of identifying, for consideration by the NCS Committee of Principals and the Executive Agent, improved approaches which may assist Federal entities in fulfilling national security and emergency preparedness telecommunications objectives.

(v) Develop an NCS Issuance System of official documents to implement, establish, guide, describe or explain organizational responsibilities, authorities, policies and procedures.

(13) The NCS Committee of Principals shall:

(i) Serve as the forum in which each member of the Committee may review, evaluate and present views, information and recommendations concerning ongoing or prospective national security and emergency preparedness telecommunications programs of the NCS and the entities represented on the Committee.

(ii) Serve as the forum in which each member of the Committee shall report on and explain ongoing or prospective telecommunications plans and programs developed or designed to achieve national security and emergency preparedness telecommunications objectives.

(iii) Provide comments or recommendations, as appropriate, to the National Security Council, the Director of the Office of Science and Technology Policy, the Director of the Office of Management and Budget, the Executive Agent, or the Manager of the NCS, regarding ongoing or prospective activities of the NCS.

(14) All Federal departments and agencies shall:

(i) Prepare policies, plans and procedures concerning telecommunications facilities, services, or equipment under their management or operational control to maximize their capability to respond to the national security and emergency preparedness needs of the Federal Government. Such plans will be prepared, and the operations will be executed, in conjunction with the emergency management activities of the Federal Emergency Management Agency, and in regular consultation with the Executive Agent for the NCS and the NCS Committee of Principals.

(ii) Cooperate with and assist the Executive Agent for the NCS, the NCS Committee of Principals, the Manager of the NCS, and other departments and agencies in the execution of the functions set forth in this regulation, furnishing them such information, support and assistance as may be required.

PART 211—EMERGENCY RESTORATION PRIORITY PROCEDURES FOR TELECOMMUNICATIONS SERVICES

Sec.
211.0 Purpose.
211.1 Authority.
211.2 Definitions.
211.3 Scope and coverage.
211.4 Policy.
211.5 Priorities.
211.6 Submission and processing of restoration priority requests.
211.7 Obligation of carriers.

AUTHORITY: 84 Stat. 2083 and Executive Order 12046, 43 FR, 13349 et seq., March 29, 1978.

SOURCE: 43 FR 50431, Oct. 30, 1978, unless otherwise noted.

§211.0 Purpose.

This part establishes policies and procedures under which government and private entities will be furnished restoration priorities to insure that leased intercity private line telecommunications services vital to the national interest will be maintained during the continuance of a war in which the United States engaged. It supersedes the Director of Telecommunications Management Order of January 15, 1967 (32 FR 791, 47 CFR 201), which is hereby canceled. To assure the effective ability to implement its provisions, and also in order that government and industry resources may be used effectively under all conditions ranging from national emergencies to international crises, including nuclear attack, a single set of rules and procedures is essential, and they must be applied on a day-to-day basis so that the priorities they establish can be implemented at once when the occasion arises. As provided for in part 18 of Executive Order 11490, as amended (3 CFR, 1966–1970 Comp., p. 820), policies, plans, and procedures developed pursuant to the Executive order shall be in consonance with the plans and policies contained in this part.

§211.1 Authority.

(a) Authority to direct priorities for the restoration of communications services in national emergencies is vested in the President, including authority conferred by section 103 of the National Security Act of 1947, as amended (50 U.S.C. 404), section 101 of the Defense Production Act of 1950, as amended (50 U.S.C. App. 2070), section 201 of the Federal Civil Defense Act of 1950, as amended (50 U.S.C. App. 2281), section 1 of Reorganization Plan No. 1 of 1958, as amended (3 CFR, 1954–1958 Comp., p. 447), and section 606 of the Federal Communications Act of 1934, as amended. (47 U.S.C. 606).

(b) Authority to develop plans policies, and procedures for the establishment of such restoration priorities has been delegated to the National Security Council, by Executive Orders 11051, 11490, and by the President's Memorandum of August 21, 1963 (28 FR 9413, 3 CFR part 858 (1959–63 comp.)), all as amended by Executive Order 12046, (FR 43, 13349 *et seq.)*.

§ 211.2 Definitions.

The following definitions apply herein—

(a) *Communications common carrier* or *carrier* means any person gaged in communications common carriage for hire, in intrastate, interstate, or international telecommunications.

(b) *Circuit* means a carrier's specific designation of the overall facilities provided between, and including, terminals for furnishing service. When service involves network switching, *circuit* includes those circuits between subscriber premises and switching centers (access lines) and those between switching centers (trunks).

(c) *Station* means transmitting or receiving equipment or combination transmitting and receiving equipment, at any location, or any premise, connected for private line service.

(d) *Private line service* means leased intercity private line service provided by carriers for intercity domestic and international communications over integrated communications pathways, and includes interchange facilities, local channels, and station equipment which may be integral components of such communications service.

(e) *Restoration* means the recommencement of service by patching, rerouting, substitution of component parts, and other means, as determined necessary by a carrier.

(f) *Government* means Federal, foreign, State, county, municipal, and other local government agencies. Specific qualifications will be supplied whenever reference to a particular level of government is intended, e.g., *Federal Government, State government. Foreign Government* includes coalitions of governments secured by treaty, including NATO, SEATO, OAS, UN, and associations of governments or government agencies, including the Pan American Union, International Postal Union, and International Monetary Fund. *Quasi-government* includes eleemosynary relief organizations, such as the Red Cross organizations.

(g) *National Communications System (NCS)* means that system established by the President's Memorandum of August 21, 1963, ''Establishment of a National Communications System'' (28 FR 9413, 3 CFR, 1959-1963 Comp., p. 858).

(h) *Executive Agent* means the Executive Agent of the National Communications System.

(i) *Commission* means the Federal Communications Commission.

§ 211.3 Scope and coverage.

(a) The priority system and procedures established by this part are applicable to:

(1) U.S. domestic leased intercity private line services, including private line switched network services;

(2) U.S. international leased private line services to the point of foreign entry;

(3) Foreign extensions of U.S. international leased private line services to the extent possible through agreement between U.S. carriers and foreign correspondents;

(4) International leased private line services terminating in or transiting the United States;

(5) Federal Government-owned and leased circuits.

(b) The priority system and procedures established by this part are not applicable to operational circuits or order wires of the carriers needed for circuit reactivation and maintenance purposes, which shall have priority of restoration over all other circuits and shall be exempt from interruption for the purpose of restoring priority services.

§ 211.4 Policy.

During the continuance of a war in which the United States is engaged and when the provisions of this part are invoked, all communications common carriers shall comply with the following principles insofar as possible:

(a) Whenever necessary to maintain or restore a service having a designated priority, services having lower priority, lower subpriority, or no priority, will be interrupted in the reverse order of priority starting with nonpriority services.

(b) When services are interrupted to restore priority services, carriers will endeavor if feasible to notify users of the reason for the preemption.

(c) When public correspondence circuits are needed to satisfy requirements for priority services, idle circuits will be selected first. A minimum

number of public correspondence circuits shall at all times be kept available so as to provide for the transmission of precedence-type messages and calls.

(d) Communications common carriers will not interrupt conversations having priority classification except insofar as necessary to restore services of higher priority.

(e) It is recognized that as a practical matter in providing for the maintenance or restoration of a priority service or services operating within a multiple circuit-type facility (such as a carrier band, cable, or multiplex system), lower priority, lower subpriority, or nonpriority services on paralleled channels within a band or system may be restored concurrently with higher priority services. Such reactivation shall not, however, interfere with the expedited restoration of other priority services.

(f) The Executive Agent is authorized to instruct the carriers on the percentage of government-switched network intermachine trunks to be restored to provide capacity for priority access line traffic.

(g) The carriers are authorized to honor NCS-certified priorities from other authorized carriers for leased facilities.

(h) The carriers are authorized to honor restoration priorities certified by the Executive Agent.

(i) To ensure the effectiveness of the system of restoration priorities established by this part it is essential that rigorous standards be applied. Users are requested and directed to examine their private line service requirements in light of the criteria specified in this part and with regard to the availability of alternate communications facilities such as public correspondence message services, and Government-owned emergency communications systems.

§211.5 Priorities.

There are hereby established four levels of restoration priority. Within each level, subpriorities may be established by the Executive Agent, with the concurrence of the National Security Council, for both government and nongovernment services. The subpriorities categories currently in use, which have been established by the Executive Agent will remain in effect until modified. Compatibility of subcategories applicable to government and nongovernment users is essential to achieve the objective of a single restoration priority system.

(a) *Priority 1.* Priority 1 shall be the highest level of restoration priority, and shall be afforded only to Federal and Foreign Government private line services, and to Industrial/Commercial services which are designated for prearranged voluntary participation with the Federal Government in a national emergency. Circuit requirements in this level of priority shall be limited to those esential to national survival if nuclear attack occurs for:

(1) Obtaining or disseminating critical intelligence concerning the attack, or immediately necessary to maintain the internal security of the United States;

(2) Conducting diplomatic negotiations critical to the arresting or limiting of hostilities;

(3) Executing military command and control functions essential to defense and retaliation;

(4) Giving warning to the U.S. population;

(5) Maintaining federal Government functions essential to national survival under nuclear attack conditions.

(b) *Priority 2.* Priority 2 shall be the second highest level of restoration priority, and shall be afforded only to Federal and Foreign Government private line services, and to Industrial/Commercial services which are designated for prearranged voluntary participation with the Federal Government in a national emergency. Circuit requirements in this level shall be limited to those essential, at a time when nuclear attack threatens, to maintain an optimum defense posture and to give civil alert to the U.S. population. These are circuit requirements whose unavailability would present serious dangers:

(1) Reducing significantly the preparedness of U.S. defense and retalitory forces;

(2) Affecting adversely the ability of the United States to conduct critical preattack diplomatic negotiations to reduce or limit the threat of war;

(3) Interfering with the effectual direction of the U.S. population in the interest of civil defense and survival;

(4) Weakening U.S. capability to accomplish critical national internal security functions;

(5) Inhibiting the provision of essential Federal Government functions necessary to meet a preattack situation.

(c) *Priority 3.* Priority 3 shall be the third highest level of restoration priority and shall be afforded to government, quais-government, and Industrial/Commercial private line services: *Provided, however,* That Priority 3 will be afforded circuits serving Industrial/Commercial, State, county, municipal, and quasi-state and local government agencies only where, during an emergency, at least one station in the circuit (or in connected circuits if switched service is involved) will be manned continually, or where such circuits are automated and will be under constant surveillance from a remote location. Circuit requirements in this level shall be limited to those necessary for U.S. military defense and diplomacy, for law and order, and for national health and safety in a national emergency involving heightened possibility of hostilities. These are curcuit requirements needed to:

(1) Insure performance of critical logistic functions, public utility services, and administrative-military support functions;

(2) Inform key diplomatic posts of the situation and of U.S. intentions;

(3) Secure and disseminate urgent intelligence;

(4) Distribute essential food and other supplies critical to health;

(5) Provide for critical damage control functions;

(6) Provide for hospitalization;

(7) Continue critical Government functions;

(8) Provide transportation for the foregoing activities.

(d) *Priority 4.* Priority shall be the fourth highest restoration priority and shall be afforded to government, quasi-government, and Industrial/Commercial private line services: *Provided, however,* That Priority 4 will be afforded circuits serving Industrial/Commercial, State, county, municipal, and quasi-state and local government agencies only where, during an emergency, at least one station in the circuit (or in connected circuits if switched service is involved) will be manned continually, or where such circuits are automated and will be under constant surveillance from a remote location. Circuit requirements in this level shall be limited to those necessary for the maintenance of the public welfare and the national economy in a situation short of nuclear attack, or during reconstitution after attack. These include circuit requirements needed to continue the more important financial, economic, health, and safety activities of the Nation.

§ 211.6 Submission and processing of restoration priority requests.

(a) Except as otherwise provided below, all requests for restoration priority assignments will be submitted to the Executive Agent in the format prescribed by him for processing and certification.

(b) Priority 3 and 4 applications from county and municipal governments, quasi-state and local government agencies and private entites shall be forwarded to the Federal Communications Commission for its approval and for certification to the carriers. These submissions will be in the form prescribed by the Commission.

(c) Industrial/Commercial entities designated for prearranged voluntary participation with the Federal Government in a national emergency should submit separate applications to the Commission when requesting the assignment of priorities in category 1 or 2. Such assignments will require the approval of the National Security Council in order to continue to be effective during a war emergency. In all cases the justification for restoration priorities will contain a validation statement from the Government agency with whom participation is prearranged.

(d) Requests for restoration priority assignments made by Foreign Government agencies, except for NATO, NATO national military authority, and such other requests as the Executive Agent may be designated, will be submitted to the Department of State for initial

evaluation and review. The Department will forward to the Executive Agent for processing and approval such of these requests as it finds acceptable.

(e) Requests for restoration priority assignments made by NATO, NATO national military authority, and such other requests as the Executive Agent may designate, will be forwarded through established Allied Long Lines Agency (ALLA) channels to the Secretary of Defense. The Secretary will forward to the Executive Agent for processing and approval such of these requests as he finds acceptable pursuant to approved NATO/U.S. procedures.

(f) Requests for temporary upgrading of restoration priority assignments occasioned by special critical conditions, including natural disasters, heightened diplomatic and political tenseness, and tracking and control of manned space operations, may be submitted to the Executive Agent together with such information as he may require for expedited processing decision.

(g) All assignments, denials and changes of restoration priorities and subpriorities are subject to review and modification by the National Security Council.

(h) When requesting service from the carriers the user must include the certified restoration priority on the service authorization.

§211.7 Obligation of carriers.

(a) During the continuance of a war in which the United States is engaged, and when the provisions of this part are invoked, all carriers shall accord restoration priority assignments certified pursuant to this part priority over all other circuits.

(b) To promote the national interest and defense preparedness, carriers shall:

(1) Maintain such records of restoration priority assignments certified pursuant to this part as may be necessary to enable prompt implementation;

(2) Enter into agreements, to the extent possible, with their foreign correspondents to effect restoration of the foreign portion of leased international services in accordance with this part;

(3) Notify the Executive Agent of foreign correspondent procedures affecting Federal Government services that are not reasonably consistent with the priority requirements of this part.

PART 212—PROCEDURES FOR OBTAINING INTERNATIONAL TELECOMMUNICATION SERVICE FOR USE DURING A WARTIME EMERGENCY

Sec.
212.0 Authority.
212.1 Purpose.
212.2 Scope.
212.3 Responsibilities.
212.4 Other requirements.

AUTHORITY: E.O. 12046, 43 FR 13349, Mar. 29, 1978 (3 CFR, 1978 Comp., p. 158); E.O. 12472, April 3, 1984, (49 FR 13471; 3 CFR, 1984 Comp., p. 193).

SOURCE: 55 FR 51061, Dec. 11, 1990, unless otherwise noted.

§212.0 Authority.

(a) Authority to establish arrangements to ensure that the NS/EP telecommunications needs of all Federal government entities are met in a manner consistent, to the maximum extent practicable, with other telecommunications policies is contained in Executive Order 12472 and Executive Order 12046.

(b) These procedures are applicable to the communications common carriers and non-Federal Government users under the President's authority contained in subsection 706(a)–(d) of the Communications Act of 1934 (47 U.S.C. 606(a)–(d)), as amended. The authority under subsection 706(a) has been delegated by Executive Order 12472 to the Director of the Office of Science and Technology Policy, contingent upon issuance by the President of implementing instructions in accordance with the National Emergencies Act (50 U.S.C. 1601). This authority may be exercised only during wartime emergencies.

§212.1 Purpose.

The purpose of this part is to provide specific guidance to Government and private entities who may have requirements for international telecommunication service during wartime emergencies.

§ 212.2 Scope.

The procedures in this part provide guidance for the submission of emergency requirements for telecommunication channels from the United States to overseas or foreign points. Guidance on this subject was previously contained in Annex 2 of DMO 3000.1 and Mobilization Plan IX–3. Mobilization Plan IX–3 has been canceled.

§ 212.3 Responsibilities.

(a) Executive departments and agencies of the United States, whether or not components of the National Communications System, (NCS), shall, to the extent permissible by law and consistent with national security, submit their international emergency telecommunications requirements to the Executive Agent, NCS, for coordination and consolidation of mobilization requirements.

(b) The Department of Defense shall coordinate NATO requirements in consonance with approved NATO/U.S. procedures for subsequent processing by the Executive Agent, NCS.

(c) The Department of State shall coordinate and approve foreign government telecommunications requirements and forward them to the Executive Agent, NCS, for further processing.

§ 212.4 Other requirements.

(a) Government, other than Executive departments and agencies of the United States, having need for emergency international telecommunication service, shall present their requirements through the appropriate sponsor to NCS.

(b) The private sector, including carriers, having need for emergency international telecommunication service, shall present their requirements to the Federal Communications Commission (FCC).

PART 213—GOVERNMENT AND PUBLIC CORRESPONDENCE TELECOMMUNICATIONS PRECEDENCE SYSTEM

Sec.

213.0 Authority.
213.1 Background and purpose.
213.2 Scope.
213.3 Cancellation.
213.4 Definitions.
213.5 Precedence designators.
213.6 Criteria.
213.7 Policies.
213.8 Implementation.

AUTHORITY: Sec. 606, 48 Stat. 1104; 47 U.S.C. 606, E.O. 10705, 3 CFR, 1954–1958 Comp. E.O. 10995, 3 CFR, 1959–1963 Comp., President's Memorandum of August 21, 1963; 3 CFR, 1959–1963 Comp., p. 858; E.O. 12046, 43 FR 13349, Mar. 29, 1978.

SOURCE: 43 FR 50434, Oct. 30, 1978, unless otherwise noted.

§ 213.0 Authority.

(a) The voice and message precedence procedures for departments and agencies of the Federal Government prescribed by this part are prescribed pursuant to Executive Order No. 12046 (43 FR 13349 *et seq.*) and the President's memorandum of August 21, 1963, which established the National Communications System (28 FR 9413; 3 CFR, 1959–1963 Comp., p. 858).

(b) The procedures applicable to communications common carriers and non-Federal Government users prescribed by this part are prescribed by authority conferred upon the President by subsection 606(a) of the Communications Act of 1934, as amended, and delegated to the National Security Council by Executive Order 12046. That authority under section 606(a) may be exercised only during the continuance of a war in which the United States is engaged.

§ 213.1 Background and purpose.

(a) The National Security Council and the Federal Communications Commission have agreed upon a precedence system for the expeditious handling of messages and calls transmitted over Government and public correspondence facilities in all types of situations from peacetime to massive nuclear attack. Effectuation of that system requires that the Director issue a circular and that the Commission concurrently issue an order prescribing the standards, procedures, policies, and regulations that together, constitute this single integrated precedence system.

(b) In conformity with that agreement the National Security Council is issuing this circular the purpose of

which is to prescribe, on behalf of the President, that part of those standards, procedures, policies, and regulations which are within the cognizance of the NSC. No significance should be attached to the fact that slightly different terms are used in their circular from those used in the companion order of the FCC. Those differences result from differences in terms in the basic legal authorities of the director and the Commission rather than from an intent to denote a distinction in purpose or effect.

§213.2 Scope.

The precedence system contained herein is applicable to:

(a) Users of Government service facilities, whether owned or leased.

(b) Users of public correspondence service facilities of the communication common carriers, to U.S. domestic and international communication common carriers, and to the extent possible by agreement between the latter and their foreign correspondents.

§213.3 Cancellation.

This circular cancels:

(a) Attachments A and B to Annex 3 of DMO 3000.1, dated November 8, 1963 (28 FR 12273).

(b) That portion of the memorandum of the Special Assistant to the President for Telecommunications, dated August 27, 1964, pertaining to message precedences.

§213.4 Definitions.

As used herein:

(a) Public correspondence services means those services offered to the general public for communications between all points served by a carrier or by interconnected carriers on a nonexclusive message by message or call by call basis, as differentiated from leased private line services.

(b) The term *precedence* means the order in which messages and calls are processed. Transmission of information and call completion is therefore to be accomplished in the order required by the precedence designator. Any such properly categorized communications precede noncategorized communications.

(c) The term *Government* where used alone means Federal, foreign, State, county, or municipal government agencies. Specific reference will be made whenever it is intended to apply to less than the whole, e.g., *State Government, Federal Government,* etc.

(d) The term *Foreign Government* includes those foreign diplomatic and consular establishments and those coalitions or associations of governments such as NATO, SEATO, OAS, UN, and associations of governments or governmental agencies such as Pan American Union, International Postal Union, International Monetary Fund, and similar organizations.

(e) The term *message* means a written or other form of record communication prepared for transmission and delivery at the destination.

(f) The term *call* means a request from a user for a connection to another station whether for telephone or record communication.

§213.5 Precedence designators.

(a) The following precedence designators are available for Government and public correspondence users:

Federal Government	Domestic public correspondence and international telephone calls
Flash	Flash emergency.
Immediate	Immediate emergency.
Priority	Priority emergency.
Routine	(No domestic equivalent.)

(b) Government and non-Government users of public correspondence services will handle their international messages in accordance with current ITU Telegraph Regulations. Government users should note that, generally, the only precedence designator available for their use for international messages sent over public correspondence circuits if Etat Priorite. The ITU Regulations do not contain precedence designators which equate to Flash, Immediate, or Priority. Accordingly, Government messages whether Flash, Immediate, or Priority precedence when sent over international public correspondence circuits will be handled as Etat Priorite messages. Thus, Priority messages will receive the same treatment in transmission and processing as

Immediate or Flash messages. Conversely, Etat Priorite messages received in the United States shall be transmitted and processed in the order of receipt, to the extent possible. The precedence designator available for non-Government users of public correspondence services is Urgent. The Urgent designator is limited for use only during wartime conditions, as declared pursuant to section 606 of the Communications Act of 1934.

(c) Domestic and International U.S. common carriers, insofar as practicable by agreement with their foreign correspondents, shall endeavor to arrange the proper level of precedence handling of international messages and calls originating, terminating in, or transiting the United States: *Provided, however,* That insofar as international messages are concerned the level of precedence shall be consistent with the International Telecommunication Conventions and regulations thereunder.

(d) The Government designators shall be used throughout the Federal Government. All messages and telephone calls sent via public correspondence services shall use domestic or international public correspondence designators as appropriate. Thus, the responsibility is on Government and public correspondence users to recognize and use the appropriate designators when using public correspondence services.

(e) On international telephone calls the carrier's operator will convert to the appropriate international designator.

§ 213.6 Criteria.

(a) *Flash, Flash Emergency.* (1) This is the highest order of precedence and shall be strictly limited to Federal and Foreign Government agencies.

(2) Flash, or Flash Emergency telephone calls or messages shall be handled in the order received and ahead of all calls or messages except as indicated for international messages in ITU Regulations. When necessary to obtain a circuit for a Flash, or Flash Emergency call any call in progress of a lesser precedence will be interrupted, if feasible. Any message of a lesser precedence in the process of transmission will be halted, if feasible, to clear the channel for the Flash or Flash Emergency transmission. Flash or Flash Emergency precedence shall be reserved for calls and messages having an immediate bearing on:

(i) Command and control of military forces essential to defense and retaliation.

(ii) Critical intelligence essential to national survival.

(iii) Conduct of diplomatic negotiations critical to the arresting or limiting of hostilities.

(iv) Dissemination of critical civil alert information essential to national survival.

(v) Continuity of Federal governmental functions essential to national survival.

(vi) Fulfillment of critical U.S. internal security functions essential to national survival.

(vii) Catastrophic events of national or international significance, such as Presidential Action Notices essential to national survival during attack or preattack conditions.

(b) *Immediate, Immediate Emergency, Urgent.* Immediate, Immediate Emergency, or Urgent telephone calls or messages shall be handled as fast as possible and ahead of all other calls or messages except those having a higher precedence. Any message or call of a lower precedence in the process of transmission will be halted, if feasible, to clear the channel for this transmission. It will be reserved generally for calls or messages pertaining to:

(1) Situations which gravely affect the security of national and allied forces.

(2) Reconstitution of forces in a post-attack period.

(3) Intelligence essential to national security.

(4) Conduct of diplomatic negotiations to reduce or limit the threat of war.

(5) Implementation of Federal Government actions essential to national survival.

(6) Situations which gravely affect the internal security of the United States.

(7) Civil defense actions concerning direction of our population and its survival.

(8) Disasters or events of extensive seriousness having an immediate and detrimental effect on the welfare of the population.

(9) Vital information having an immediate effect on aircraft, spacecraft, or missile operations.

(c) *Priority, Priority Emergency, Urgent.* Priority, Priority Emergency, or Urgent messages and calls shall take precedence over messages or calls designated *Routine*, or in the case of common carriers, over all nonprecedence traffic. Priority, Priority Emergency, or Urgent precedence is generally reserved for calls or messages which require expeditious action. Examples are calls or messages pertaining to:

(1) Information on locations where attack is impending or where fire or air support will soon be placed.

(2) Air-ground integrated operations.

(3) Important intelligence.

(4) Important diplomatic information.

(5) Important information concerning the launch, operation, or recovery of spacecraft or missiles.

(6) Movement of naval, air, and ground forces.

(7) Coordination between governmental agencies concerning the performance of emergency preparedness functions.

(8) Major civil aircraft accidents.

(9) Maintaining the public health, safety, and the welfare of our population.

(10) Critical logistic functions, provisions of critical public utility services, and administrative military support functions.

(11) Distributing essential food and supplies critical to health.

(12) Accomplishing tasks necessary to insure critical damage control functions.

(13) Preparations for adequate hospitalization.

(14) Continuity of critical Government functions.

(15) Arranging minimum transportation for accomplishing the aforesaid functions.

(16) Continuing or reestablishing our more important financial, economic, health, and safety activities. Producing, procuring, and distributing food materials and supplies which are considered necessary to the immediate support of a war effort, the national defense, or for expediting the means of meeting the effects of natural disasters.

(17) Prompt delivery of information by press representatives to news media organizations and newspapers covering news of national or widespread disasters.

(d) *Routine; no domestic equivalent.* Routine precedence designation applies to those normal day-to-day communications which require rapid transmission by telephone or message, but do not require urgent or preferential handling.

§213.7 Policies.

(a) Calls and messages in each precedence classification above shall have no precedence over others within the same classification, except where, within the same classification, they cannot be handled simultaneously. Then, they shall be handled in the order of their receipt.

(b) Individuals whose requirements qualify them to use the precedence system share the responsibility for insuring its effectiveness. Users must familiarize themselves with the purposes to be served by the use of each precedence designator. It must be remembered that the entire system will operate successfully only if the use of the precedence designator is limited strictly to the intended purposes. Each user must consider whether each message or call requires any special precedence and exercise care not to specify a higher precedence than circumstances require.

(c) For public correspondence message services, the domestic or international precedence designators shall be shown in full by the sender as the first word preceding the name of the addressee.

(d) For public correspondence call services, the user should first attempt to complete the call in the normal manner. In the event the user is unable to complete the call and the type of communication falls within one of the precedence categories listed herein the call should be filed with an operator for completion and the user must specify the required precedence handling by stating that this is a Flash Emergency,

Immediate Emergency, or Priority Emergency call, whichever the case may be.

(e) Any apparent misuse of precedence indicators by non-Federal Government activities brought to the attention of the communication common carriers shall be referred to the FCC on and after-the-fact basis.

(f) Any apparent misuse by Federal Government activities brought to the attention of the communication common carriers shall be referred to the Executive Agent, National Communications System. The Executive Agent will refer any matter which cannot be resolved with the cognizant Government activity to the National Security Council, for decision.

(g) It is essential to provide public message and call capability for the transmission of military, governmental, and essential non-Government precedence messages and calls. Private line services for military, governmental, and other essential users are protected under a Priority System for Intercity Private Line Services promulgated by the FCC (FCC Order 67–51) and the National Security Council. However, during national emergencies, military, governmental, and other essential users will have additional requirements for prompt completion of precedence traffic over public correspondence communication common carrier facilities. Therefore, notwithstanding the provisions of the above-described Priority System for Intercity Private Line Services, communication common carriers shall have available a minimum number of public correspondence circuits at all times so as to provide for the transmission of precedence type messages and calls. Normally, the communication common carriers shall use their judgment in determining this number of circuits required for public correspondence precedence traffic. However, the authority is reserved to the National Security Council or the Federal Communications Commission, as appropriate to the time and situation, to revise the decisions of the carriers respecting the allocation of circuits, and to resolve any questions which are referred to them by the carriers or the users.

§ 213.8 Implementation.

Federal departments and agencies are authorized to issue such additional orders as are necessary to effect implementation of this circular.

PART 214—PROCEDURES FOR THE USE AND COORDINATION OF THE RADIO SPECTRUM DURING A WARTIME EMERGENCY

Sec.
214.0 Authority.
214.1 Purpose.
214.2 Scope.
214.3 Assumptions.
214.4 Planned actions.
214.5 Responsibilities.
214.6 Postattack procedures and actions.

AUTHORITY: 84 Stat. 2083 and E.O. 12472, April 3, 1984, (49 FR 13471; 3 CFR, 1984 Comp., p. 193).

SOURCE: 55 FR 51062, Dec. 11, 1990, unless otherwise noted.

§ 214.0 Authority.

The provisions of this part 214 are issued pursuant to Reorganization Plan No. 1 of 1977, 42 FR 56101, 91 Stat. 1633, as amended (5 U.S.C. appendix) and Executive Order 12472. This part 214 replaces Annex 1 of DMO 3000.1, dated November 8, 1963, 28 FR 12273.

§ 214.1 Purpose.

The purpose of this part is to provide guidance for the use of the radio spectrum in a period of war, or a threat of war, or a state of public peril or other wartime emergency.

§ 214.2 Scope.

This part covers procedures for the use of radio frequencies upon proclamation by the President that there exists war, or a threat of war or a state of public peril or other wartime emergency or in order to preserve the neutrality of the United States. These procedures will be applied in the coordination, application for, and assignment of radio frequencies upon order of the Director, OSTP. These procedures are intended to be consistent with the provisions and procedures contained in emergency plans for use of the radio spectrum.

§214.3 Assumptions.

When the provisions of this part become operative, Presidential emergency authority, including Executive Order 12656, 12472, 12046 (3 CFR, 1966–1970 Comp., p. 820), and other emergency plans regarding the allocation and use of national resources will be in effect. During an attack, and in a postattack period, the Director, OSTP, will have authority to make new or revised assignments of radio frequencies in accordance with authority delegated by the President.

§214.4 Planned actions.

(a) Whenever it is determined necessary to exercise, in whole or in part, the President's emergency authority over telecommunications, the Director, OSTP, will exercise that authority as specified in Executive Order 12472 (49 FR 13471; 3 CFR, 1984 Comp., p. 193).

(b) In this connection, and concurrently with the war or national emergency proclamation by the President, the Director will:

(1) Authorize the continuance of all frequency authorizations issued by the National Telecommunications and Information Administration (NTIA) and the Federal Communications Commission (FCC), except as they may otherwise be modified or revoked by the Director, OSTP, in the national interest;

(2) Redelegate to the Secretary of Defense the authority necessary to control the use of the radio spectrum in areas of active combat, where such control is necessary to the support of U.S. military operations;

(3) Close all non-government radio stations in the international broadcasting service as defined in the FCC rules and regulations, except those carrying or scheduled to carry U.S. Government-controlled radio broadcasts.

§214.5 Responsibilities.

(a) The Director, OSTP, will issue such policy guidance, rules, regulations, procedures, and directives as may be necessary to assure effective frequency usage during wartime emergency conditions.

(b) The FCC, in coordination with NTIA, shall issue appropriate rules, regulations, orders, and instructions and take such other actions not inconsistent with the actions of the Director, OSTP, and the NTIA Emergency Readiness Plan for Use of the Radio Spectrum as may be necessary to ensure the effective use of those portions of the radio spectrum shared by Government and non-governments users.

(c) The FCC shall assist the Director in the preparation of emergency plans pursuant to section 3(h)(3) of Executive Order 12472.

(d) Each Federal Government agency concerned shall develop and be prepared to implement its own plans, and shall make necessary preemergency arrangements with non-government entities for the provision of desired facilities or services, all subject to the guidance and control of the Director.

§214.6 Postattack procedures and actions.

(a) The frequency management staff supporting the Director, OSTP, comprised of predesignated personnel from the frequency management staffs of the government user agencies, NTIA and the FCC, will have proceeded to the OSTP relocation site in accordance with alerting orders in force.

(b) Government agencies having need for new radio frequency assignments or for modification of existing assignments involving a change in the frequency usage pattern shall, unless otherwise provided, submit applications therefor to the Director, OSTP, by whatever means of communication are available and appropriate, together with a statement of any preapplication coordination accomplished. The Director, OSTP, will review such applications accomplish the necessary additional coordination insofar as practicable, consider all pertinent views and comments, and grant or deny, as he shall determine, the assignment of such frequencies. All concerned will be informed promptly of his decisions.

(c) Non-Government entities having need for new radio frequency assignments or for modifications of existing assignments will continue to submit applications therefor to the FCC, or in accordance with FCC instructions. Such applications shall be coordinated with the Director, OSTP, and granted subject to the approval of the Director, OSTP, or his delegate.

(d) All changes of radio frequency usage within U.S. military theaters of operation will be coordinated with the Director, OSTP, where harmful interference is likely to be caused to stations authorized to operate within the United States and its possessions.

(e) Where submission to the Director, OSTP, is impracticable, the applicant shall:

(1) Consult the NTIA Emergency Readiness Plan for use of the Radio Spectrum and the Government Master File;

(2) Accomplish such coordination as appropriate and possible;

(3) Act in such manner as to have a minimum impact upon established services, accepting the responsibility entailed in taking the temporary action required;

(4) Advise the Director, OSTP, as soon as possible of the action taken, and submit an application for retroactive approval.

PART 215—FEDERAL GOVERNMENT FOCAL POINT FOR ELECTROMAGNETIC PULSE (EMP) INFORMATION

Sec.
215.0 Purpose and authority.
215.1 Background.
215.2 Assignment of responsibilities.

AUTHORITY: 84 Stat. 2083, and E.O. 12472, April 3, 1984 (49 FR 13471 *et seq.*).

SOURCE: 55 FR 51063, Dec. 11, 1990, unless otherwise noted.

§ 215.0 Purpose and authority.

The purpose of this part is to designate a focal point within the Federal Government for electromagnetic pulse (EMP) information concerning telecommunications. It is issued pursuant to the authority of Reorganization Plan No. 1 of 1977, 42 FR 56101, 91 Stat. 1633, as amended (5 U.S.C. appendix), Executive Order 12472, (49 FR 13471; 3 CFR, 1984 Comp., p. 193), ''Assignment of National Security and Emergency Preparedness Telecommunications, April 3, 1984 and Executive Order 12046, 43 FR 13349, ''Relating to the Transfer of Telecommunications Functions,'' May 27, 1978, as amended by Executive Order 12472.

§ 215.1 Background.

(a) The nuclear electromagnetic pulse (EMP) is part of the complex environment produced by nuclear explosions. It consists of transient voltages and currents which can cause malfunctioning and serious damage to electrical and electronic equipment.

(b) The Defense Nuclear Agency (DNA) is the overall technical coordinator for the Army, Navy, Air Force, and DOE laboratories on matters concerning nuclear weapons, nuclear weapons effects, and nuclear weapons testing. It acts as the focal point between the service laboratories and other agencies. The National Communications System (NCS), with the Defense Communications Agency (DCA), maintains a data base for telecommunications. DCA also provides the primary capability for the NCS to conduct telecommunications survivability studies for civil and military departments and agencies.

(c) In order to disseminate among affected Federal agencies information concerning the telecommunications effects of EMP and available protective measures, and in order to avoid duplication of research efforts, it is desirable to designate a focal point within the Federal Government for telecommunications EMP matters.

§ 215.2 Assignment of responsibilities.

The Executive Agent, NCS, shall be the focal point within the Federal Government for all EMP technical data and studies concerning telecommunications. It shall provide such data and the results of such studies to all appropriate agencies requesting them. It shall coordinate and approve EMP telecommunications tests and studies, and shall keep the National Security Advisor informed regarding such tests and studies being conducted and planned.

PART 216—NATIONAL COMMUNICATIONS SYSTEM ISSUANCE SYSTEM

Sec.
216.1 NCS Directives.
216.2 Publication of Directives.
APPENDIX TO PART 216—NCS DIRECTIVES

AUTHORITY: E.O. 12472, April 3, 1984 (49 FR 13471; 3 CFR, 1984 Comp., p. 193).

§ 216.1 NCS Directives.

In accordance with § 202.3(c)(12)(v), the Manager, NCS, has developed a system of official documents of a referential nature. The documents include NCS Directives, which establish and implement organizational responsibilities, authorities, policies and procedures of a continuing nature. The Directives are issued by the Executive Office of the President after approval and/or consideration by the NCS Committee of Principals, the Executive Agent for the NCS and the Assistant to the President for National Security Affairs.

[55 FR 51063, Dec. 11, 1990]

§ 216.2 Publication of Directives.

(a) We believe, for public awareness and internal administrative purposes, that publication of the current directives is worthwhile. The appendix to this part includes all current NCS Directives.

(b) The Directives are arranged numerically. The first of the hyphenated letters indicates the subject category: ''1'' for ''Organization, Membership and Administration;'' ''2'' for ''Plans, Programs and Fiscal Management;'' ''3'' for ''Telecommunications Operations;'' and ''4'' for ''Technology and Standards.'' The second number indicates the sequence of issuance.

(c) In some instances, the appendixes to the directives consist of documents readily accessible elsewhere in the public domain. In the interests of brevity, these documents are referenced rather than reprinted in full.

[55 FR 51063, Dec. 11, 1990]

APPENDIX TO PART 216—NCS DIRECTIVES

NCS Directive 1–1—Organization, Membership and Administration—National Communications System (NCS) Issuance System

NCS Directive 1–2—Organization, Membership and Administration—National Communications System (NCS) Membership

NCS Directive 2–1—Plans, Programs, and Fiscal Management—National Security Emergency Preparedness (NSEP) Telecommunications Planning Process

NCS Directive 2–2—Plans, Programs, and Fiscal Management—National Level NSEP Telecommunications Program (NLP) Funding

NCS Directive 3–1—Telecommunications Operations—Telecommunications Service Priority (TSP) System for National Security Emergency Preparedness (NSEP)

NCS Directive 3–3—Telecommunications Operations—Shared Resources (SHARES) High Frequency (HF) Radio Program

NOTE: NCS Directives and their appendices are available from National Communications System Joint Secretariat (NCS–NJ), Defense Communications Agency, Washington, DC 20305–2000

[NCS Directive 1–1]

Organization, Membership and Administration—National Communications System (NCS) Issuance System

November 30, 1987.

1. *Purpose.* This directive establishes the National Communications System (NCS) Issuance System, describes the documents comprising the NCS Issuance System, and assigns responsibilities and delegates authority for implementing and managing that System.

2. *Applicability.* This directive is binding upon the Executive Agent, NCS; Manager, NCS; NCS Committee of Principals and member organizations; and other affected Executive entities.

3. *Authority.* Pursuant to the Constitution of the United States and other laws cited in Executive Order No. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' April 3, 1984; 49 FR 13471 (1984) (see appendix A to this directive), the President has established the NCS, which is subject to rules issued pursuant to the NCS Issuance System. This directive is issued under the authority of Executive Order No. 12472.

4. *Reference.* Executive Order No. 12472.

5. *Cancellation.* NCS Memorandum 1–63, ''National Communications System Publications,'' December 10, 1963, is hereby cancelled.

6. *Definitions.*

a. *Binding.* Imposing one or more obligations, responsibilities, or duties upon affected parties, subject to any overriding Federal statutes, executive orders, or other Federal law.

b. *Issue.* To put into effect, publish, and distribute an NCS issuance after final approval by proper authority.

c. *NCS Issuances.* Documents (i.e., NCS directives, circulars, manuals, handbooks, and notices; and Office of the Manager, NCS (OMNCS) office orders), generally of referential value and broad distribution, that implement, establish, guide, describe, or explain

organizational responsibilities, authorities, policies, and procedures. Appendix B[1] provides abbreviated descriptions of types of issuances.

d. *NCS Directive.* An issuance used to establish and implement organizational responsibilities, authorities, policies, and procedures of a continuing nature. Directives are issued by the Director, Office of Science and Technology Policy and/or Director, Office of Management and Budget, after consideration of the proposed text by the NCS Committee of Principals, Executive Agent, NCS, and Assistant to the President for National Security Affairs. Directives are binding upon the Executive Agent, NCS; Manager, NCS; NCS Committee of Principals and member organizations; and other affected Executive entities. Directives remain in effect until superseded or cancelled.

e. *NCS Circular.* An issuance used for dissemination of subject matter either pending incorporation into an NCS directive or requiring one-time action. Circulars are issued by the Director, Office of Science and Technology Policy and/or Director, Office of Management and Budget, after consideration of the proposed text by the NCS Committee of Principals, Executive Agent, NCS, and Assistant to the President for National Security Affairs. Circulars are binding upon the Executive Agent, NCS; Manager, NCS; NCS Committee of Principals and member organizations; and other affected Executive entities. Circulars will expire after (1) incorporation into a directive, (2) one year from the date of issuance, or (3) a specified time period, whichever occurs first.

f. *NCS Manual.* An issuance used to provide detailed description, explanation, or procedural or technical guidance concerning matters addressed in NCS directives or circulars. Manuals are issued by the Manager, NCS, subject to the provisions of paragraphs 9 d and e of this directive. Manuals are binding upon the Executive Agent, NCS; Manager, NCS; NCS Committee of Principals and member organizations; and other affected Executive entities. Manuals remain in effect until superseded or cancelled.

g. *NCS Handbook.* An issuance used to provide detailed description, explanation, or procedural or technical guidance concerning matters addressed in NCS directives, circulars, or manuals. Handbooks are issued by the Manager, NCS, normally without consideration by the NCS Committee of Principals or Executive Agent. Handbooks are not binding upon the Executive Agent, NCS; Manager, NCS; NCS Committee of Principals or member organizations; or other affected Executive entities. Handbooks remain in effect until superseded or cancelled.

h. *NCS Notice.* An issuance used for immediate dissemination of subject matter, usually informational, and either pending incorporation into an NCS handbook or of transitional interest. Notices are issued by the Manager, NCS, or authorized designees, normally without consideration by the NCS Committee of Principals or Executive Agent. Notices are not binding upon the Executive Agent, NCS; Manager, NCS; NCS Committee of Principals or member organizations; or other affected executive entities. Notices will expire after (1) incorporation into a handbook, (2) one year from the date of dissemination, or (3) a specified time period, whichever occurs first.

i. *OMNCS Office Order.* An issuance used to implement and provide procedural guidance supplementary to NCS and other directives, manuals, or authority and outline managerial requirements. Office orders are limited to and binding upon the internal operation, administration, and personnel of the OMNCS. They are issued by the Manager, NCS, who may delegate further this authority, and they remain in effect until superseded or cancelled.

7. *Policy.* The NCS Issuance System governs the issuance of rules and guidance concerning the internal organization, policies, procedures, practices, management, and/or personnel of NCS. Such rules and guidance will be issued in the form of NCS issuances or changes thereto. Proposed changes to an NCS issuance will be processed in the same manner as the issuance to which they pertain.

8. *Responsibilities.*

a. NCS member organizations:

(1) May propose subjects for and develop new issuances, and propose changes in existing issuances.

(2) May review and provide comments regarding proposed NCS directives, circulars, and manuals, as desired or authorized by paragraph 9e below.

(3) May consider and comment upon NCS handbooks and notices.

b. The NCS Committee of Principals and Executive Agent:

(1) May propose subjects for and develop new issuances, and propose changes in existing issuances.

(2) Will review and provide comments as needed to the Executive Office of the President regarding proposed NCS directives and circulars.

(3) Will consider and approve, and may comment upon, NCS manuals, as specified in paragraph 9 below.

(4) May consider and comment upon NCS handbooks and notices.

c. The Manager, NCS:

(1) Will maintain and administer the NCS Issuance System.

[1] EDITORIAL NOTE: See §216.2(c) and the note following the table of contents for the appendix to part 216.

(2) May propose subjects for and develop new issuances, and propose changes in existing issuances.

(3) Will consider, issue, and comment upon, as needed, NCS manuals (as specified in paragraph 9 below), handbooks, notices, and OMNCS office orders.

(4) Will forward NCS issuances and any comments thereon to the NCS Committee of Principals; Executive Agent, NCS; and/or Executive Office of the President, as required.

9. *Delegations of Authority.*

a. The NCS Committee of Principals and Executive Agent are hereby delegated the authority to approve NCS manuals, subject to the conditions specified below in paragraphs 9 d and e.

b. The Manager, NCS, is hereby delegated the authority to issue NCS manuals, handbooks, and notices.

c. The Manager, NCS, is hereby delegated the authority to approve and issue OMNCS office orders. The Manager may further delegate this authority.

d. NCS manuals will be issued 30 calendar days following notification to the NCS Committee of Principals of approval by the Committee of Principals and Executive Agent, but only (1) if authorized by an NCS directive or circular, and (2) subject to the condition specified in paragraph 9e below.

e. Upon either approval or disapproval of an NCS manual by the Committee of Principals and/or Executive Agent, the NCS Executive Agent, Manager, Committee of Principals, and member organizations may, within 30 calendar days after notification to the Committee of Principals of such action, submit a written request for review of the manual to the Director, Office of Science and Technology Policy; Director, Office of Management and Budget; or Assistant to the President for National Security Affairs. Any such request will include reasons. Copies of the request shall be provided concurrently to the NCS Committee of Principals, Executive Agent, and Manager, as necessary. For a period of 30 calendar days thereafter, any NCS entity may submit comments to the Director, Office of Science and Technology Policy; Director, Office of Management and Budget; or Assistant to the President for National Security Affairs. Any manual under such review may not be issued until resolution of the matter in question by (1) direction from the Director, Office of Science and Technology Policy, and/or Director, Office of Management and Budget, after consideration by the Assistant to the President for National Security Affairs; or (2) withdrawal of each request for review.

10. *Authorizing Provisions.* NCS manuals implementing this directive are authorized.

11. *Effective Date.* This directive is effective immediately.

12. *Expiration.* This directive will remain in effect until superseded or cancelled.

2 Appendices[2]

A. Executive Order No. 12472

Director, Office of Science and Technology Policy.

Dated: November 30, 1987.

Director, Office of Management and Budget.

Dated: November 17, 1987.

Assistant to the President for National Security Affairs.

Dated: September 18, 1987.

NOTE: Appendix A to NCS Directive 1–1, Executive Order No. 12472 of April 3, 1984, is not published in full in the appendix to part 216. The text of Executive Order 12472 appears in 49 FR 13471, April 5, 1984, and in 3 CFR, 1984 Comp., p. 193.

[NCS Directive 1–2]

Organization, Membership, and Administration—National Communications System (NCS) Membership

November 30, 1987.

1. *Purpose.* This directive identifies the membership of the National Communications System (NCS) as designated by the President and assigns associated responsibilities.

2. *Applicability.* This directive is binding upon the Executive Agent, NCS; Manager, NCS; NCS Committee of Principals and member organizations; and other affected Executive entities.

3. *Authority.* This directive is issued under the authority of Executive Order No. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' April 3, 1984; 49 FR 13471 (1984), and NCS Directive 1–1, ''National Communications System (NCS) Issuance System,'' November 30, 1987.

4. *References.*

a. Executive Order No. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' April 3, 1984, 49 FR 13471 (1984). (The text of this Executive Order is included as appendix A to NCS Directive 1–1, ''National Communications System (NCS) Issuance System,'' November 30, 1987.)[1]

b. NCS Directive 1–1, ''National Communications System (NCS) Issuance System,''

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[2] EDITORIAL NOTE: See §216.2(c) and the note following the table of contents for the appendix to part 216.

EDITORIAL NOTES:

[1] See the note at the end of Directive 1–1.

[2] See §216.2(c) and the note following the table of contents for the appendix to part 216.

[3] See §216.2(c) and the note following the table of contents for the appendix to part 216.

c. White House Memoranda, subject ''The National Communications System,'' dated July 13, 1984 (appendices A and B).[2]

d. White House Memoranda, subject ''Application of the Department of Health and Human Services (HHS) for Membership in the National Communications System (NCS),'' dated May 7, 1987 (appendix C).[3]

e. NCS Manual 1–2–1, ''Bylaws of the National Communications System (NCS) Committee of Principals,'' November 30, 1987.

5. *Cancellation*. NCS Memorandum 2–63, ''Approval of Initial NCS Tasks 1 and 2,'' December 13, 1963; and NCS Memorandum 2–64, ''Additional Networks Approval for Inclusion in the National Communications System,'' December 11, 1964, are hereby cancelled.

6. *Definitions*.

a. Full Member. A representative on the NCS Committee of Principals of an organization entitled to unqualified participation, subject to Committee bylaws (reference 4e) and prevailing legal authority. Organizations represented by full members will be bound by rules and other legal authority governing the NCS.

b. Liaison member. A representative on the NCS Committee of Principals of an organization invited by the President to participate, without the right to vote on matters before the Committee.

7. *Policy*. Active participation in NCS activities by organizations represented on the Committee of Principals is critical to effective national security emergency preparedness telecommunications. Accordingly, each organization represented by a full member should detail at least one full-time employee to serve either on the staff of the Manager, NCS, or as a resident representative to the NCS' National Coordinating Center. Exceptions to this policy may be authorized on a case-by-case basis by the Assistant to the President for National Security Affairs.

8. *Designated Full Members*. The President has designated the following Federal entities to participate in the NCS and be represented by full members on the Committee of Principals: Department of State; Department of the Treasury; Department of Defense; Department of Justice; Department of the Interior; Department of Agriculture; Department of Commerce; Department of Health and Human Services; Department of Transportation; Department of Energy; Central Intelligence Agency; Office of the Joint Chiefs of Staff; General Services Administration; United States Information Agency; National Aeronautics and Space Administration; Veterans Administration; Federal Emergency Management Agency; National Security Agency; and National Telecommunications and Information Administration.

9. *Invited Participants*. The President has invited the Federal Communications Commission, Nuclear Regulatory Commission, U.S. Postal Service, and Federal Reserve System to participate in the NCS and be represented on the Committee of Principals by either liaison or full members. Invited participants choosing to be represented by full members will be bound by NCS issuances promulgated pursuant to reference 4b.

10. *Responsibilities*.

a. Each organization represented by a full member on the NCS Committee of Principals:

(1) Will accredit the full member as the organization's authorized representative in matters before the Committee, including matters involving policy, budget, and resources.

(2) Will participate in all activities of the Committee.

(3) Should execute a Memorandum of Agreement with the Executive Agent or Manager, NCS, to provide personnel and staff support to the Office of the Manager, NCS, in accordance with section 3(i)(3) of Executive Order No. 12472 and policy established in this directive.

b. Each organization represented by a liaison member on the Committee of Principals:

(1) May participate as desired in Committee activities.

(2) Should execute a Memorandum of Agreement with the Executive Agent or Manager, NCS, describing the nature and extent of participation in the NCS.

c. The Executive Agent or Manager, NCS, will prepare and execute Memoranda of Agreement as described in paragraphs 10 a and b above.

11. *Authorizing Provision*. NCS manuals implementing this directive are authorized.

12. *Effective Date*. This directive is effective immediately.

13. *Expiration*. This directive is in effect until superseded or cancelled.

Director, Office of Science and Technology Policy.

Dated: November 30, 1987.

Director, Office of Management and Budget.

Dated: November 17, 1987.

Assistant to the President for National Security Affairs.

Dated: September 18, 1987.

[NCS Directive 2–1]

Plans, Programs, and Fiscal Management—National Security Emergency Preparedness (NSEP) Telecommunications Planning Process

September 30, 1988.

1. *Purpose*. This directive establishes the interagency process by which unified planning is conducted within the National Communications System (NCS) to ensure the coordinated development of a responsive and survivable national telecommunications infrastructure to meet the NSEP telecommunications needs of the Federal Government.

2. *Applicability*. This directive is binding upon the Executive Agent, NCS; Manager, NCS; NCS Committee of Principals and Member Organizations; and other affected Executive entities.

3. *Authority*. This directive is issued under the provisions of Executive Order (E.O.) No. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications,'' April 3, 1984, 49 FR 13471 (1984) and NCS Directive (NCSD) No. 1–1, ''National Communications System (NCS) Issuance System,'' November 30, 1987.

4. *References.*

a. E.O. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' April 3, 1984, 49 FR 13471 (1984).

b. NCS Directive 2–2, ''National Level NSEP Telecommunications Program (NLP) Funding,'' November 30, 1987.

c. ''National Security Emergency Preparedness (NSEP) Telecommunications Planning Process,'' March 27, 1986, NCS 326/8.[1]

d. White House Memorandum, ''National Communications System (NSEP) Telecommunications Planning Process,'' October 11, 1986, (appendix).[2]

5. *Cancellation*. NCS Memorandum No. 2–69, ''Interim Procedures for Application of Planning—Programming—Budgeting System (PPBS) Features in the NCS Planning Process,'' October 31, 1969, is hereby cancelled.

6. *Definitions.*

a. The National Level NSEP Telecommunications Program (NLP). Those NSEP telecommunications programs benefiting multiple departments and agencies that are to be undertaken within the NCS structure, and the accompanying provisions for their shared funding and implementation.

b. Capability Objectives. That key Planning Process element which defines the set of capabilities needed to meet the NSEP telecommunication requirements of the Federal Government.

c. Deficiencies and Priorities. That key Planning Process element which identifies shortcomings or shortfalls in existing capabilities that inhibit or preclude the satisfaction of Federal NSEP telecommunications requirements.

d. Candidate Initiatives. That key Planning Process element which describes actions selected to mitigate identified deficiencies and achieve the overall enhancement of NSEP telecommunications capabilities.

e. Evolutionary NSEP Telecommunications Architecture. That Planning Process element which describes the overall structure of telecommunications capabilities and resources to support Federal government NSEP requirements and the framework for the design, evaluation, and integration of NSEP telecommunications initiatives.

7. *Policy*. The mission of the NCS is to assist the President, the National Security Council (NSC), the Director of the Office of Science and Technology Policy (OSTP), and the Director of the Office of Management and Budget (OMB) in the exercise of the telecommunications functions and responsibilities assigned to them by E.O. 12472, and to coordinate the planning for and provision of NSEP telecommunications for the Federal government under all circumstances, including crisis or emergency, attack, recovery, and reconstitution.

a. To support the performance of this mission, a unified planning process for NSEP telecommunications will be implemented to:

(1) Establish, on an evolutionary basis, a NSEP telecommunications planning mechanism that facilitates the integration of Federal government, commercial/private sector, and State/local government activities and capabilities;

(2) Define the capabilities required to support NSEP telecommunications needs;

(3) Identify a set of feasible near- and long-term national level NSEP telecommunications initiatives for the achievement of those capabilities; and

(4) Develop, and provide for the effective implementation of, approved national level NSEP telecommunications programs.

b. These planning functions will be carried out within the framework of an overall process involving the design and maintenance of an evolutionary NSEP telecommunications architecture, and the annual development, documentation, review, and approval of capability objectives, deficiencies and priorities, candidate initiatives, and a National Level Program.

8. *Responsibilities.*

a. Executive Office of the President (EOP).

(1) Within the EOP, the NSC, in conjunction with OSTP and OMB, will:

(a) Provide overall policy and program direction for NSEP telecommunications planning;

(b) Provide, after appropriate consultation with the Director of Central Intelligence and the Attorney General, a definition of the threat for planning purposes;

(c) Review and validate Capability Objectives;

(d) Review and provide program planning guidance to the NCS regarding Deficiencies and Priorities and Candidate Initiatives; and

(e) Provide direction for the implementation of the National Level Program.

(2) In addition, the OSTP will also:

(a) Provide recommendations regarding, and the results of tests, exercises, and evaluations;

[1] EDITORIAL NOTE: See §216.2(c) and the note following the table of contents for the appendix to part 216.

(b) Provide recommendations relating to the enhancement of plans and procedures for the management of Federal telecommunications resources in crises or emergencies.

(3) As provided for in E.O. 12472, OMB, ''* * * will, in conjunction with the National Security Council, provide general guidelines and procedures for reviewing the financing of the NCS within the budgetary process and for preparation of budget estimates by participating organizations. These guidelines and procedures may provide for mechanisms for funding, through the budget review process, NSEP telecommunications initiatives which benefit multiple departments and agencies.

(4) The NSC, OSTP, OMB and the Executive Agent, NCS, will:

(a) Review and approve or modify the proposed National Level Program developed by the NCS.

b. The Executive Agent, NCS, will:

(1) Provide direction for the conduct of NSEP telecommunications planning activities and serve as the principal interface between the NCS and the EOP;

(2) Review the Capability Objectives, Deficiencies and Priorities, Candidate Initiatives, and the proposed National Level Program and forward them, with NCS COP and Executive Agent recommendations, for the consideration of the EOP;

(3) Transmit NSEP Telecommunications planning guidance and direction received from the EOP to the Manager, NCS; and

(4) Oversee the overall planning activities of the NCS.

c. Individual NCS member organizations* will:

(1) Identify their essential emergency functions (EEFs) and NSEP telecommunications needs and requirements;

(2) Describe initiatives being implemented within their organizations to improve NSEP telecommunications capabilities;

(3) Provide any information** regarding their telecommunications operating systems, networks, facilities, plans, and procedures that is required for effective NSEP telecommunications planning; and

(4) Recommend and provide budget estimates for candidate national level NSEP telecommunications initiatives.

d. The NCS Committee of Principals (COP) will:

(1) Review, consider, and provide recommendations regarding NSEP Telecommunications Requirements, Capability Objectives, Deficiencies and Priorities, Candidate Initiatives, and the proposed National Level Program to the Executive Agent and the EOP;

(2) Assist in the coordination of NSEP telecommunications planning activities with other related planning activities and processes; and

(3) Serve as forum for the evaluation of the National Level Program and assessment of the effectiveness of the NSEP Telecommunications Planning Process.

e. The Manager, NCS, will:

(1) Ensure the annual development and documentation for NSEP Telecommunications Planning Process elements based upon NSEP telecommunications requirements and threat and policy guidance provided by the EOP;

(2) Develop, for consideration by the NCS COP, the Capability Objectives, Deficiencies and Priorities, and Candidate Initiatives and forward them for the consideration of the Executive Agent and the EOP;

(3) Provide annually a proposed National Level Program for the consideration of the NCS COP and the Executive Agent;

(4) Design and maintain the evolutionary NSEP Telecommunications Architecture;

(5) Coordinate planning activities within the NCS structure and provide staff support and technical assistance for the overall planning effort; and

(6) Obtain the NSEP telecommunications recommendations of the U.S. telecommunications industry through the National Security Telecommunications Advisory Committee (NSTAC).

9. *Procedures.*

a. Key NSEP Telecommunications Planning Process elements will be developed and considered on an annual basis as follows:

(1) Capability Objectives will be presented for NCS COP consideration by the Manager, NCS; forwarded with NCS COP recommendations to the Executive Agent, NCS; and transmitted with NCS COP and Executive Agent recommendations to the NSC, OSTP, and OMB for validation.

(2) Deficiencies and Priorities will be presented to the NCS COP by the Manager,

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*Certain NCS member organizations are also assigned special telecommunications planning responsibilities within the Federal Government, e.g., spectrum planning, telecommunications security and protection, and diplomatic and intelligence communications planning. These organizations will work with the Manager, NCS, to assure that their special areas of responsibility are reflected in the National Level Program to the maximum extent practicable. For example, FEMA will ensure that State/local NSEP telecommunications concerns, activities, and capabilities are considered, to the maximum extent practicable, within the Planning Process.

**Such information from NCS members organizations will be provided to the extent permitted by law and regulation, and with due regard for the need to protect classified or otherwise sensitive national security or intelligence information.

NCS; forwarded with NCS COP recommendations to the Executive Agent, NCS; and transmitted with NCS COP and Executive Agent recommendations to the NSC, OSTP, and OMB for information and reference.

(3) Candidate Initiatives will be presented to the NCS COP by the Manager, NCS; forwarded with NCS COP recommendations to the Executive Agent, NCS, OSTP, and OMB for information and reference.

(4) A proposed National Level Program will be presented for NCS COP consideration in March by the Manager, NCS; forwarded with NCS COP recommendations to the Executive Agent, NCS; and transmitted with NCS and Executive Agent recommendations to the NSC, OSTP, and OMB for review in May.

b. Preparation of the final National Level Program completes the annual planning cycle. However, it does not complete the budgetary cycle, which continues until budget requests are submitted to OMB for inclusion in the President's Budget. It is anticipated that, following consideration and approval of the National Level Program by the EOP, approved recommendations will be provided to OMB and the NCS member organizations for use in preparation of the President's Budget.

c. As necessary, the EOP will also provide specific program funding and budgetary guidance to the NCS member organizations for the development of NSEP telecommunications budget requests.

10. *Authorizing Provision.* NCS manuals implementing this directive are authorized.

11. *Effective Date.* This directive is effective immediately.

12. *Expiration.* This directive will remain in effect until superseded or cancelled.

Appendix:

White House Memorandum, October 11, 1986[4]

Director, Office of Science and Technology Policy.

Dated: January 27, 1989.

Director, Office of Management and Budget.

Dated: January 19, 1989.

Assistant to the President for National Security Affairs.

Dated: January 19, 1989.

[NCS Directive 2–2]

Plans, Programs, and Fiscal Management—National Level NSEP Telecommunications Program (NLP) Funding

November 30, 1987.

1. *Purpose.* This directive establishes policies and procedures and assigns responsibilities for the shared funding of approved national level national security emergency preparedness (NSEP) telecommunications programs and for the preparation and execution of National Level NSEP Telecommunications Program (NLP) Funding Memoranda of Agreement and funding agreements between NCS member organizations and the Manager, NCS.

2. *Applicability.* This directive is binding upon the Executive Agent, NCS; NCS Committee of Principals; Manager, NCS; those NCS member organizations required to share costs of approved NLP programs; and other affected Executive entities.

3. *Authority.* This directive is issued under the authority of Executive Order No. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' April 3, 1984, 49 FR 13471 (1984), Section 2(e), and NCS Directive 1–1, ''National Communications System (NCS) Issuance System,'' November 30, 1987.

4. *Policy.* The President has directed that implementation and recurring costs for national level NSEP telecommunications programs shall be shared on a pro rata basis. Each NCS organization's share of such costs shall be determined by its share of NSEP telecommunications requirements. The Department of Defense shall fund all development costs associated with approved national level NSEP telecommunications programs. Agreements shall be executed to govern NLP funding. Compliance with this policy is subject to the authorization and appropriation of funds by the Congress.

5. *References.*

a. Executive Order No. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' April 3, 1984, 49 FR 13471 (1984).

b. National Security Decision Directive (NSDD) 201, ''National Security Emergency Preparedness Telecommunications (NSEP) Funding,'' December 17, 1985 (appendix A).[1]

c. NCS Directive 2–1, ''National Security Emergency Preparedness (NSEP) Telecommunications Planning Process,'' (presently in process).

6. *Definitions.*

a. Shared Funding. The pro rata distribution among NCS member organizations of the implementation and recurring costs of approved national level NSEP telecommunications programs on the basis of each organization's NSEP telecommunications requirements.

b. NSEP Telecommunications Requirements. Initially, those telecommunications

[4] EDITORIAL NOTE: See §216.2(c), and the note following the table of contents for the appendix to part 216.

[1] EDITORIAL NOTE: See §216.2(c) and the note following the table of contents for the appendix to part 216.

requirements identified by NCS member organizations as part of the NSEP Telecommunications Requirements Analysis directed by the Executive Office of the President. Alternative methods for determining requirements may be used, subject to approval as prescribed in Executive Order No. 12472, section 2(c)(4).

c. The National Level NSEP Telecommunications Program (NLP). That document developed as part of the NSEP Telecommunications Planning Process that identifies national level NSEP telecommunications programs and accompanying provisions for their shared funding and implementation.

d. National Level NSEP Telecommunications Programs. Those programs that benefit multiple Federal departments, agencies, or entities and:

(1) Directly enhance national telecommunications infrastructure and service capabilities within the framework outlined in Executive Order No. 12472, and

(2) Are undertaken within the administrative structure of the NCS, i.e., by the Manager, NCS, NCS Committee of Principals (COP), and Executive Agent, NCS, via the NSEP Telecommunications Planning Process, and

(3) Involved acquisition and operations/maintenance costs of sufficient magnitude to warrant shared funding.

e. Development Costs. Those costs (e.g., research, pre-production engineering, proof of concept studies and demonstrations, and specification development) incurred prior to contract award leading to an operational capability.

f. Implementation Costs. Those costs (e.g., acquisition/procurement, production engineering, installation, and nonrecurring lease) incurred after contract award leading to an operational capability and prior to operational capability being achieved.

g. Recurring Costs. Those costs (e.g., recurring lease, maintenance, operational testing, and termination liability) incurred in support of the continuing operations and maintenance associated with national level programs.

h. NLP Funding Memorandum of Agreement (MOA). A memorandum of agreement developed between an NCS member organization and the Manager, NCS, to implement the provisions of this directive.

i. Funding Agreements. Funding documents, e.g., Interagency Funding Agreements and Vouchers, executed between the Manager, NCS, and NCS member organizations to provide for the payment of NLP funds to the Manager, NCS.

7. *Responsibilities.*

a. The Office of Management and Budget will provide guidance annually to NCS member organizations regarding the incorporation of funding for approved national level NSEP telecommunications programs in the President's Budget.

b. The Department of Defense will provide funding for the development costs associated with approved national level NSEP telecommunications programs.

c. The Manager, NCS, will:

(1) Negotiate and execute NLP Funding Memoranda of Agreement and Interagency Funding Agreements with those NCS member organizations required to share the costs of approved national level NSEP telecommunications programs, and

(2) Oversee the program and financial management of approved national level NSEP telecommunications programs, reporting quarterly on program status and the expenditure of funds to the NCS Committee of Principals.

d. Each NCS member organization required to share the costs of the NLP will:

(1) Incorporate its respective funding share of approved national level NSEP telecommunications programs in its annual budget submission;

(2) Execute with the Manager, NCS, an NLP Funding Memorandum of Agreement after review by the organization's NCS Principal; and

(3) Execute with the Manager, NCS those funding agreements required for payment of funds for approved national level NSEP telecommunications programs to the Manager, NCS.

8. *Procedures.*

a. NLP Funding Guidance. The NLP funding guidance required by paragraph 7a(1) of this directive will be provided to the NCS entities annually by August 1.

b. NLP Funding Agreements. The shared funding of approved national level NSEP telecommunications programs will be accomplished through the execution, between NCS member organizations and the Manager, NCS of the following:

(1) An NLP Funding Memorandum of Agreement that, as outlined in the model MOA at appendix B, provides for incorporation of the NLP funding share in an NCS member organization's budget submission; preparation and execution of an Interagency Funding Agreement; and reporting of the NLP status. Those NCS organizations required to share the costs of the NLP as of the effective date of this directive shall execute such Memoranda by September 30, 1987.

(2) An Interagency Funding Agreement that outlines the scope of work to be undertaken as part of the NLP, the associated period of performance, the estimated maximum costs, and procedures for submission of vouchers for transfers between appropriated funds. This agreement, which does not constitute an obligation of funds, shall be executed by August 31 each year to provide for the payment of NLP funds for the following fiscal year.

(3) Vouchers for Transfers Between Appropriations And/Or Funds (Standard Form 1080) forwarded by the Manager, NCS, to the NCS member organizations prior to the start of the fiscal year in which NLP funds are to be expended. Organizations will effect the payment of funds upon receipt of appropriated funds (or Continuing Resolution(s)), subject to OMB apportionment of those funds.

c. NLP Funding Shortfalls. If an NCS member organization is not authorized and appropriated the amount of funds necessary to pay its share of approved national level NSEP telecommunications programs, the Manager, NCS, should also be notified as soon as possible.

9. *Authorizing Provisions.* NCS manuals implementing this directive are authorized.

10. *Effective Date.* This directive is effective immediately.

11. *Expiration Date.* This directive will remain in effect until superseded or cancelled.

2 Appendices

A. NSDD 201, December 17, 1985[2]

B. Model NLP MOA

Director, Office of Management and Budget.

Dated: November 17, 1987.

APPENDIX B—MODEL NATIONAL LEVEL NSEP TELECOMMUNICATIONS PROGRAM (NLP) FUNDING MEMORANDUM OF AGREEMENT (MOA)

1. *Purpose:* This Memorandum of Agreement (MOA) defines the relationship between and responsibilities of the (*name of NCS member organization*) and the Office of the Manager, NCS (OMNCS), with respect to the financial management of national level national security emergency preparedness (NSEP) telecommunications programs approved by the Executive Office of the President (EOP) in the National Level NSEP Telecommunications Program (NLP).

2. *Scope:* This MOA is limited to the implementation and recurring costs of approved national level NSEP telecommunications programs, including termination liability costs, if applicable. Development costs will be funded by the Department of Defense.

3. *Background:* In April 1984, Executive Order No. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' established a framework for the funding of NSEP telecommunications initiatives by the NCS, providing for:

a. The prescription, by the Office of Management and Budget (OMB) in consultation with the National Security Council (NSC) and the NCS, of general guidelines and procedures for reviewing the financing of the NCS within the budgetary process, and for the preparation of budget estimates by participating agencies.

b. The determination, by the NSC, the Office of Science and Technology Policy (OSTP), and OMB in consultation with the Executive Agent, NCS, and the NCS Committee of Principals (COP), of what constitutes NSEP telecommunications requirements, and

c. The determination, by Federal departments and agencies, of their NSEP telecommunications requirements and the provision, after consultation with the Office of Management and Budget (OMB), of resources to support their respective requirements for NSEP telecommunications.

To implement the provisions of Executive Order No. 12472, the President directed in National Security Decision Directive (NSDD) 201, that ''implementation and recurring costs for national level NSEP telecommunications programs (i.e., those which benefit multiple Federal departments, agencies or entities) shall be shared on a pro rata basis determined by each organization's share of NSEP telecommunications requirements.'' The Director, OMB, subsequently instructed the NCS member organizations to work with the Manager, NCS, to develop the necessary agreements for the payment of member funds to the Office of the Manager, NCS (OMNCS).

4.0 *Responsibilities*

4.1 *The Office of the Manager, NCS, shall:*

a. Serve as the Office of Primary Responsibility for the financial and program management of approved national level NSEP telecommunications programs.

b. Upon approval of national level NSEP telecommunications programs and receipt of funding guidance from the EOP, prepare an Interagency Funding Agreement necessary to effect the payment of (*name of NCS member organization*) funds to the Manager, NCS. This agreement shall be executed by August 31 each year.

c. Prepare and provide vouchers for transfers between appropriations and/or funds (Standard Form 1080) for (*name of NCS member organization*)

d. Provide technical, programmatic, and financial management support for individual national level NSEP telecommunications programs, including the maintenance of financial records and accounting system and the update of program plans.

e. Report quarterly to the NCS COP on the programmatic and financial status of approved national level NSEP telecommunications programs.

f. Advise the (*name of NCS member organization*) of any significant programmatic or financial adjustments/modifications.

4.2 The (*name of NCS member organization*) will:

[2] EDITORIAL NOTE: See §216.2(c) and the note following the table of contents for the appendix to part 216.

a. Incorporate its respective funding share of approved national level NSEP telecommunications programs in its annual budget submission.

b. Execute with the Manager, NCS, by August 31 each year the Interagency Funding Agreement required for the transfer, payment and/or reimbursement of funds for the NLP.

c. Upon receipt of appropriations (or Continuing Resolution(s)) for each applicable fiscal year and subject to OMB apportionment of those funds, effect the payment of funds to the Manager, NCS, in accordance with Standard Form 1080.

5.0 *Implementation:* This MOA is effective upon the date of the latest signature. This MOA is subject to periodic review and update as circumstances warrant and will terminate upon the mutual agreement of the parties. Compliance with this MOA is subject to the authorization and appropriation of funds by the Congress.

(*Signature*)
(Name of Manager, NCS)
(Title of Manager, NCS)
Date:

(*Signature*)
(Name of Authorized Official)
(Title of Authorized Official)
(Name of NCS Organization)
Date:

[NCS Directive 3–1]

Telecommunication Operations—Telecommunications Service Priority (TSP) System for National Security Emergency Preparedness (NSEP)

July 5, 1990.

1. *Purpose.* This directive implements policy, explains legal and regulatory basis, assigns responsibilities, and prescribes procedures for the Telecommunications Service Priority (TSP) System for National Security Emergency Preparedeness (NSEP).

2. *Applicability.*

a. This directive is binding upon the Executive Agency, NCS; Manager, NCS; NCS Committee of Principals and member organizations; and other affected Executive entities.

b. This directive applies to NSEP telecommunication services:

(1) For which initial or revised priority level assignments are requested pursuant to paragraph 12 of this directive.

(2) Which were assigned restoration priorities under the provisions of 47 CFR part 64, appendix A, ''Priority System for the Restoration of Common Carrier Provided Intercity Private Line Services,'' 47 CFR part 211, ''Emergency Restoration Priority Procedures for Telecommunications Services,'' and NCS Memorandum 1–68 and are being resubmitted for priority level assignments pursuant to paragraph 14 of this directive. (Such services will retain assigned restoration priorities until a resubmission for a TSP assignment is completed or until the existing RP rules are terminated.)

3. *Authority.* This directive is issued under the authority of section 706 of the Communications Act of 1934, *as amended* (47 U.S.C. 606); Executive Order No. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' April 3, 1984, 49 FR 13471 (1984); NCS Directive 1–1, ''National Communications System (NCS) Issuance System,'' November 30, 1987; and 47 CFR part 64, appendix A, ''Telecommunications Service Priority (TSP) System for National Security Emergency Preparedness (NSEP).''

4. *References.*

a. Communications Act of 1934, *as amended* (47 U.S.C. 151, *et seq.*).

b. Defense Production Act of 1950, *as amended* (50 U.S.C. appendix, section 2061, *et seq.*).

c. Disaster Relief Act (42 U.S.C. 5121 *et seq.*).

d. Foreign Intelligence Surveillance Act (50 U.S.C. 1801, *et seq.* and 18 U.S.C. 2511, 2518, and 2519).

e. Title 47, Code of Federal Regulations, part 64, appendix A, ''Priority System for the Restoration of Common Carrier Provided Intercity Private Line Services;'' 47 CFR part 64, appendix A (1980).

f. Title 47, Code of Federal Regulations, part 64, appendix A, ''Telecommunications Service Priority (TSP) System for National Security Emergency Preparedness (NSEP).''

g. Defense Priorities and Allocation System (15 CFR part 350).

h. Executive Order No. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' April 3, 1984, 49 FR 13471 (1984).

i. NCS Memorandum 1–68, ''National Communications System (NCS) Circuit Restoration Priority System,'' July 18, 1968.[1]

5. *Cancellation and/or Supersession.* NCS Memorandum 1–68, ''National Communications System (NCS) circuit Restoration Priority System,'' July 18, 1968; NCS circular 55–1, ''Processing Requests for Temporary Adjustments to NCS circuit Restoration Priority Assignments,'' July 8, 1970: and NCS Circular 55–2, ''NCS Data Base,'' November 21, 1977, with Change 1, May 30, 1978; are hereby superseded by, and cancelled under the authority of this directive on its effective date.

6. *Definitions.* See appendix.

7. *Scope of the NSEP TSP System.*

a. *Domestic NSEP Services.* The NSEP TSP System and procedures established in 47 CFR part 64 and in this directive authorize priority treatment to the following domestic telecommunication services (including portions

[1] EDITORIAL NOTE: See §216.2(c).

of U.S. international telecommunication services provided by U.S. vendors) for which provisioning or restoration priority levels are requested, assigned, and approved in accordance with this directive and any implementing manuals:

(1) Common carrier services which are:

(a) Interstate or foreign telecommunication services.

(b) Intrastate telecommunication services inseparable from interstate or foreign telecommunications services, and intrastate telecommunication services to which priority levels are assigned pursuant to paragraph 13 of this directive.

(NOTE: Initially, the NSEP TSP System's applicability to public switched services is limited to (a) provisioning of such services (e.g., business, centrex, cellular, foreign exchange, Wide Area Telephone Service (WATS) and other services that the selected vendor is able to provision), and (b) restoration of services that the selected vendor is able to restore.)

(2) Services which are provided by government and/or non-common carriers and are interconnected to common carrier services assigned a priority level pursuant to paragraph 13 of this directive.

b. *Control Services and Orderwires.* The NSEP TSP System and procedures implemented in this directive are not applicable to authorize priority treatment to control services or orderwires owned by a service vendor and needed for provisioning, restoration, or maintenance of other services owned by that vendor. Such control services and orderwires shall have priority of provisioning and restoration over all other telecommunication services (including NSEP services) and shall be exempt from preemption. However, the NSEP TSP System and procedures implemented in this directive are applicable to control services or orderwires leased by a service vendor or user from another service vendor.

c. *Other Services.* The NSEP TSP System may apply, at the discretion of and upon special arrangements by the entities involved, to authorize priority treatment to the following telecommunication services:

(1) Government or non-common carrier services which are not connected to common carrier provided services assigned a priority level pursuant to paragraph 13 of this directive.

(2) Portions of U.S. international services which are provided by foreign correspondents. (Subject to pertinent law, including references 4a, 4c, and 4f, U.S. telecommunication service vendors are encouraged to ensure that relevant operating arrangements are consistent to the maximum extent practicable with the NSEP TSP System. If such agreements do not exist, U.S. telecommunication service vendors should handle service provisioning and/or restoration in accordance with any system acceptable to their foreign correspondents which allows provisioning and restoration in the manner most comparable to the procedures established in this directive.) In addition, the U.S. government, acting through the Department of State, may enter into the following types of agreements to ensure that priority provisioning and restoration procedures consistent with those governing domestic services within the NSEP TSP System are in place: (a) Bilateral agreements for reciprocal priority treatment for critical foreign government telecommunication services in the U.S., and (b) multilateral agreements within such international telecommunication organizations as the North Atlantic Treaty Organization's Allied Long Lines Agency or Civil Communications Planning Committee, which have or are conducive to having a provisioning and restoration priority system.

d. *Subpriority and Precedence Systems.* Service users may implement subpriority and/or precedence systems that are consistent, and do not conflict with, the NSEP TSP System.

8. *Policy.* The NSEP TSP System is the regulatory, administrative, and operational system authorizing and providing for priority treatment (i.e., provisioning, and restoration) of NSEP telecommunication services (see definition in appendix). As such, it establishes the framework for NSEP telecommunication service vendors to provision, restore, or otherwise act on a priority basis to ensure effective NSEP telecommunication services. The NSEP TSP System allows the assignment of priority levels to any NSEP service across three time periods, or stress conditions: Peacetime/Crisis/Mobilization, Attack/War, and Post-Attack/Recovery. All requests for priority level assignments will be processed through the Manager, NCS. Although priority levels normally will be assigned by the Manager, NCS, and retained by service vendors, only for the current time period, they may also be preassigned for the other two time periods at the request of service users who are able to identify and justify, in advance, their wartime or post-attack NSEP telecommunication requirements. Absent such preassigned priority levels for the Attack/War and Post-Attack/Recovery periods, priority level assignments for the Peacetime/Crisis/Mobilization period will remain in effect. At all times, priority level assignments will be subject to revision by the Federal Communications Commission (FCC); or, on an interim basis, the Director, Office of Science and Technology Policy (OSTP); and the Manager, NCS, based upon changing NSEP needs. No other system of telecommunication service priorities which conflicts with the NSEP TSP System is authorized.

9. *Legal Basis for the NSEP TSP System.* The laws and regulations authorizing the NSEP

TSP System are those cited above in paragraphs 3 and 4.

a. *Communications Act.* Sections 1, 4(i), and 201 thru 205 of the Communications Act of 1934 (47 U.S.C., 151, 154(i), and 201 thru 205) grant to the FCC the authority over assignment and approval of priorities for provisioning and restoration of common carrier-provided telecommunication services. Under section 706 of the Communications Act, this authority may be superseded, and expanded to include privately owned telecommunication services, by the war emergency powers of the President of the United States.

b. *Executive Order No. 12472.* In Executive Order No. 12472, the President tasked the NCS to assist the Director, OSTP, in the exercise of the President's war emergency powers. Executive Order No. 12472 also directs the Manager, NCS, to assist the Director, OSTP, in executing those functions by developing plans and procedures for the management, allocation and use (including the establishment of priorities and preferences) of federally owned or leased telecommunication assets.

c. *Federal Rules.* The FCC and Executive Office of the President (EOP) have used their respective authorizations to develop and establish the NSEP TSP System as the one uniform system of priorities for the provisioning and restoration of NSEP telecommunication services, both before and after invocation of the section 706 Presidential war emergency powers. The Federal rules governing the NSEP TSP System have been promulgated by the FCC and OSTP (on behalf of the EOP) in title 47 of the Code of Federal Regulations. In those rules, the FCC has requested the EOP to administer the NSEP TSP System before the invocation of section 706 of the Communications Act, Presidential war emergency powers. In this directive, the EOP assigns to the Manager, NCS, both this administrative authority to administer the NSEP TSP System before, and the President's statutory authority to administer the NSEP TSP System after, the invocation of the section 706 Presidential war emergency powers.

d. *Defense Production Act.* The Defense Production Act of 1950 authorizes the President to require the priority performance of contracts and orders necessary to promote national defense. It also authorizes the President to allocate materials and facilities as necessary to promote national defense. Pursuant to the Defense Production Act, regulations promulgated by the Department of Commerce in the Defense Priorities and Allocations System (DPAS) permit the assignment of ''priority ratings'' to equipment associated with NSEP telecommunication services warranting priority treatment, if they support authorized programs under Schedule I of the DPAS.

e. *Contracts.* NSEP telecommunication service users may also employ contractual mechanisms to obtain the priority provisioning or restoration of service, including customer premises equipment and wiring. However, any such contractual arrangements must be consistent with NSEP TSP System rules and regulations, including any priority order of provisioning and restoration assigned in accordance with the NSEP TSP System.

10. *Responsibilities.*

a. *Federal Communications Commission.* As authorized by the Communications Act the FCC will:

(1) Provide regulatory oversight of implementation of the NSEP TSP System.

(2) Enforce NSEP TSP System rules and regulations which are contained in 47, CFR, part 64.

(3) Act as final authority for approval, revision, or disapproval of priority actions by the Manager, NCS, and adjudicate disputes regarding either priority actions or denials of requests for priority actions by the Manager, NCS, until superseded by the President's war emergency powers under section 706 of the Communications Act.

(4) Function (on a discretionary basis) as a sponsoring Federal organization. (See paragraph 10d below.)

b. *Director, Office of Science and Technology Policy.* The Director, OSTP, EOP, will:

(1) During exercise of the President's war emergency powers under section 706 of the Communications Act, act as the final approval authority for priority actions or denials of requests for priority actions, adjudicating any disputes.

(2) Provide oversight of Executive branch activities associated with the NSEP TSP System, including assignment of priority levels for telecommunications service provisioning and restoration across all time periods.

(3) Function (on a discretionary basis) as a sponsoring Federal organization. (See paragraph 10d below.)

c. *Manager, NCS.* The Manager, NCS, will:

(1) Implement the NSEP TSP System under the oversight of the FCC and Director, OSTP, in consultation with the NCS Committee of Principals.

(2) Administer the NSEP TSP System, which includes:

(a) Receiving, processing, and evaluating requests for priority actions from service users, or sponsoring Federal government organizations on behalf of service users (e.g., Departments of State or Defense on behalf of foreign governments, Federal Emergency Management Agency on behalf of state and local governments, and any Federal organization on behalf of private industry entities). Action on such requests will be completed within 30 days of receipt.

(b) Assigning, revising, revalidating, or revoking priority levels as necessary or upon request of service users concerned, and denying requests for priority actions as necessary, using paragraph 16 of this directive. Under circumstances short of exercise of Presidential war emergency powers under section 706 of the Communications Act and time permitting, coordinate such changes in priority level assignments in advance with requesting and/or affected parties. Action on such requests will be completed within 30 days of receipt.

(c) Maintaining data on priority level assignments.

(d) Periodically forwarding to the FCC and Director, OSTP, lists of priority actions for review and approval.

(e) Periodically initiating reconciliation.

(f) Testing and evaluating the NSEP TSP System for effectiveness.

(g) Conducting audits as necessary. Any Telecommunications Service Priority (TSP) System user may request the Manager, NCS to conduct an audit. (See the definition of an ''audit'' in appendix A.)

(h) Issuing, subject to review by the FCC, procedures supplemental to and consistent with this directive regarding operation and use of the NSEP TSP System.

(i) Serving as a centralized point-of-contact for collecting and disseminating to all interested parties (consistent with requirements for treatment of classified and proprietary material) information concerning use and abuse of the NSEP TSP System.

(j) Establishing and assisting a TSP System Oversight Committee to identify and review any problems developing in the system and recommending actions to correct them or prevent recurrence. In addition to representatives of the EOP, representatives from private industry (including telecommunication service vendors), state and local governments, the FCC, and other organizations may be appointed to the committee.

(k) Reporting at least quarterly to the FCC; Director, OSTP; and TSP System Oversight Committee, together with any recommendations for action, the operational status of and trends in the NSEP TSP System, including:

(i) Numbers of requests processed for the various priority actions, and the priority levels assigned.

(ii) Relative percentages of services assigned to each priority level under each NSEP category and subcategory.

(iii) Any apparent serious misassignment or abuse of priority level assignments.

(iv) Any existing or developing problem.

(l) Submitting semi-annually to the FCC; Director, OSTP; and TSP System Oversight Committee a summary report identifying the time and event associated with each invocation of NSEP treatment under paragraph 13c of this directive and section 10c of 47 CFR part 64; whether the NSEP service requirement was adequately handled; and whether any additional charges were incurred. These reports will be due by April 30th for the preceding July through December and by October 31st for the preceding January through June time periods.

(3) Function (on a discretionary basis) as a sponsoring Federal organization. (See paragraph 10d below.)

d. *Sponsoring Federal Organizations.* Sponsoring Federal organizations will:

(1) Review and decide whether to sponsor private industry (including telecommunication service vendors) requests for priority actions. Federal organizations will forward sponsored requests with recommendations for disposition to the Manager, NCS. Recommendations will be based on paragraph 16 of this directive.

(2) Forward notification of priority actions or denials of requests for priority actions to the requesting private industry entities, for disposition.

(3) Cooperate with the Manager, NCS, during reconciliation, revalidation, and audits.

e. *Departments of State and Defense.* The Departments of State and Defense will, in addition to the responsibilities listed in paragraph 10h below:

(1) Review and decide whether to sponsor requests for priority level assignments from foreign governments and forward sponsored requests to the Manager, NCS, with recommendations for disposition. Recommendations will be based on paragraph 16 of this directive and whether or not priority treatment is afforded to U.S. NSEP telecommunication service requirements in the foreign country concerned.

(2) Forward notification of priority actions or denials of requests for priority actions to the requesting foreign government entities, for disposition.

f. *Department of Energy.* The Department of Energy will, in addition to the responsibilities listed in paragraph 10h below:

(1) Review and decide whether to sponsor public and private interstate power utility company requests for priority actions and forward sponsored requests with recommendations for disposition to the Manager, NCS. Recommendations will be based on paragraph 16 of this directive. This does not preclude public and private power utility companies from obtaining sponsorship elsewhere.

(2) Forward notification of priority actions or denials of requests for priority actions to the requesting public and private power utility companies for disposition.

g. *Federal Emergency Management Agency.* The Federal Emergency Management Agency will, in addition to the responsibilities listed in paragraph 10h below:

(1) Review and decide whether to sponsor state and local government requests for priority actions and forward sponsored requests with recommendations for disposition to the Manager, NCS. Recommendations will be based on paragraph 16 of this directive.

(2) Forward notification of priority actions or denials of requests for priority actions to the requesting state and local government entities, for disposition.

h. *Federal Organizations.* Federal organizations will:

(1) Ensure that NSEP TSP System users within each organization comply with their obligations under the NSEP TSP System.

(2) Provision and restore government-provided services (which are interconnected with commercially provided services assigned a priority level pursuant to paragraph 13 of this directive) in accordance with NSEP TSP System rules and regulations. (See paragraph 7a(2) of this directive.)

(3) Function (on a discretionary basis) as sponsoring Federal organizations for private sector service users (e.g., government contractors).

(4) Cooperate with the Manager, NCS, during reconciliation, revalidation, and audits.

i. *Service Users.* Service users, or entities acting on their behalf, will:

(1) Identify services requiring priority level assignments and request and justify priority level assignments in accordance with this directive and any supplemental NCS issuances.

(2) Justify and revalidate all priority level assignments at least every three years.

(3) For services assigned priority levels, ensure (through contractual means or otherwise) availability of customer premises equipment and wiring necessary for end-to-end service operation by the service due date, and continued operation; and, for such services in the Emergency NSEP category, by the time that vendors are prepared to provide the services. Additionally, designate the organization responsible for the service on an end-to-end basis.

(4) Be prepared to accept services assigned priority levels by the service due dates or, for services in the Emergency NSEP category, when they are available.

(5) Pay vendors any authorized costs associated with services that are assigned priority levels.

(6) Report to vendors any failed or unusable services that are assigned priority levels.

(7) Designate a 24-hour point-of-contact for matters concerning each request for priority action and apprise the Manager, NCS.

(8) Upon termination of services that are assigned priority levels, or circumstances warranting revisions in priority level assignment (e.g., expansion of service), request and justify revocation or revision.

(9) When NSEP treatment is invoked under paragraph 13c of this directive, within 90 days following provisioning of the service involved, forward to the Manager, NCS complete information identifying the time and event associated with the invocation and regarding whether the NSEP service requirement was adequately handled and whether any additional charges were incurred.

(10) Cooperate with the Manager, NCS, during reconciliation, revalidation, and audits.

j. *Service Vendors.* Service vendors will comply with the provisions of 47 CFR part 64. When those provisions are superseded by the President's war emergency powers under section 706 of the Communications Act, vendors will continue to comply with 47 CFR part 64, subject to further direction by Director, OSTP.

11. *Preemption of Existing Services.* When necessary to provision or restore NSEP services, service vendors may preempt services they provide as specified below. ''User,'' as used in this section, means any user of a telecommunications service, to include both NSEP and non-NSEP services. Prior consent by a preempted user is not required.

a. The sequence in which existing services may be preempted to provision NSEP services assigned a provisioning priority level ''E'' or restore NSEP services assigned a restoration priority level from ''1'' through ''5'':

(1) Non-NSEP services: If suitable spare services are not available, then, based on the considerations in 47 CFR part 64 and the service vendor's best judgement, non-NSEP services will be preempted. After ensuring a sufficient number of public switched services will remain available for public use, based on the service vendor's best judgement, such services may be used to satisfy a requirement for provisioning or restoring NSEP services.

(2) NSEP Services: If no suitable spare or non-NSEP services are available, then existing NSEP services may be preempted to provision or restore NSEP services with higher priority level assignments. When this is necessary, NSEP services will be selected for preemption in the inverse order of priority level assignment.

(3) Service vendors who are preempting services will ensure their best effort to notify the service user of the preempted service and state the reason for and estimated duration of the preemption.

b. Service vendors may, based on their best judgement, determine the sequence in which existing services may be preempted to provision NSEP services assigned a provisioning priority of ''1'' through ''5.'' Preemption is not subject to the consent of the user whose service will be preempted.

12. *Requests for Priority Actions.* All service users are required to submit requests for priority actions through the Manager, NCS, in

the format and following the procedures prescribed by the Manager.

13. *Assignment, Approval, Use, and Invocation of Priority Levels.*

a. *Assignment and Approval of Priority Levels and Priority Actions.*

(1) Priority level assignments or other priority actions will be based upon section 16, NSEP TSP System Categories, Criteria, and Priority Levels, of this directive. A priority level assignment or other priority action made by the Manager, NCS, will serve as the recommendation of the Director, OSTP (on behalf of the EOP) to the FCC. If the Director, OSTP does not approve the priority level assignment or other priority action made by the Manager, NCS, then the Director can direct the Manager, NCS, to revise or revoke the priority level assignment or other priority action.

(2) Until the President's war emergency powers under Section 706 of the Communications Act are invoked, priority level assignments or other priority actions must be approved by the FCC. (If the FCC does not approve the priority level assignment or other priority action, then it can direct the Manager, NCS, to revise or revoke the priority level assignment or other priority action.) However, the FCC has instructed service vendors to implement any priority level assignments or other priority actions that are pending FCC approval.

(3) After invocation of the President's war emergency powers, the requirement for FCC approval of priority level assignments or other priority actions may be superseded by other procedures issued by the Director, OSTP.

b. *Use of Priority Level Assignments.*

(1) All provisioning and restoration priority level assignments for services in the Emergency NSEP category will be included in initial service orders to vendors. Provision priority level assignments for Essential NSEP services, however, will not usually be included in initial service orders to vendors. NSEP treatment for Essential NSEP services will be invoked and provisioning priority level assignments will be conveyed to service vendors only if the vendors cannot meet needed service dates through the normal provisioning process.

(2) Any revision or revocation of either provisioning or restoration priority level assignments will also be transmitted to vendors.

(3) Service vendors shall accept priority levels and/or revisions only after assignment by the Manager, NCS. (NOTE: Service vendors acting as prime contractors for NSEP services will accept assigned NSEP priority levels only when they are accompanied by the Manager, NCS designated service identification (i.e., TSP Authorization Code). However, service vendors are authorized to accept priority levels and/or revisions from users and contracting activities before assignment by the Manager, NCS when service vendors, users, and contracting activities are unable to communicate with either the FCC, Director, OSTP, or the Manager, NCS. Processing of Emergency NSEP service requests will not be delayed for verification purposes.

c. *Invocation of NSEP Treatment.* To invoke NSEP treatment for the priority provisioning of an NSEP telecommunications service, an authorized Federal official either within, or acting on behalf of, the service user's organization must make a written or oral declaration to concerned service vendor(s) and the Manager, NCS, that NSEP treatment is being invoked. Authorized Federal officials include the head or director of a Federal agency, commander of a unified/specified military command, chief of a military service, or commander of a major military command; the delegates of any of the foregoing; or any other officials as specified in supplemental procedures issued by the Manager, NCS. The authority to invoke NSEP treatment may be delegated only to a general or flag officer of a military service, civilian employee of equivalent grade (e.g., Senior Executive Service member), Federal Coordinating Officer or Federal Emergency Communications Coordinator/Manager, or any other such officials specified in supplemental procedures issued by the EOP. Delegates must be designated as such in writing, and written or oral invocations must be accomplished, in accordance with supplemental procedures issued by the Manager, NCS.

14. *Resubmission of Circuits Presently Assigned Restoration Priorities.* All circuits assigned restoration priorities must be reviewed for eligibility for initial restoration priority level assignment under the provisions of this directive. Circuits assigned restoration priorities, and for which restoration priority level assignments are requested under paragraph 12 of this directive, will be resubmitted to the Manager, NCS. To resubmit such circuits, service users will comply with applicable provisions of paragraphs 10i and 13 of this directive.

15. *Appeal.* Service users or sponsoring Federal organizations may appeal any priority level assignment, denial, revision, revocation, approval, or disapproval to the Manager, NCS within 30 days of notification to the service user. The appellant must use the form or format required by the Manager, NCS and must serve the FCC with a copy of its appeal. The Manager, NCS will act on the appeal within 90 days of receipt. Service users and sponsoring Federal organizations may only then appeal directly to the FCC. Such FCC appeal must be filed within 30 days of notification of the Manager, NCS' decision on appeal. Additionally, the Manager, NCS may appeal any FCC revisions, approvals or disapprovals to the FCC. All appeals to the FCC must be submitted using the form or

format required. The party filing its appeal with the FCC must include factual details supporting its claim and must serve a copy on the Manager, NCS and any other party directly involved. Such party may file a response within 20 days, and replies may be filed within 10 days thereafter. The Commission will not issue public notices of such submissions. The Commission will provide notice of its decision to the parties of record. Any appeals to the Manager, NCS that include a claim of new information that has not been presented before for consideration may be submitted at any time.

16. *NSEP TSP System Categories, Criteria, and Priority Levels.*

a. *General.* NSEP TSP System categories and criteria, and permissible priority level assignments, are defined and explained below.

(1) The Essential NSEP category has four subcategories (i.e., National Security Leadership; National Security Posture and U.S. Population Attack Warning; Public Health, Safety, and Maintenance of Law and Order; and Public Welfare and Maintenance of National Economic Posture). Each subcategory has its own criteria. Criteria are also shown for the Emergency NSEP category, which has no subcategories.

(2) Priority levels of ''1,'' ''2,'' ''3,'' ''4,'' and ''5'' may be assigned for provisioning and/or restoration of Essential NSEP telecommunication services. However, for Emergency NSEP telecommunication services, a priority level ''E'' is assigned for provisioning. A restoration priority level from ''1'' through ''5'' may be assigned if an Emergency NSEP service also qualifies for such a restoration priority level under the Essential NSEP category.

(3) The NSEP TSP System allows the assignment of priority levels to any NSEP telecommunications service across three time periods, or stress conditions: Peacetime/Crisis/Mobilization, Attack/War, and Post-Attack/Recovery. Priority levels will normally be assigned only for the first time period. These assigned priority levels will apply through the onset of any attack, but it is expected that they would later be revised by surviving authorized telecommunication resource managers within the Executive Office of the President based upon specific facts and circumstances arising during the Attack/War and Post-Attack/Recovery time periods.

(4) Service users may, for their own internal use, assign subpriorities to their services assigned priority levels. Receipt of and response to any such subpriorities is optional for service vendors.

(5) The following paragraphs provide a detailed explanation of the categories, subcategories, criteria, and priority level assignments, beginning with the Emergency NSEP category.

b. *Emergency NSEP.* Telecommunication services in the Emergency NSEP category are those new services so critical as to be required to be provisioned at the earliest possible time, without regard to the costs of obtaining them.

(1) Criteria. To qualify under the Emergency NSEP category, the service must meet the criteria of directly supporting or resulting from at least one of the following NSEP functions:

(a) Federal government activity responding to a Presidentially declared disaster or emergency as defined in the Disaster Relief Act (42 U.S.C. 5122).

(b) State or local government activity responding to a Presidentially, state, or locally declared disaster or emergency.

(c) Response to a state of crisis declared by the National Command Authorities (e.g., exercise of presidential war emergency powers under Section 706 of the Communications Act, supra).

(d) Efforts to protect endangered U.S. personnel or property.

(e) Response to an enemy or terrorist action, civil disturbance, natural disaster, or any other unpredictable occurrence that has damaged facilities whose uninterrupted operation is critical to NSEP or the management of other ongoing crises.

(f) Certification by the head or director of a Federal agency, commander of a unified/specified command, chief of a military service, or commander of a major military command, that the telecommunications service is so critical to protection of life and property or to NSEP that it must be provided immediately.

(g) A request from an official authorized pursuant to the Foreign Intelligence Surveillance Act (50 U.S.C. 1801 *et seq.* and 18 U.S.C. 2511, 2518, 2519).

(2) Priority Level Assignment.

(a) Services qualifying under the Emergency NSEP category are assigned priority level ''E'' for provisioning.

(b) After 30 days, assignments of provisioning priority level ''E'' for Emergency NSEP services are automatically revoked unless extended for another 30-day period. A notice of any such revocation will be sent to service vendors.

(c) For restoration, Emergency NSEP services may be assigned priority levels under the provisions applicable to Essential NSEP services (see paragraph 16.c.). Emergency NSEP services not otherwise qualifying for restoration priority level assignment as Essential NSEP may be assigned a restoration priority level ''5'' for a 30-day period. Such 30-day restoration priority level assignments will be revoked automatically unless extended for another 30-day period. A notice of any such revocation will be sent to service vendors.

c. *Essential NSEP*. Telecommunication services in the Essential NSEP category are those required to be provisioned by due dates specified by service users, or restored promptly, normally without regard to associated overtime or expediting costs. They may be assigned priority levels of ''1,'' ''2,'' ''3,'' ''4,'' or ''5'' for both provisioning and restoration, depending upon the nature and urgency of the supported function, the impact of a lack of service or service interruption upon the supported function, and, for priority access to public switched services, the user's level of responsibility. Priority level assignments will be valid for no more than three years unless revalidated. To be categorized as Essential NSEP, a telecommunications service must qualify under one of the four subcategories described below: National Security Leadership; National Security Posture and U.S. Population Attack Warning; Public Health, Safety, and Maintenance of Law and Order; or Public Welfare and Maintenance of the National Economic Posture. (Note: Under emergency circumstances, Essential NSEP telecommunication services may be recategorized as Emergency NSEP and assigned a priority level ''E'' for provisioning.)

(1) National Security Leadership. This subcategory will be strictly limited to only those telecommunication services essential to national survival if nuclear attack threatens or occurs, and critical orderwire and control services necessary to ensure the rapid and efficient provisioning or restoration of other NSEP telecommunication services. Services in this subcategory are those for which a service interruption of even a few minutes would have serious adverse impact upon the supported NSEP function.

(a) Criteria. To qualify under this subcategory, a service must be at least one of the following:

(i) Critical orderwire, or control service, supporting other NSEP functions.

(ii) Presidential communications service critical to continuity of government and national leadership during crisis situations.

(iii) National Command Authority communications service for military command and control critical to National survival.

(iv) Intelligence communications service critical to warning of potentially catastrophic attack.

(v) Communications service supporting the conduct of diplomatic negotiations critical to arresting or limiting hostilities.

(b) Priority Level Assignment. Services under this subcategory will normally be assigned, during Peacetime/Crisis/Mobilization, priority level ''1'' for provisioning and restoration.

(2) National Security Posture and U.S. Population Attack Warning. This subcategory covers those minimum additional telecommunication services essential to maintaining an optimum defense, diplomatic, or continuity-of-government posture before, during, and after crisis situations. Such situations are those ranging from national emergencies to international crises, including nuclear attack. Services in this subcategory are those for which a service interruption ranging from a few minutes to one day would have serious adverse impact upon the supported NSEP function.

(a) Criteria. To qualify under this subcategory, a service must support at least one of the following NSEP functions:

(i) Threat assessment and attack warning.

(ii) Conduct of diplomacy.

(iii) Collection, processing, and dissemination of intelligence.

(iv) Command and control of military forces.

(v) Military mobilization.

(vi) Continuity of Federal government before, during, and after crisis situations.

(vii) Continuity of state and local government functions supporting the Federal government during and after national emergencies.

(viii) Recovery of critical national functions after crisis situations.

(ix) National space operations.

(b) Priority Level Assignment. Services under this subcategory will normally be assigned, during Peacetime/Crisis/Mobilization, priority levels ''2,'' ''3,'' ''4,'' or ''5'' for provisioning and restoration.

(3) Public Health, Safety, and Maintenance of Law and Order. This subcategory covers the minimum number of telecommunication services necessary for giving civil alert to the U.S. population and maintaining law and order and the health and safety of the U.S. population in times of any national, regional, or serious local emergency. These services are those for which a service interruption ranging from a few minutes to one day would have serious adverse impact upon the supported NSEP functions.

(a) Criteria. To qualify under this subcategory, a service must support at least one of the following NSEP functions:

(i) Population warning (other than attack warning).

(ii) Law enforcement.

(iii) Continuity of critical state and local government functions (other than support of the Federal government during and after national emergencies).

(iv) Hospitals and distribution of medical supplies.

(v) Critical logistic functions and public utility services.

(vi) Civil air traffic control.

(vii) Military assistance to civil authorities.

(viii) Defense and protection of critical industrial facilities.

(ix) Critical weather services.

(x) Transportation to accomplish the foregoing NSEP functions.

(b) Priority Level Assignment. Services under this subcategory will normally be assigned, during Peacetime/Crisis/Mobilization, priority levels ''3,'' ''4,'' or ''5'' for provisioning and restoration.

(4) Public Welfare and Maintenance of National Economic Posture. This subcategory covers the minimum number of telecommunication services necessary for maintaining the public welfare and national economic posture during any national or regional emergency. These services are those for which a service interruption ranging from a few minutes to one day would have serious adverse impact upon the supported NSEP function.

(a) Criteria. To qualify under this subcategory, a service must support at least one of the following NSEP functions:

(i) Distribution of food and other essential supplies.

(ii) Maintenance of national monetary, credit, and financial systems.

(iii) Maintenance of price, wage, rent, and salary stabilization, and consumer rationing programs.

(iv) Control of production and distribution of strategic materials and energy supplies.

(v) Prevention and control of environmental hazards or damage.

(vii) Transportation to accomplish the foregoing NSEP functions.

(b) Priority Level Assignment. Services under this subcategory will normally be assigned, during Peacetime/Crisis/Mobilization, priority levels ''4'' or ''5'' for provisioning and restoration.

d. *Limitations.* Priority levels will be assigned only to the minimum number of telecommunication services required to support an NSEP function. Priority levels will not normally be assigned to back-up services on a continuing basis, absent additional justification (e.g., a service user specifies a requirement for physically diverse routing or contracts for additional continuity-of-service features). The Executive Office of the President may also establish limitations upon the relative numbers of services which may be assigned any restoration priority level. These limitations will not take precedence over laws or executive orders. Such limitations shall not be exceeded absent waiver by the Executive Office of the President.

e. *Non-NSEP Services.* Telecommunication services in the non-NSEP category will be those which do not meet the criteria for either Emergency NSEP or Essential NSEP.

17. *Authorizing Provision.* NCS manuals implementing this directive are authorized.

18. *Effective Date.* This directive is effective immediately.

19. *Expiration.* This directive is in effect until superseded or cancelled.

Appendix:

A. Definitions

Director, Office of Science and Technology Policy.

Dated: July 5, 1990.

Director, Office of Management and Budget.

Dated: July 5, 1990.

Assistant to the President for National Security Affairs.

Dated: July 5, 1990.

Summary of Changes: Initial publication.

APPENDIX A—DEFINITIONS

For the purposes of this Directive:

Assignment

The designation of priority level(s) for a defined NSEP telecommunications service for a specified time period.

Audit

A quality assurance review in response to identified problems.

Committee of Principals (COP)

As specified by Executive Order 12472, a committee consisting of representatives from those Federal departments, agencies or entities, designated by the President, which lease or own telecommunications facilities or services of significance to national security or emergency preparedness, and, to the extent permitted by law, other Executive entities which bear policy, regulatory or enforcement responsibilities of importance to national security or emergency preparedness telecommunications capabilities.

Government

The Federal government or any foreign, state, county, municipal, or other local government agency or organization. Specific qualifications will be supplied whenever reference to a particular level of government is intended (e.g., ''Federal government,'' ''state government''). ''Foreign government'' means any non-U.S. sovereign empire, kingdom, state, or independent political community, including foreign diplomatic and consular establishments and coalitions or associations of governments (e.g., North Atlantic Treaty Organization (NATO), Organization of American States (OAS), and United Nations (UN); and associations of governments or government agencies or organizations (e.g., Pan American Union, International Postal Union, and International Monetary Fund).

National Communications System (NCS)

The National Communications System (NCS) is a confederation of Federal departments, agencies and entities established by Presidential Memorandum of August 21, 1963

and reaffirmed by Executive Order No. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' April 3, 1984.

National Coordinating Center (NCC)

The joint telecommunications industry—Federal government operation established by the NCS to assist in the initiation, coordination, restoration and reconstitution of NSEP telecommunication services or facilities.

National Security Emergency Preparedness (NSEP) Telecommunication Services or NSEP Services

Telecommunication services that are used to maintain a state of readiness or to respond to and manage any event or crisis (local, national, or international) that causes or could cause injury or harm to the population, damage to or loss of property, or degrades or threatens the NSEP posture of the United States. These services fall into two specific categories. Emergency NSEP and Essential NSEP, and are assigned priority levels.

National Security Emergency Preparedness (NSEP) Treatment

The provisioning of a telecommunications service before others based on the provisioning priority level assigned by the Manager, NCS, in accordance with this directive.

Priority Action

The assignment, revision, revocation, or revalidation by the Manager, NCS, in accordance with this directive, of a priority level associated with an NSEP telecommunications service.

Priority Level

The level that may be assigned to an NSEP telecommunications service specifying the order in which provisioning or restoration of the service is to occur relative to other NSEP and/or non-NSEP telecommunication services. Authorized priority levels are designated (highest to lowest) ''E,. ''1,'' ''2,'' ''3,'' ''4,'' and ''5'' for provisioning and ''1,'' ''2,'' ''3,'' ''4,'' and ''5'' for restoration.

Priority Level Assignment

The priority level(s) designated for the provisioning and/or restoration of a particular NSEP telecommunications service.

Private NSEP Telecommunication Services

Those non-common carrier telecommunication services including private line, virtual private line, and private switched network services.

Provisioning

The act of supplying telecommunications service to a user, including all associated transmission, wiring, and equipment. As used herein, ''provisioning'' and ''initiation'' are synonymous and include altering the state of an existing priority service or capability.

Public Switched NSEP Telecommunication Services

Those NSEP telecommunication services utilizing public switched networks. Such services may include both interexchange and intraexchange network facilities (e.g., switching systems, interoffice trunks and subscriber loops).

Reconciliation

The comparison of NSEP service information and the resolution of identified discrepancies.

Restoration

The repair or returning to service of one or more telecommunication services that have experienced a service outage or are unusable for any reason, including a damaged or impaired telecommunications facility. Such repair or returning to service may be done by patching, rerouting, substitution of component parts or pathways, and other means, as determined necessary by a service vendor.

Revalidation

The rejustification by a service user of a priority level assignment. This may result in extension by the Manager, NCS, in accordance with this directive, of the expiration date associated with the priority level assignment.

Revision

A change in priority level assignment for an NSEP telecommunications service. This includes any extension of an existing priority level assignment to an expanded NSEP service.

Revocation

The elimination of a priority level assignment when it is no longer valid. All priority level assignments for an NSEP service are revoked upon service termination.

Service Identification

Information uniquely identifying an NSEP telecommunications service to the service vendor and/or service user.

Service User

Any individual or organization (including a service vendor) supported by a telecommunications service for which a priority level has been requested or assigned.

Service Vendor

Any person, association, partnership, corporation, organization, or other entity (including common carriers and government organizations) that offers to supply any telecommunication equipment, facilities, or services (including customer premises equipment and wiring) or combination thereof. The term includes resale carriers, prime contractors, subcontractors, and interconnecting carriers.

''Spare'' Circuits or Services

Circuits or services not being used or contracted for by any customer.

Telecommunication Services

The transmission, emission, or reception of signals, signs, writing, images, sounds, or intelligence of any nature, by wire, cable, satellite, fiber optics, laser, radio, visual, or other electronic, electric, electromagnetic, or acoustically coupled means, or any combination thereof. The term can include necessary telecommunication facilities.

Telecommunications Service Priority (TSP) System User

Any individual, organization, or activity that interacts with the TSP System.

[NCS Directive 3–3]

Telecommunications Operations—Shared Resources (SHARES) High Frequency (HF) Radio Program

September 30, 1988.

1. *Purpose.* This directive establishes National Communications System (NCS) policies pertaining to operation and use of the Shared Resources (SHARES) High Frequency (HF) Radio Program.

2. *Applicability.* This directive is binding upon NCS and other Executive entities who voluntarily elect to participate in the SHARES HF Radio Program.

3. *Authority.* This directive is issued under the authority of Executive Order No. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' April 3, 1984, 49 FR 13471 (1984); and NCS Directive 1–1, ''National Communications System (NCS) Issuance System,'' November 30, 1987.

4. *References.*

a. Executive Order (E.0.) No. 12472, ''Assignment of National Security and Emergency Preparedness Telecommunications Functions,'' April 3, 1984, 49 FR 13471 (1984).

b. National Telecommunications & Information Administration (NTIA), ''Manual of Regulations and Procedures for Federal Radio Frequency Management,'' May, 1986 Edition as revised May, 1987 or current edition/revision.

5. *General.*

a. E.O. No. 12472 established national policy guidance in support of National Security Emergency Preparedness (NSEP) objectives. Executive Order No. 12472 mandates that action be taken to ''. . . ensure that a national telecommunications infrastructure is developed . . .''. Consistent with the Executive Order, functionally similar government telecommunications networks should be designed to interchange traffic in support of national leadership requirements.

b. The SHARES HF Radio Program will provide a backup capability to exchange critical information among Federal entities to support NSEP. Federally controlled HF radio resources will be shared to establish a robust NSEP HF radio communications infrastructure. The program involves a collection of existing Federally controlled HF radio stations that inter-operate to transmit NSEP messages when normal means of communication are not available.

6. *Policy.*

a. Any participating Federal entity will accept, to the extent that acceptance does not interfere with the mission responsibilities of the entity, emergency messages of other Federal entities, or other components of the same entity, for transmission by HF radio to the addressee or to another participant for relay to the addressee.

b. A SHARES message is an emergency message to be sent via the SHARES network. It consists of information that must be communicated to a Federal entity and is of critical importance to the Federal Government, the entity's mission, and/or involves the preservation of life and the protection of property.

c. Transmission of SHARES messages will be guided by the policy of the agency accepting the message. Advice that a ''SHARES Message'' is to be transmitted will serve to notify operating personnel that a critical NSEP message requirement exists, and implicitly, that normal communication paths are not available.

7. *Responsibilities.*

a. NCS entities participating in the SHARES HF Radio Program will, to the maximum extent possible:

(1) Identify HF stations under their control for participation in the SHARES Program.

(2) Maintain the operational readiness of their SHARES HF stations.

(3) Provide updated information as necessary for inclusion in a SHARES HF Radio Program Directory. Use of Federal frequencies for SHARES traffic shall be in accordance with National Telecommunications

and Information Administration (NTIA) ''Manual of Regulations and Procedures for Federal Radio Frequency Management.''

(4) Ensure participation of available stations in scheduled exercises.

(5) Provide representation, as required, at meetings, briefings, conferences, and other official SHARES HF Radio Program activities.

b. The Manager, NCS, will administer the SHARES HF Radio Program and perform the management functions defined below:

(1) Publish and periodically update, as NCS issuances, a User Manual, giving detailed procedures for using SHARES HF Radio Program capabilities, and HF Directory of participating Federally controlled HF radio stations.

(2) Develop, schedule, and administer periodic exercises of the SHARES HF Radio Program capabilities.

(3) Perform other functions, as necessary, to improve SHARES capabilities.

8. *Authorizing Provision*. NCS manuals implementing this directive are authorized.

9. *Effective Date.* This directive is effective immediately.

10. *Expiration*. This directive is in effect until superseded or cancelled.

[55 FR 51063, Dec. 11, 1990]

CHAPTER III—NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION, DEPARTMENT OF COMMERCE

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PART 300—MANUAL OF REGULATIONS AND PROCEDURES FOR FEDERAL RADIO FREQUENCY MANAGEMENT

AUTHORITY: 47 U.S.C. 901 *et seq.*, Executive Order 12046 (March 27, 1978), 43 FR 13349, 3 CFR 1978 Comp., p. 158.

§ 300.1 Incorporation by reference of the Manual of Regulations and Procedures for Federal Radio Frequency Management.

(a) The Manual of Regulations and Procedures for Federal Radio Frequency Management (hereinafter referred to as the NTIA Manual) is issued by the Assistant Secretary of Commerce for Communications and Information, and is specifically designed to cover the Assistant Secretary's frequency management responsibilities pursuant to delegated authority under 47 U.S.C. 901 *et seq.* and Executive Order 12046 (March 27, 1978).

(b) The Federal agencies shall comply with the requirements set forth in the May 1992 edition of the NTIA Manual, as revised through June 1993, which is incorporated by reference with approval of the Director, Office of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(c) The NTIA Manual is scheduled for revision in January, May, and September of each year and notices of these changes are printed in the FEDERAL REGISTER. The complete NTIA Manual can be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, by referring to Catalog Number 903–008–00000–8. A reference copy of the NTIA Manual, including all revisions in effect, is available for use in the office of the Program Manager, Spectrum Openness Program, Room 4092, 14th St. and Pennsylvania Ave., Washington, DC 20230. The NTIA Manual is on file in the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC 20002.

[58 FR 44136, Aug. 19, 1993]

FINDING AIDS

A list of CFR titles, subtitles, chapters, subchapters and parts and an alphabetical list of agencies publishing in the CFR are included in the CFR Index and Finding Aids volume to the Code of Federal Regulations which is published separately and revised annually.

Material Approved for Incorporation by Reference
Table of CFR Titles and Chapters
Alphabetical List of Agencies Appearing in the CFR
Table of OMB Control Numbers
Redesignation Table
List of CFR Sections Affected

Material Approved for Incorporation by Reference

(Revised as of October 1, 1996)

The Director of the Federal Register has approved under 5 U.S.C. 552(a) and 1 CFR Part 51 the incorporation by reference of the following publications. This list contains only those incorporations by reference effective as of the revision date of this volume. Incorporations by reference found within a regulation are effective upon the effective date of that regulation. For more information on incorporation by reference, see the preliminary pages of this volume.

47 CFR SUBCHAPTER D (PARTS 80–End)
FEDERAL COMMUNICATIONS COMMISSION

	47 CFR
Department of Transportation, Federal Aviation Administration Office of Airworthiness, 800 Independence Ave., SW., Washington, DC 20591	
Technical Standard Order, TSO–C91a, Emergency Locator Transmitter Equipment, April 29, 1985.	80.1053, 87.141
International Electrotechnical Commission (IEC) Purchase from: American National Standards Institute (ANSI), 11 West 42nd Street, New York, New York 10036, Telephone (212) 642–4900	80.1101
IEC 92–101, Electrical Installations in Ships, third edition, 1980	80.1101
IEC 533, Electromagnetic Compatibility of Electrical and Electronic Installations in Ships, 1977.	80.1101
IEC 945, Marine Navigational Equipment, first edition 1988	80.1101
International Maritime Organization (IMO) (formerly Inter-Governmental Maritime Consultative Organization) 4 Albert Embankment, London, SE 17SR, United Kingdom	
IMCO Resolution A. 477 (XII). Title: Performance Standards for Radar Equipment. Document adopted by IMCO November 19, 1981.	80.825
IMO A.525(13), Performance Standards for Narrow-band Direct Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships, adopted 17 November 1983.	80.1101
IMO A.604(15), Performance Standards for Survival Craft Radar Transponders for Use in Search and Rescue Operations, adopted 19 November 1987.	80.1101
IMO A.605(15), Performance Standards for Survival Craft Two-way VHF Radiotelephone Apparatus, adopted 19 November 1987.	80.1101
IMO A.609(15), Performance Standards for Shipborne VHF Radio Installations Capable of Voice Communication and Digital Selective Calling, adopted 19 November 1987.	80.1101
IMO A.610(15), Performance Standards for Shipborne MF Radio Installations Capable of Voice Communication and Digital Selective Calling, adopted 19 November 1987.	80.1101
IMO A.611(15), Performance Standards for Float-free Satellite Emergency Position-indicating Radio Beacons Operating on 406 MHz, adopted 19 November 1987.	80.1101

47 CFR SUBCHAPTER D (PARTS 80–End)—Continued
FEDERAL COMMUNICATIONS COMMISSION—Continued

	47 CFR
IMO A.613(15), Performance Standards for Shipborne MF/HF Radio Installations Capable of Voice Communication, Narrow-band Direct Printing and Digital Selective Calling, adopted 19 November 1987.	80.1101
IMO A.662(16), Performance Standards for Float-free Release and Activation Arrangements for Emergency Radio Equipment, adopted on 19 October 1989.	80.1101
IMO A.663(16), Performance Standards for INMARSAT Standard-C Ship Earth Stations Capable of Transmitting and Receiving Direct-printing Communications, adopted 19 October 1989.	80.1101
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Table of OMB Control Numbers

The OMB control numbers for chapter I of title 47 were consolidated into § 0.408 at 61 FR 51023, Sept. 30, 1996. Section 0.408 is reprinted below for the convenience of the user.

§ 0.408 OMB control numbers and expiration dates assigned pursuant to the Paperwork Reduction Act.

(a) Purpose. This section collects and displays the control numbers and expiration dates for the Commission information collection requirements assigned by the Office of Management and Budget (''OMB'') pursuant to the Paperwork Reduction Act of 1995, Public Law 104–13. The Commission intends that this section comply with the requirement that agencies display current control numbers and expiration dates assigned by the Director of OMB for each approved information collection requirement. Not withstanding any other provisions of law, no person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act (PRA) that does not display a valid control number. Questions concerning the OMB control numbers and expiration dates should be directed to the Records Management Branch, Federal Communications Commission, Washington, DC 20554.

(b) Display.

OMB control No.	FCC form number or 47 CFR section or part, docket number or title identifying the collection	OMB expiration date
3060–0003	FCC 610	9/30/96
3060–0004	Sec. 1.1307, 1.1308, 1.311	11/30/96
3060–0009	FCC 316	5/31/99
3060–0010	FCC 323	7/31/98
3060–0012	Parts 21, 23, 25 and FCC 701	3/31/97
3060–0016	FCC 346	4/30/97
3060–0017	FCC 347	4/30/97
3060–0019	FCC 403	10/31/97
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3060–0021	FCC 480	12/31/97
3060–0022	FCC 610A	8/31/98
3060–0024	Sec. 76.29	8/31/98
3060–0025	FCC 755	7/31/97
3060–0027	FCC 301	8/31/98
3060–0028	FCC 313	2/28/99
3060–0029	FCC 302–TV	1/31/97
3060–0031	FCC 314	8/31/98
3060–0032	FCC 315	8/31/98
3060–0034	FCC 340	11/30/97
3060–0035	FCC 313–R	3/31/97
3060–0040	FCC 404/404–R	7/31/97
3060–0041	FCC 301–A	3/31/97
3060–0048	FCC 704	3/31/97
3060–0049	FCC 753	5/31/97
3060–0050	FCC 801	1/31/98
3060–0051	FCC 405–B	8/31/97
3060–0053	FCC 703	10/31/96
3060–0054	FCC 820	2/28/99
3060–0055	FCC 327	2/31/96
3060–0056	FCC 730	3/31/97
3060–0057	FCC 731	9/30/96
3060–0059	FCC 740	7/31/97
3060–0061	FCC 325	10/31/96
3060–0062	FCC 330	8/31/98
3060–0064	FCC 402	6/30/98
3060–0065	FCC 422	9/30/98
3060–0066	FCC 330–R	4/30/97
3060–0068	FCC 702	8/31/97

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3060–0069	FCC 756	9/30/96
3060–0072	FCC 409	8/31/98
3060–0073	FCC 808	7/31/97
3060–0075	FCC 345	12/31/96
3060–0076	FCC 395	12/31/96
3060–0079	FCC 610–B	8/31/99
3060–0084	FCC 323–E	4/30/99
3060–0085	FCC 65	6/30/97
3060–0089	FCC 503	6/30/98
3060–0090	FCC 410	11/30/96
3060–0093	FCC 405	3/31/97
3060–0095	FCC 395–A, 395–AS	6/30/99
3060–0096	FCC 506, 506–A	8/31/99
3060–0099	FCC M	8/31/99
3060–0104	FCC 572	6/30/97
3060–0105	FCC 430	2/28/99
3060–0106	Sec. 43.61, FCC 43.61	8/31/98
3060–0107	FCC 405–A	12/31/96
3060–0108	FCC 201	1/31/97
3060–0110	FCC 303–S	8/31/99
3060–0113	FCC 396	12/31/96
3060–0119	Sec. 90.145	2/28/97
3060–0120	FCC 396–A	11/30/96
3060–0126	Sec. 73.1820	8/31/99
3060–0127	FCC 1046	4/30/97
3060–0128	FCC 574	6/30/98
3060–0132	FCC 1068A	12/31/97
3060–0134	FCC 574–R	5/31/99
3060–0136	FCC 574–T	3/31/98
3060–0139	FCC 854	6/30/98
3060–0141	FCC 402–R	5/31/97
3060–0147	Sec. 64.804	11/30/96
3060–0149	Part 63, Sec. 214, 63.01–63.601	6/30/98
3060–0157	Sec. 73.99	3/31/97
3060–0160	Sec. 73.158	2/28/99
3060–0161	Sec. 73.61	11/30/96
3060–0164	Sec. 25.300	5/31/97
3060–0165	Part 41 Sec. 41.31	11/30/96
3060–0166	Part 42	8/31/98
3060–0168	Sec. 43.43	10/31/96
3060–0169	Sec. 43.51, 43.53	8/31/98
3060–0170	Sec. 73.1207	1/31/96
3060–0171	Sec. 73.1125	2/28/99
3060–0173	Sec. 73.1207	12/31/97
3060–0174	Sec. 73.1212	3/31/99
3060–0175	Sec. 73.1250	11/30/96
3060–0176	Sec. 73.1510	1/31/97
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3060–0179	Sec. 73.1590	3/31/98
3060–0180	Sec. 73.1610	1/31/99
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3060–0182	Sec. 73.1620	12/31/97
3060–0184	Sec. 73.1740	1/31/99
3060–0185	Sec. 73.3613	5/31/98
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3060–0188	Sec. 73.3550	7/31/97
3060–0190	Sec. 73.3544C	12/31/97
3060–0192	Sec. 87.103	11/30/97
3060–0194	Sec. 74.21	1/31/99
3060–0202	Sec. 87.37	12/31/97
3060–0204	Sec. 90.38(B)	4/30/99
3060–0206	Part 21	7/31/97
3060–0207	Sec. 73.961 & 73.932	2/28/97
3060–0208	Sec. 73.1870	12/31/96
3060–0209	Sec. 73.1920	11/30/96
3060–0210	Sec. 73.1930	3/31/98
3060–0211	Sec. 73.1943	5/31/98
3060–0212	Sec. 73.2080	11/30/96
3060–0213	Sec. 73.3525B	7/31/97
3060–0214	Sec. 73.3526	7/31/99
3060–0215	Sec. 73.3527	11/30/96
3060–0216	Sec. 73.3538	11/30/98

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3060–0218	Sec. 90.41(b)	12/31/97
3060–0219	Sec. 90.49(b)	11/30/96
3060–0221	Time in which stations must be placed in operation (exceptions)	12/31/97
3060–0222	Sec. 97.213	12/31/97
3060–0223	Sec. 90.129(B)	5/31/99
3060–0224	Sec. 90.151	2/28/98
3060–0225	Sec. 90.131(B)	11/30/96
3060–0226	Sec. 90.135 (d) & (e)	2/28/98
3060–0228	Sec. 80.59	8/31/98
3060–0233	Part 36	7/31/99
3060–0236	Sec. 74.703	7/31/99
3060–0240	Sec. 74.651	3/31/97
3060–0241	Sec. 74.633	3/31/97
3060–0242	Sec. 74.604	3/31/97
3060–0243	Sec. 74.551	5/31/99
3060–0245	Sec. 74.537	5/31/99
3060–0246	Sec. 74.452	7/31/97
3060–0248	Sec. 74.751	7/31/99
3060–0249	Sec. 74.781	11/30/96
3060–0250	Sec. 74.784	11/30/96
3060–0251	Sec. 74.833	11/30/96
3060–0253	Part 68 Sec. 68.106, 68.108, 68.110	2/28/98
3060–0254	Sec. 74.433	7/31/97
3060–0258	Sec. 90.176	11/30/96
3060–0259	Sec. 90.263	12/31/97
3060–0260	Sec. 90.239(D)	12/31/95
3060–0261	Sec. 90.215	12/31/97
3060–0262	Sec. 90.179	11/30/98
3060–0263	Sec. 90.177	11/30/96
3060–0264	Sec. 80.413	12/31/97
3060–0265	Sec. 80.868	8/31/98
3060–0270	Sec. 90.443	2/28/97
3060–0272	Sec. 94.31	3/31/98
3060–0274	Sec. 94.45	2/28/97
3060–0280	Sec. 90.633 (F) & (G)	5/31/99
3060–0281	Sec. 90.651	2/28/98
3060–0282	Sec. 94.17	5/31/97
3060–0284	Sec. 94.25 (F) (G) & (I)	2/28/98
3060–0286	Sec. 80.302	12/31/96
3060–0287	Sec. 78.69	8/31/98
3060–0288	Sec. 78.33	12/31/96
3060–0289	Sec. 76.60	2/28/99
3060–0290	Sec. 90.5171	5/31/99
3060–0291	Sec. 90.477	2/28/98
3060–0292	Part 69	5/31/97
3060–0295	Sec. 90.607 (b)(1) & (c)(1)	12/31/97
3060–0297	Sec. 80.503	12/31/97
3060–0298	Part 61	7/31/97
3060–0300	Sec. 94.107	2/28/98
3060–0302	Sec. 97.9	12/31/95
3060–0303	Sec. 97.5	12/31/95
3060–0307	Sec. 90.629(A)	4/30/99
3060–0308	Sec. 90.505	2/28/98
3060–0309	Sec. 74.1281	2/28/99
3060–0310	Sec. 76.12	12/31/96
3060–0311	Sec. 76.54	11/30/96
3060–0313	Sec. 76.207	5/31/98
3060–0314	Sec. 76.209	12/31/97
3060–0315	Sec. 76.221	11/30/96
3060–0316	Sec. 76.305	5/31/98
3060–0318	FCC 489	10/31/97
3060–0319	FCC 490	10/31/97
3060–0320	Sec. 73.1350	2/28/98
3060–0321	Sec. 73.68	2/28/99
3060–0325	Sec. 80.605	6/30/99
3060–0326	Sec. 73.69	11/30/96
3060–0329	Sec. 2.955	4/30/99
3060–0331	Sec. 76.615	5/31/98
3060–0332	Sec. 76.614	6/30/98
3060–0339	Sec. 78.11	1/31/97
3060–0340	Sec. 73.51	8/31/97
3060–0341	Sec. 73.1680	8/31/97

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3060–0342	Sec. 74.1284	7/31/97
3060–0343	Sec. 25.140	10/31/96
3060–0344	Sec. 1.1705	8/31/97
3060–0345	Sec. 1.1709	8/31/97
3060–0346	Sec. 78.27	12/31/97
3060–0347	Sec. 97.311	9/30/97
3060–0348	Sec. 76.79	12/31/97
3060–0349	Sec. 76.73 and 76.75	11/30/97
3060–0355	FCC 492 and FCC 492A	5/31/98
3060–0357	Sec. 63.701	5/31/98
3060–0360	Sec. 80.409(c)	7/31/98
3060–0361	Sec. 80.29	5/31/98
3060–0362	Sec. 80.401	8/31/99
3060–0364	Sec. 80.409 (d) and (e)	7/31/98
3060–0370	Part 32	9/30/98
3060–0374	Sec. 73.1690	11/30/98
3060–0383	Part 25	11/30/96
3060–0384	Sec. 64.904	2/28/99
3060–0386	Sec. 73.1635	5/31/99
3060–0387	Sec 15.201(d)	5/31/99
3060–0388	Sec. 80.227	6/30/99
3060–0390	FCC 395B	11/30/96
3060–0391	Monitoring Program for Impact of Federal State Joint Board	8/31/98
3060–0392	Sec. 1.1401–1.1416	2/28/97
3060–0393	Sec. 73.45	11/30/96
3060–0394	Sec. 1.420	11/30/96
3060–0395	Sec. 43.21 and 43.22 FCC 43–02, FCC 43–05 and FCC 43–07	11/30/96
3060–0397	Sec. 15.7(A)	11/30/96
3060–0398	Sec. 2.943, 15.117(G)(2), 80.1053	4/30/99
3060–0400	Tariff Review Plan	9/30/96
3060–0402	FCC 494	5/31/97
3060–0403	FCC 494–A	3/31/97
3060–0404	FCC 350	1/31/97
3060–0405	FCC 349	9/30/98
3060–0407	FCC 307	3/31/97
3060–0410	FCC 495A and FCC 495B	3/31/97
3060–0411	Sec. 1.720–1.735	3/31/98
3060–0414	Terrain Shielding Policy	6/30/97
3060–0419	Sec. 76.94, 76.95, 76.155, 76.156, 76.157, 76.159	9/30/98
3060–0421	New Service Reporting Requirements under Price Cap Regulation	2/28/99
3060–0422	Sec. 68.5	5/31/98
3060–0423	Sec. 73.3588	11/30/96
3060–0425	Sec. 74.913	8/31/98
3060–0427	Sec. 73.3523	7/31/97
3060–0430	Sec. 1.1206	5/31/98
3060–0433	FCC 320	1/30/99
3060–0434	Sec. 90.19(F)(7)	5/31/99
3060–0435	Sec. 80.361	10/31/96
3060–0436	Sec. 15.214 and 68.200	5/31/99
3060–0438	FCC 464	11/30/97
3060–0439	Regulations Concerning Indecent Communications by Telephone	2/28/98
3060–0441	Sec. 90.621(B)(4)	8/31/99
3060–0443	FCC 572C	5/31/99
3060–0444	FCC 800A	5/31/99
3060–0446	Sec. 1.402	9/30/98
3060–0447	Sec. 25.134	12/31/97
3060–0448	Sec. 63.07	11/30/96
3060–0449	Sec. 1.65(c)	1/31/99
3050–0450	Detariffing and Installation of Inside Wiring Services Reports on State Regulatory Activities	2/28/98
3060–0452	Sec. 73.3589	11/30/96
3060–0454	Regulation of International Accounting Rates	2/28/98
3060–0461	Sec. 90.173	12/31/96
3060–0463	Telecommunications Services for Individuals with Hearing and Speech Disabilities	6/30/97
3060–0465	Sec. 74.985	1/31/97
3060–0466	Sec. 74.1283	2/28/97
3060–0470	Computer III Remand Proceeding: BOC Safeguards and Tier 1 LEC Safeguards and Implementation of Further Costs, CC Docket 90–623	8/31/98
3060–0472	FCC 6027I	2/28/97
3060–0473	Sec. 74.1251	2/28/97
3060–0474	Sec. 74.1263	3/31/97
3060–0475	Sec. 90.713	12/31/98
3060–0478	Informational Tariffs	3/31/97

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3060–0479	Sec. 73.661 and 73.3526(A)(11)	11/30/96
3060–0480	FCC 493	5/31/97
3060–0481	FCC 452R	8/31/97
3060–0483	Sec. 73.687	7/31/97
3060–0484	Sec. 63.100	2/28/98
3060–0486	Document Index Terms	12/31/97
3060–0488	Sec. 73.30	12/31/97
3060–0489	Sec. 73.37	12/31/97
3060–0490	Sec. 74.902	12/31/97
3060–0491	Sec. 74.991	12/31/97
3060–0492	Sec. 74.992	12/31/97
3060–0493	Sec. 74.986	12/31/97
3060–0494	Sec. 74.990	12/31/97
3060–0496	FCC Report 43–08	11/30/97
3060–0497	FCC 91 FCC 92	8/31/98
3060–0498	FCC 90	8/31/98
3060–0500	Sec. 76.607	5/31/98
3060–0501	Sec. 76.206	5/31/98
3060–0502	Sec. 73.1942	5/31/98
3060–0504	Sec. 90.658	8/31/98
3060–0506	FCC 302–FM	1/31/97
3060–0508	Rewrite and Update of Part 22, of the Public Mobile Service Rules, CC Docket 92–115	10/31/97
3060–0509	FCC Reports FCC 21–01, FCC 22–01, FCC 25–01 and FCC 25–02	8/31/98
3060–0511	FCC Report 43–04	11/30/96
3060–0512	FCC Report 43–01	8/31/98
3060–0513	FCC Report 43–03	11/30/96
3060–0514	Sec. 43.21(c)	3/31/97
3060–0515	Sec. 43.21(d)	8/31/98
3060–0516	Revision of Radio Rules and Policies, Time Brokerage Ruling	11/30/98
3060–0519	Rules and Regulations Implementing the Telephone Consumer Protection Act of 1991	9/30/98
3060–0520	Sec. 90.127(E)	2/28/99
3060–0526	Density Pricing Zone Plans, Expanded Interconnection with Local Telephone Facilities (CC Docket 91–141)	1/31/99
3060–0532	Sec. 2.975(A)(8) and 2.1033(B)(12)	5/31/99
3060–0536	FCC 431	6/30/99
3060–0537	Sec. 13.217	5/31/99
3060–0539	FCC 493, 430, and 405	2/28/97
3060–0540	Tariff Filing Requirement for Nondominant Common Carriers	2/28/99
3060–0541	FCC 464–A	2/28/99
3060–0542	Frequency Coordinator Evaluation	5/31/98
3060–0543	Part 1, 2, and 21	7/31/99
3060–0544	Sec. 76.701	6/30/99
3060–0546	Sec. 76.59	6/30/99
3060–0547	Sec. 76.61 and 76.7	9/30/98
3060–0548	Sec. 76.302 and 76.56	9/30/98
3060–0549	FCC 329	12/31/96
3060–0550	FCC 328	8/31/99
3060–0551	Sec. 76.1002	9/30/96
3060–0552	Sec. 76.1003	9/30/96
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3060–0556	Sec. 80.1061	6/30/99
3060–0560	Sec. 76.911	12/31/97
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3060–0562	Sec. 76.916	12/31/97
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3060–0565	Sec. 76.944	6/30/97
3060–0567	Sec. 76.962	5/31/98
3060–0568	Sec. 76.970	7/31/99
3060–0569	Sec. 76.975	6/30/97
3060–0570	Sec. 76.982	12/31/97
3060–0571	FCC 393	7/31/99
3060–0572	Sec. 43.82	5/31/99
3060–0573	FCC 394	9/30/96
3060–0574	FCC 395–M	6/30/99
3060–0576	FCC 610R	8/31/99
3060–0577	Expanded Interconnection with Local Telephone Company Facilities	9/30/96
3060–0579	Expanded Interconnection with Local Telephone Company Facilities for Interstate Switched Transport Service	9/30/96
3060–0580	Sec. 76.504	1/31/97
3060–0581	Sec. 76.503	1/31/97
3060–0582	Sec. 76.1302	1/31/97

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3060–0583	Amendment to Part 32 and 64 of the Commission's Rules to Account for Transactions Between Carriers and their Nonregulated Affiliates, CC Docket 93–251	10/31/96
3060–0584	FCC 45 FCC 44	7/31/99
3060–0589	FCC 159, and 159C	9/30/98
3060–0591	Amendment to the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610–1626.5/2483.5–2500 MHZ Frequency Bands	2/28/97
3060–0593	FCC 1215	4/30/97
3060–0594	FCC 1220	4/30/97
3060–0595	FCC 1210	2/28/98
3060–0596	FCC 1225	4/30/97
3060–0597	FCC 1201	4/30/97
3060–0599	Implementation of Sections 3(n) and 322 of the Communications Act, GN 93–253	4/30/97
3060–0600	FCC 175 and 175–S	9/30/98
3060–0601	FCC 1200	4/30/97
3060–0602	Sec. 76.917	4/30/97
3060–0604	FCC 401, 489, 490, 405, 430, and 854	5/31/97
3060–0607	Sec. 76.922	2/28/98
3060–0608	Sec. 76.964(B)	8/31/97
3060–0609	Sec. 76.934(D)	8/31/97
3060–0610	Sec. 76.958	8/31/97
3060–0611	Sec. 74.783	7/31/97
3060–0613	Expanded Interconnection with Local Telephone Company Facilities, CC Docket 91–141	9/30/98
3060–0615	FCC 405S	8/31/97
3060–0621	FCC 401, 405, 430, 489, 490 and 854	10/31/97
3060–0623	FCC 600	2/28/99
3060–0624	Amendment of the Commission's Rules to Establish New Narrowband Personal Communications Services, ET Docket 92–100 and GN Docket 90–314	12/31/97
3060–0625	Amendment of the Commission's Rules to Establish New Personal Communications Services, GN Docket 90–314	11/30/97
3060–0626	Implementation of Sections 3(N) and 332 of the Communications Act, GN Docket 93–252	11/30/97
3060–0627	FCC 302–AM	1/31/98
3060–0629	Sec. 76.987(G)	2/28/98
3060–0630	Sec. 73.62	2/28/98
3060–0631	Sec. 73.1300	2/28/98
3060–0632	Sec. 73.1570	2/28/98
3060–0633	Sec. 73.1230, 74.165, 74.432, 74.564, 74.664, 74.765, 74.832, 74.965 and 74.1265	2/28/98
3060–0634	Sec. 73.691	2/28/98
3060–0635	FCC 610–V	4/30/98
3060–0636	Part 2 and 18	6/30/98
3060–0638	Sec. 76.934(F)(1)	5/31/98
3060–0639	Implementation of Section 309(J) of the Communications Act Competitive Bidding, PP 93–253	4/30/98
3060–0640	FCC 800I	7/31/98
3060–0641	FCC 2181	7/31/98
3060–0642	FCC Survey of Cable Industry Costs	12/31/96
3060–0643	Part 65 and 69	8/31/98
3060–0644	FCC 1230	8/31/98
3060–0648	Sec. 21.902	9/30/98
3060–0649	Sec. 76.58	9/30/98
3060–0650	Sec. 76.502	9/30/98
3060–0651	Sec. 76.9	9/30/98
3060–0652	Sec. 76.309 and 76.964	9/30/98
3060–0653	Sec. 64.703(b)	9/30/98
3060–0654	FCC 304	9/30/98
3060–0655	Request for Waivers of Regulatory Fees Predicated on Allegations of Financial Hardship, MM Docket 94–19	9/30/98
3060–0656	FCC 175–M	9/30/98
3060–0657	Sec. 21.956	9/30/98
3060–0658	Sec. 21.960	9/30/98
3060–0660	Sec. 21.937	9/30/98
3060–0661	Sec. 21.931	9/30/98
3060–0662	Sec. 21.930	9/30/98
3060–0663	Sec. 21.934	9/30/98
3060–0664	FCC 304A	9/30/98
3060–0665	Sec. 65.707	9/30/98
3060–0666	Sec. 64.703(a)	9/30/98
3060–0667	Sec. 76.630	9/30/98
3060–0668	Sec. 76.936	9/30/98
3060–0669	Sec. 76.946	9/30/98
3060–0670	Sec. 76.986	9/30/98
3060–0672	Sec. 76.951	9/30/98
3060–0673	Sec. 76.956	9/30/98
3060–0674	Sec. 76.931 and 76.932	9/30/98

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3060–0675	RAO Letter 25	9/30/98
3060–0676	Sec. 64.1100	9/30/98
3060–0678	FCC 312	8/31/99
3060–0679	Streamlining the Commission's Rules and Regulations for Satellite Application and Licensing Procedures	9/30/98
3060–0680	FCC 43–09A, FCC 43–09B	12/31/96
3060–0681	Toll-Free Access Codes	2/28/99
3060–0682	Sec. 63.16	1/31/99
3060–0683	Direct Broadcast Satellite Service	1/31/99
3060–0684	Cost Sharing Plan for Microwave Relocation	8/31/99
3060–0685	FCC 1240	7/31/99
3060–0686	Steamlining the International Section 214 Authorization Process and Tariff Requirements	6/30/99
3060–0687	Acess to Telecommunications Equipment and Services by Persons with Disabilities	2/28/99
3060–0688	FCC 1235	2/28/99
3060–0690	ET Docket 95–183	4/30/99
3060–0691	Amendment to Part 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896–901 MHZ Bands Allotted to Specialized Mobile	6/30/99
3060–0692	Sec. 76.802	4/30/99
3060–0695	WT Docket No. 96–1	4/30/99
3060–0696	Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Service	4/30/97
3060–0697	Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems	4/30/99
3060–0698	Amendment of the Commission's Rules to Establish a Radio Astronomy Coordination Zone in Puerto Rico	5/31/99
3060–0699	MM Docket 96–16	5/31/99
3060–0700	FCC 1275	8/31/99
3060–0701	CC Docket 96–23	5/31/99
3060–0702	Amendment to Part 20 and 24 of the Commission's Rules Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap	5/31/99
3060–0703	CS Docket 96–57, FCC 1205	6/30/99
3060–0704	CC Docket 96–61	6/30/99
3060–0706	Order and NPRM on Cable Reform: Implementation of the Telecommunications Act of 1996	10/31/96
3060–0707	Restriction on Over-the Air Reception Devices (NPRM)	6/30/96
3060–0708	NPRM in MM Docket 96–58	7/31/99
3060–0709	Revision to Part 22 and Part 90 to Facilitate Future Development of the Pageing System and Implementation of Section 309(j) of the Communications Act	10/31/96
3060–0710	CC Docket 96–98	2/28/97
3060–0711	GC Docket 96–101	7/31/99
3060–0712	Petition for Declaratory Ruling by Inmate Calling Services Providers Task Force	7/31/99
3060–0713	Alternative Broadcast Inspection Program	7/31/99
3060–0714	Antenna Registration Number Required as Supplement to Application Forms	9/30/96
3060–0715	CC 96–115	8/31/99
3060–0716	Section 73.1630	8/31/99
3060–0719	Proposed Quarterly Report of IntraLATA Carriers Listing Pay Phone Automatic Numbering Identification	8/31/99
3060–0722	Proposed Initial Report of Bell Operating Companies of Comparably Efficient Interconnect Plans	8/31/99
3060–0723	Proposed Public Disclosure of Network Information by Bell Operating Companies	8/31/99
3060–0724	Proposed Annual Report of Interexchange Carriers Listing the Compensation Amount Paid to Pay Phone Providers and the Number of Payees	8/31/99
3060–0725	Proposed Annual Filing of Nondiscrimination Reports (On Quality of Service, Installation, and Maintenance) by BOC's	8/31/99
3060–0726	Proposed Quarterly Report of Interexchange Carriers Listing the Number of Dial-Around Calls for which Compensation is Being Paid to Pay Phone Owners	8/31/99
3060–0728	Supplemental Information Requesting Taxpayer Identifying Numbers for Debt Collection	9/30/96
3060–0729	Bell Operating Provision of Out-of-Region Interexchange Services (Affiliated Company Recordkeeping Requirements)	10/31/96
3060–0730	Toll-Free Service Access Codes, 800/888 Number Release Procedures	10/31/96
3060–0733	Implementations of Section 302 of the Telecommunications Act of 1996	10/31/96

[61 FR 51023, Sept. 30, 1996]

Redesignation Table

At 51 FR 31213, Sept. 2, 1986, parts 81 and 83 were removed and reorganized into new part 80. For the convenience of the user, the following redesignation table shows the summary of changes reflected as a result of the reissuance of the regulations, as reorganized into part 80.

REDESIGNATION TABLE

Old section No.	New section No. and title	Summary of changes
81.1	80.1 Basis and purpose	Clarified.
81.2 (a–o)	80.5 Definitions	Clarified.
81.3 (a–v)	80.5 Definitions	Clarified.
81.4 (a–r)	80.5 Definitions	Clarified.
81.5 (a–e)	80.5 Definitions	Clarified
81.6 (a–d)	80.5 Definitions	Clarified.
81.7 (a–u)	80.5 Definitions	Clarified.
81.8	80.5 Definitions	Clarified.
81.9 (a–e)	80.5 Definitions	Clarified.
81.20	80.23 Filing of applications	Clarified.
81.21 (a&b)	Deleted	
81.22 (a&b)	80.17 Administrative classes of stations	Clarified.
81.23 (a&b)	80.15 Eligibility for station license	Clarified.
81.24	80.19 Standard forms to be used	Clarified.
	80.405 Station license	Clarified.
81.25 (a–d)	Deleted	
81.27 (a–c)	Deleted	
81.28 (a&b)	Deleted	
81.29	Deleted	
81.30	Deleted	
81.31 (a–d)	80.21 Supplemental information required	Clarified.
81.33	80.501 Supplemental eligibility requirements	Clarified.
	80.507 Scope of service	Clarified.
81.34 (a&b)	80.39 Authorized station location	Clarified.
81.35	80.19 Standard forms to be used	Simplified.
81.36 (a)	80.19 Standard forms to be used	Simplified.
81.36 (b)	Deleted	
81.36 (c)	80.29 Changes during license term	Clarified.
81.36 (d)	80.29 Changes during license term	Simplified.
81.37 (a)	80.19 Standard forms to be used	Simplified.
81.37 (b)	Deleted	
81.39 (a&b)	80.23 Filing of applications	Simplified.
81.40 (a–d)	80.23 Filing of applications	Simplified.
	80.37 One authorization for plurality of stations	Simplified.
81.41 (a–c)	Deleted	
81.42 (a&b)	Deleted	
81.44	Deleted	
81.46 (a&b)	Deleted	
81.47 (a&b)	Deleted	
81.48 (a–c)	Deleted	
81.51	Deleted	
81.61	80.49 Time in which station is placed in operation	Clarified.
81.65 (a&b)	80.25 License term	Simplified
81.68 (a–e)	80.37 One authorization for a plurality of stations	Clarified.
81.70 (a–b)	80.39 Authorized station location	Clarified.
81.71 (a–c)	80.41 Control points and dispatch points	Clarified.
81.72 (a–j)	Deleted	
81.73	80.47 Operation during emergency	Simplified.
81.74	80.302 Notice of discontinuance, reduction or impairment of service involving a distress watch.	Clarified.
	80.471 Discontinuance or impairment of service	Simplified.
81.76	80.31 Cancellation of license	Clarified.
81.101	80.61 Commission inspection of station	Simplified.
	80.403 Availability of documents	Simplified.
81.102 (a–d)	80.405 Station license	Simplified.
81.103 (a–d)	Deleted	
81.104 (a)	80.68 Facilities requirements for public coast stations using telegraphy	Simplified.

REDESIGNATION TABLE—CONTINUED

Old section No.	New section No. and title	Summary of changes
81.104 (b)	80.67 General facilities requirements for coast stations	Simplified.
81.104 (c)	80.69 Facilities requirements for public coast stations using telephony	Clarified.
81.104 (d&e)	80.67 General facilities requirements for coast stations	Simplified.
81.105 (a–c)	80.70 Special provisions relative to coast stations VHF facilities	No change.
81.105	Deleted	
81.106 (a–g)	80.71 Operating controls for stations on land	No change.
81.107 (a&b)	80.72 Antenna requirements for coast stations	No change.
81.108	Deleted	
81.109 (a–c)	Deleted	
81.110 (a&b)	80.63 Maintenance of transmitter power	Clarified.
81.112	Deleted	
81.113 (a&b)	80.74 Public coast station facilities for a telephony busy signal	No change.
81.114 (a&b)	Deleted	
81.115 (a&b)	80.409 Station logs	Simplified.
81.116 (a–d)	80.76 Requirements for land station control points	Simplified.
81.131 (a–e, g)	80.209 Transmitter frequency tolerances	Clarified.
81.131 (f)	Deleted	
81.132 (a–g)	80.207 Classes of emissions	Simplified.
81.132 (a)	80.385 Frequencies for automated systems	Clarified.
81.133 (a–d)	80.205 Bandwidths	Simplified.
81.134 (a–j)	80.215 Transmitter power	Simplified.
81.136 (a&b)	80.203 Authorization of transmitters for licensing	Clarified.
81.137 (a–f)	80.203 Authorization of transmitters for licensing	Simplified.
81.138 (a)	80.203 Authorization of transmitters for licensing	Simplified.
81.138 (b)	Deleted	
81.139 (a–c)	80.221 Special requirements for generating automatically the radiotelephone alarm signal.	Simplified.
81.140 (a&b)	80.211 Emission limitations	Clarified.
81.142 (a–j)	80.213 Modulation requirements	Simplified.
81.143 (a–f)	80.219 Special requirements for narrow-band direct-printing (NB–DP) equipment	Simplified.
81.144 (a–f)	80.225 Special requirements for digital selective calling (DSC) equipment	Simplified.
81.151	80.151 Classification of operator licenses and endorsements	Clarified.
81.152 (a), (c), (d), (g).	80.153 Coast station operator requirements	Simplified; (b) and (f) deleted.
81.154	80.167 Limitation on operators	Simplified.
81.155 (a&b)	Deleted	
81.156	80.169 Operators required to adjust transmitters or radar	Simplified.
81.158 (a–c)	80.177 When operator license is not required	Clarified.
81.159	80.175 Availability of operator licenses	Simplified.
	80.407 Operator authorization	Simplified.
81.171	80.86 International regulations applicable	No change.
81.172	80.87 Cooperative use of frequency assignments	Simplified.
81.173	80.88 Secrecy of communications	No change.
81.174	80.89 Unauthorized transmission	Simplified.
81.175	80.90 Suspension of transmission	No change.
81.176 (a&b)	80.106 Intercommunication in the mobile service	No change.
81.177	80.107 Service of private coast stations and marine utility stations	No change.
81.178	80.105 General obligations of coast stations	No change.
81.179 (a), (b), (c), (e), (f).	80.95 Message charges	Simplified; (d) deleted.
81.180	Deleted	
81.181 (a&b)	80.91 Order of priority of communications	No change.
	80.312 Priority of distress transmissions	No change.
81.182	80.94 Control by coast or Government station	Simplified.
81.183 (a–d)	80.92 Prevention of interference	Simplified.
81.184 (a&b)	80.108 Transmission of traffic lists by coast stations	Simplified.
81.185	80.109 Transmissions to a plurality of mobile stations by a public coast station	Simplified.
81.186 (a–g)	80.93 Hours of service	No change.
81.187 (a)	80.311 Authority for distress transmission	Simplified.
81.187 (b)	80.321 Acknowledgement of receipt of distress message	Simplified.
81.187 (c)	80.322 Form of acknowledgement	Simplified.
81.187 (d)	80.325 Control of distress traffic	Simplified.
81.187 (e)	80.324 Transmission of distress message by station not itself in distress	Simplified.
81.188 (a&b)	80.317 Radiotelegraph and radiotelephone alarm signals	No change.
81.189 (a&b)	80.318 Use of alarm signals	No change.
81.190 (a&b)	80.301 Watch requirements	Simplified.
81.190 (c)	Deleted	
81.191 (a)	Deleted	
81.191 (b)	80.301 Watch requirements	Simplified.
81.191 (c)	80.303 Watch on 156.8 Mhz (channel 16)	Clarified.

Redesignation Table

REDESIGNATION TABLE—CONTINUED

Old section No.	New section No. and title	Summary of changes
81.191 (d&e)	Deleted	
81.192	80.96 Maintenance tests	Simplified.
81.193 (a–d)	80.110 Inspection and maintenance of tower markings and associated control equipment.	Simplified.
81.194 (a–c)	80.409 Station logs	Simplified.
81.201	80.451 Supplemental eligibility requirements	Simplified.
81.202 (a–c)	80.453 Scope of communications	Clarified.
81.203 (a&b)	80.359 Frequencies for digital selective calling	Simplified.
81.203 (b–e)	80.121 Public coast stations using telegraphy	Simplified.
81.204 (a&b)	80.361 Frequencies for narrow direct printing (NB–DP) and data transmissions	Simplified.
81.204 (c)	Deleted	
81.205 (a–e)	80.121 Public coast stations using telegraphy	Clarified.
81.206 (a–c)	80.455 Assignment and use of frequencies for manual Morse code telegraphy	Simplified.
81.206 (a, d, e)	80.357 Working frequencies	Simplified.
81.206 (b&c)	80.353 General uses—radiotelegraphy	Simplified.
81.207 (a–c)	80.355 Distress, urgency, safety, call and reply frequencies	Simplified.
81.207 (d)	Deleted	
81.207 (e)	80.359 Frequencies for digital selective calling (DSC)	Clarified.
81.209 (a–c)	80.121 Public coast stations using telegraphy	Simplified.
81.218 (a–d)	80.357 Working frequencies	Simplified.
81.219	80.100 Morse code requirement	Clarified.
81.220	80.99 Radiotelegraph station identification	Clarified.
81.221 (a&b)	80.98 Radiotelegraph testing procedure	No change.
81.222 (a–c)	80.97 Radiotelegraph operating procedure	Clarified.
81.223 (a)	80.401 Station documents requirement	Simplified.
81.223 (b)	Deleted	
81.223 (c)	80.403 Availability of documents	Clarified.
81.224 (a–h)	80.409 Station logs	Clarified.
81.230	80.122 Public coast stations using facsimile	Clarified.
	80.363 Frequencies for facsimile	Clarified.
81.301	80.451 Supplement eligibility requirements	No change.
81.302 (a–c)	80.453 Scope of communications	Clarified.
81.303 (a)	80.467 Duplication of VHF service	No change.
81.304 (a–h)	80.465 Assignment and use of frequencies for telephony	Simplified.
81.305 (a&b)	80.369 Distress, urgency, safety, call and reply frequencies	Simplified.
81.306 (a&b)	80.371 Public correspondence frequencies	Simplified.
81.307	80.371 Public correspondence frequencies	Simplified.
81.308 (a&b)	80.373 Private communications frequencies	Simplified.
81.310 (a)	80.99 Radiotelegraph station indentification	Simplified.
	80.102 Radiotelephone station identification	Simplified.
81.310 (b&c)	Deleted	
81.311 (a&b)	80.101 Radiotelephone testing procedures	Simplified.
81.312 (a–d)	80.111 Radiotelephone operating procedures for coast stations	Simplified.
81.313 (a–c)	80.401 Station documents requirement	Simplified.
81.314 (a–f)	80.409 Station logs	Simplified.
81.330 (a–e)	80.469 Maritime mobile repeater stations in Alaska	Simplified.
81.330 (f–i)	80.373 Private communications frequencies	Simplified.
81.351 (a–b)	80.501 Supplemental eligibility requirements	Simplified.
81.352 (a–c)	80.503 Cooperative use of facilities	Simplified.
81.354 (a–b)	80.505 Points of communication	Clarified.
81.355 (a–d)	80.507 Scope of service	Simplified.
81.356	80.373 Private communications frequencies	Simplified.
81.357 (a–c)	80.383 Vessel Traffic Services (VTS) System frequencies	No change.
81.358 (a–c)	80.511 Assignment limitations	No change.
81.359 (a–c)	80.513 Frequency coordination	No change.
81.360 (a–e)	80.367 General uses—radiotelephony	Simplified.
	80.369 Distress, urgency, safety, call and reply frequencies	Simplified.
	80.373 Private communications frequencies	Simplified.
81.361 (a–c)	80.131 Radioprinter operations	Simplified.
	80.1155 Radioprinter	Simplified.
81.362 (a–c)	80.131 Radioprinter operations	Simplified.
	80.1155 Radioprinter	Simplified.
81.363 (a&b)	80.131 Radioprinter operations	Simplified.
	80.1155 Radioprinter	Simplified.
81.364	80.517 Time limitation on calling	No change.
81.367 (a&b)	80.101 Radiotelephone testing procedures	Clarified.
81.368 (a–c)	80.111 Radiotelephone operating procedures for coast stations	Clarified.
81.372	80.102 Radiotelephone station identification	Simplified.
81.401	80.601 Licensing limitations	Simplified.
81.402 (a–c)	80.375 Radiodetermination frequencies	Simplified.
81.403 (a&b)	80.605 U.S. Coast Guard coordination	No change.

REDESIGNATION TABLE—CONTINUED

Old section No.	New section No. and title	Summary of changes
81.404 (a&b)	80.653 Scope of communication	Clarified.
81.501	80.33 Developmental license	Clarified.
81.502 (a–c)	80.33 Developmental license	Clarified.
81.503 (a&d)	80.33 Developmental license	Simplified.
81.503 (b&c)	80.391 Frequencies for developmental stations	Simplified.
81.504 (a–c)	80.33 Developmental license	Simplified.
81.505 (a–c)	80.33 Developmental license	Simplified.
81.506	80.33 Developmental license	Simplified.
81.507 (a–c)	80.33 Developmental license	Simplified.
81.521–81.534	Deleted	
81.551	80.149 Answers to notice of violation	No change.
81.601	Deleted	
81.603 (a–c)	Deleted	
81.605	Deleted	
81.609 (a&b)	Deleted	
81.611	80.653 Scope of communications	Simplified.
81.613	80.653 Scope of communications	Simplified.
81.615	80.389 Frequencies for maritime support station	No change.
81.617	Deleted	
81.619	80.655 Assignment of use of frequencies	Simplified.
81.621	80.381 Frequencies of fixed stations	Simplified.
	80.555 Scope of communications	Simplified.
81.623 (a)	80.381 Frequencies for fixed stations	Simplified.
	80.553 Supplementary eligibility requirements	Simplified.
81.625 (a–d)	80.381 Frequencies for fixed stations, See also 80.211, 80.557, and 80.559	Simplified.
81.701	80.15 Eligibility for station license	Simplified.
81.702 (a&b)	80.705 Hours of service of Alaska public fixed stations	Simplified.
81.703	80.703 Priority of distress and other signals	Simplified.
81.704	80.409 Station logs	Clarified.
81.705 (a&b)	80.707 Cooperative use of frequency assignments	Clarified.
81.706 (a&b)	Deleted	
81.708 (a&b)	80.709 Frequencies available	Clarified.
81.709	80.709 Frequencies available	Clarified.
81.711	80.709 Frequencies available	Clarified.
81.714	80.711 Use of U.S. Government frequencies	No change.
81.801	80.751 Scope	No change.
81.802 (a–c)	80.753 Signal strength requirements at the service area contour	No change.
81.803	80.755 Applicability	No change.
81.804 (a&b)	80.757 Topographical data	No change.
81.805 (a–d)	80.759 Average terrain elevation	No change.
81.806	80.763 Effective antenna height	No change.
81.807	80.765 Effective radiated power	No change.
81.808 (a–d)	80.767 Propagation curve	No change.
81.810 (a–d)	80.769 Shadow loss	No change.
81.811	80.773 Ratio of desired to undesired signal strengths	No change.
81.812 (a–e)	80.771 Method of computing coverage	No change.
81.813 (a–c)	80.761 Conversion graphs	No change.
81.901	80.57 Canada/USA channeling arrangement for VHF maritime public correspondence.	No change.
81.902 (a–j)	80.57 Do	No change.
81.903 (a–f)	80.57 Do	No change.
81.904 (a–f)	80.57 Do	No change.
81.905 (a–c)	80.57 Do	No change.
81.906 (a–c)	80.57 Do	No change.
	80.475 Scope of service of Automated Maritime Telecommunications System (AMTS).	Simplified
81.913 (a–c)	80–1169 Automated Maritime Telecommunications System (AMTS)	Simplified.
81.915	80.477 Points of communication	Simplified.
81.917	80.385 Frequencies for automated systems	No change.
	80.1171 Assignment and use of frequencies	Simplified.
83.1 (a&b)	80.1 Basis and purpose	No change.
83.2 (a–y)	80.5 Definitions	Clarified.
83.3 (a–t)	80.5 Definitions	Clarified.
83.4 (a–w)	80.5 Definitions	Clarified.
83.5 (a–c)	80.5 Definitions	Clarified.
83.6 (a–n)	80.5 Definitions	Clarified.
83.7 (a–l)	80.5 Definitions	Clarified.
83.8 (a–h)	80.5 Definitions	Clarified.
83.20 (a&b)	80.13 Station license required	No change.
83.22	80.15 Eligibility for station license	Clarified.
83.24 (a–c)	80.15 Eligibility for station license	Clarified.

Redesignation Table

REDESIGNATION TABLE—CONTINUED

Old section No.	New section No. and title	Summary of changes
83.28 (a&b)	80.19 Standard forms to be used	Simplified.
83.30 (a–c)	Deleted.	
83.32 (a–e)	80.23 Filing of applications	No change.
83.32 (f–g)	80.51 Ship earth station licensing	No change.
83.34	Deleted.	
83.36	Deleted	
83.38	Deleted	
83.40 (a–c)	80.19 Standard forms to be used	Simplified.
	80.25 License term	No change.
83.42 (a&b)	80.29 Changes during license term	Clarified.
83.44	80.56 Transfer of ship station license prohibited	No change.
83.46 (a&b)	Deleted	
83.48	80.31 Cancellation of license	Clarified.
83.50 (a&b)	80.53 Application for portable ship station license	No change.
83.52 (a&b)	80.55 Application for fleet station license	Clarified.
83.54	Deleted	
83.56	80.507 Scope of service	Simplified.
83.60 (a–c)	80.59 Compulsory ship station	Simplified.
83.70 (a–e)	80.59 Compulsory ship stations	No change.
83.72 (a&b)	80.59 Compulsory ship stations	No change.
83.74	80.59 Compulsory ship stations	
83.101 (a)	80.61 Commission inspection of stations	No change.
83.101 (b)	80.79 Inspection of ship stations by a foreign Government	Simplified.
83.102 (a–c)	80.405 Station license	Simplified.
83.103	Deleted	
83.104 (a–h)	80.80 Operating controls for ship stations	No change.
83.105 (a–d)	80.142 Ships using telegraphy	No change.
83.106 (a–c)	80.143 Required frequencies for radiotelephony	No change.
	80.956 Required Frequencies and uses	Clarified.
83.107 (a–c)	80.81 Antenna requirements for ship stations	No change.
83.108	Deleted	
83.110 (a–b)	80.63 Maintenance of transmitter power	Clarified.
83.111	Deleted	
83.112	Deleted	
83.113	Deleted	
83.114 (a&b)	80.935 Station clock	Simplified.
83.115 (a–e)	80.409 Station logs	Clarified.
83.131 (a–g)	80.209 Transmitter frequency tolerances	Simplified.
83.132 (a–g)	80.207 Classes of emission	Simplified.
83.133 (a&b)	80.205 Bandwidths	Simplified.
83.133 (c&d)	Deleted	
83.134 (a–l)	80.215 Transmitter power	Simplified
	80.1053 Special requirements for Class A EPIRB stations	Clarified.
	80.1057 Special requirements for Class C EPIRB stations	Clarified.
83.135 (a)	80.217 Suppression of interference aboard ships	Simplified.
83.135 (b)	Deleted	
83.136 (a–f)	80.211 Emission limitations	Simplified.
83.137 (a–d)	80.213 Modulation requirements	Simplified.
	80.1057 Special requirements for Class C EPIRB stations	Clarified.
83.138 (a–c)	80.203 Authorization of transmitter for licensing	Simplified.
83.139 (a–j)	80.203 Authorization of transmitter for licensing	Simplified.
83.140 (a–c)	80.203 Authorization of transmitter for licensing	Simplified.
83.141 (a–d)	80.223 Special requirement for survival craft stations	Clarified.
83.142 (a–c)	80.221 Special requirements for automatically generating the radiotelephone alarm signal.	Simplified.
83.143 (a–f)	80.219 Special requirements for narrow-band direct-printing (NB–DP) equipment	Simplified.
83.144 (a–m)	80.1053 Special requirements for Class A EPIRBs	Simplified.
	80.1055 Special requirements for Class B EPIRBs	Simplified.
83.145 (a&b)	80.1053 Special requirements for Class A EPIRBs	Simplified.
83.145 (c)	Deleted	
83.146 (a–g)	80.1057 Special requirements for Class C EPIRBs	No change.
83.151 (a)	80.151 Classification of operator's licenses and endorsements	Clarified.
83.152 (a)	80.155 Ship station operator requirements	Clarified.
83.152 (b)	80.157 Radio officer defined	Clarified.
83.152 (c)	Deleted	
83.153	Deleted	
83.155 (a–e)	80.159 Operator requirements for Title III of the Communications Act and the Safety Convention.	Simplified.
83.156 (a&b)	80.159 Do	Simplified.
83.157 (a&b)	80.161 Operator requirements for Great Lakes Radio Agreement	Clarified.
83.158	80.163 Operator requirements of the Vessel Bridge-to-Bridge Act	No change.

REDESIGNATION TABLE—CONTINUED

Old section No.	New section No. and title	Summary of changes
83.159	80.165 Operator requirements for voluntary stations	Clarified.
83.160 (a&b)	80.167 Limitations on operators	Simplified.
83.161 (a–c)	Deleted	
83.162 (a&b)	80.169 Operators required to adjust transmitters or radar	Clarified.
83.164 (a–d)	80.177 When operator license is not required	Simplified.
83.165 (a&b)	80.175 Availability of operator licenses	Simplified.
83.173 (a&b)	80.114 Authority of master	No change.
83.174	80.88 Secrecy of communications	No change.
83.175	80.106 Intercommunication in the mobile services	Simplified.
83.176	Deleted	
83.177 (a&b)	80.91 Order of priority of communications	No change.
83.178	80.89 Unauthorized transmissions	Clarified.
83.179	80.94 Control by coast or Government station	No change.
83.180	80.87 Cooperative use of frequency assignments	No change.
83.181 (a–e)	80.92 Prevention of interference	Simplified.
83.182	80.90 Suspension of transmission	No change.
83.183 (a&b)	80.93 Hours of service	Simplified.
83.184 (a–c)	80.409 Station logs	Clarified.
83.185	Deleted	
83.186 (a–f)	80.115 Operational conditions for use of associated ship units	Simplified.
83.201 (a&b)	80.304 Watch requirement during silence period	Clarified.
83.202 (a–c)	80.305 Watch requirements of the Communications Act and the Safety Convention	Clarified.
83.203 (a–d)	80.305 Do	Clarified.
83.204 (a,c–e)	80.306 Provisions governing the radiotelegraph watch	Clarified.
83.204 (b)	Deleted	
83.205	80.307 Compulsory use of radiotelegraph auto alarm	No change.
83.206	80.308 Watch required by the Great Lakes Radio Agreement	No change.
83.207	80.309 Watch required by Bridge-to-Bridge Act	Clarified.
83.221	80.146 Watch on 500 kHz	No change.
83.233	80.147 Watch on 2182 kHz	No change.
83.224 (a–c)	80.148 Watch required by voluntary vessels	No change.
83.231	Deleted	
83.232	80.311 Authority for distress transmissions	Clarified.
83.233	80.313 Frequencies for use in distress	Clarified.
83.234 (a–c)	80.314 Distress signals	No changes.
83.235 (a–c)	80.315 Distress calls	No changes.
83.236 (a–c)	80.316 Distress messages	No change.
83.237 (a–e)	80.319 Radiotelegraph distress call and message transmission procedure	No change.
83.238 (a–e)	80.320 Radiotelephone distress call and message transmission procedure	No change.
83.239 (a&b)	80.321 Acknowledgement of receipt of distress message	No change.
83.240 (a&b)	80.322 Form of acknowledgement	No change.
83.241 (a&b)	80.323 Information furnished by an acknowledging station	No change.
83.242 (a–d)	80.324 Transmission of distress message by station not itself in distress	No change.
83.243 (a–d)	80.325 Control of distress traffic	No change.
83.244 (a&b)	80.326 Notification of resumption of normal working	No change.
83.245 (a&b)	80.317 Radiotelegraph and radiotelephone alarm signals	No change.
83.246 (a&b)	80.318 Use of alarm signals	No change.
83.247 (a–d)	80.327 Urgency signals	No change.
83.248 (a–c)	80.328 Urgency message	No change.
83.249 (a–d)	80.329 Safety signals	No change.
83.250 (a–d)	80.330 Safety message	No change.
83.251 (a–c)	80.331 Bridge-to-Bridge communication procedure	No change.
83.252 (a&b)	80.332 Equipment to aid search and rescue operations	No change.
83.253	80.333 Stations in maritime mobile-satellite service	Simplified.
83.254	80.145 Class C EPIRB operational procedures	No change.
83.261	Deleted	
83.262	Deleted	
83.263 (a&b)	Deleted	
83.271	80.95 Message charges	No change.
83.272	80.95 Message charges	No change.
83.273	80.95 Message charges	Clarified.
83.274 (a&b)	80.95 Message charges	Clarified.
83.275	Deleted	
83.276	80.95 Message charges	Simplified.
83.277	Deleted	
83.302	80.141 General provisions for ship stations	No change.
83.303 (a–c)	80.141 General provisions for ship stations	No change.
83.304 (a&b)	80.141 General provisions for ship stations	No change.
83.315 (a&b)	80.351 Scope	Simplified.
83.316 (a–c)	80.357 Working frequencies	Simplified.
83.317 (a–i)	80.355 Distress, urgency, safety, call and reply frequencies	Simplified.

Redesignation Table

REDESIGNATION TABLE—CONTINUED

Old section No.	New section No. and title	Summary of changes
83.318 (a&b)	80.359 Frequencies for digital selective calling (DSC)	Simplified.
83.319 (a&c)	80.357 Working frequencies	Simplified.
83.320 (a,c&d)	80.361 Frequencies for narrow-band direct-printing (NBDP) and data transmissions	Clarified.
83.321	80.361 Frequencies for narrow-band direct-printing (NBDP) and data transmissions	Clarified.
83.322 (a–d)	80.355 Distress, urgency, safety, call and reply frequencies	Clarified.
83.323 (a–c)	80.355 Distress, urgency, safety, call and reply frequencies	Clarified.
83.324 (a–g)	80.357 Working frequencies	Simplified.
83.325	80.100 Morse code requirement	Clarified.
	80.353 General uses—radiotelegraphy	Clarified.
83.326 (a–c)	80.99 Radiotelegraph station identification	No change.
83.327 (a&b)	80.98 Radiotelegraph testing procedure	No change.
83.328 (a–g)	80.97 Radiotelegraph operating procedures	Clarified.
83.328 (a,c,d)	80.353 General uses—radiotelegraphy	No change.
83.329 (a–d)	80.142 Ships using radiotelegraphy	No change.
83.330 (a–j)	80.142 Ships using radiotelegraphy	No change.
83.332 (a&b)	80.363 Frequencies for facsimile	Clarified.
	80.1157 Facsimile	Clarified.
83.333 (a–c)	80.401 Station document requirement	Clarified.
83.334 (a–c)	80.409 Station logs	Clarified.
83.335	80.385 Frequencies for automated systems	Simplified.
83.337 (a–c)	80.131 Radioprinter operations	Simplified.
	80.1155 Radioprinter	Simplified.
83.339 (a–e)	80.131 Radioprinter operations	Simplified.
	80.1155 Radioprinter	Simplified.
83.341 (a&b)	80.131 Radioprinter operations	Simplified.
	80.1155 Radioprinter	Simplified.
83.351 (a&b)	80.369 Distress, urgency, safety, call and reply frequencies	Simplified.
83.352 (a–d)	80.369 Distress, urgency, safety, call and reply frequencies	Simplified.
83.353 (a–d)	80.369 Distress, urgency, safety, call and reply frequencies	Simplified.
83.354	80.371 Public correspondence frequencies	Simplified.
83.355 (a–c)	80.371 Public correspondence frequencies	Simplified.
83.356	80.371 Public correspondence frequencies	Simplified.
83.357	Deleted	
83.358 (a–e)	80.373 Private communications frequencies	Simplified.
83.359 (a)	80.371 Public correspondence frequencies	Clarified.
83.359 (a)	80.373 Private communications frequencies	Clarified.
83.359 (b)	80.379 Maritime frequencies assignable to aircraft stations	Simplified.
83.360 (a&b)	80.373 Private communications frequencies	Simplified.
83.361 (a–c)	80.383 Vessel traffic services (VTS) system frequencies	Simplified.
83.362 (a–g)	80.373 Private communications frequencies	Simplified.
83.363 (a&b)	80.367 General conditions of use	Simplified.
83.364 (a–t)	80.102 Radiotelephone station identification	Simplified.
83.365 (a&b)	80.101 Radiotelephone testing procedure	Simplified.
83.366 (a–j)	80.116 Radiotelephone operating procedures for ship stations	Simplified.
83.367 (a&b)	80.401 Station document requirement	Simplified.
83.368 (a–e)	80.409 Station logs	Simplified.
83.370 (a&b)	80.373 Private radiotelephone frequencies	Simplified.
83.373	80.385 Frequencies for automated systems	Simplified.
83.401 (a–c)	80.375 Radiodetermination frequencies	Simplified.
83.403	80.375 Radiodetermination frequencies	Simplified.
	80.1201 Special provisions for cable repair ship stations	Simplified.
83.404 (a&b)	80.375 Radiodetermination frequencies	Simplified.
83.405	Deleted	
83.431	80.33 Developmental license	Simplified.
83.432 (a–c)	80.33 Developmental license	Simplified.
83.433 (a–c)	80.391 Frequencies for developmental operations	Simplified.
83.434 (a–c)	80.33 Developmental license	Simplified.
83.435 (a–c)	80.33 Developmental license	Simplified.
83.436	80.33 Developmental license	Simplified.
83.437 (a–c)	80.33 Developmental license	Simplified.
83.441 (a–d)	80.802 Inspection of station	Simplified.
83.442	80.804 Radio station	Simplified.
83.443 (a–c)	80.805 Radio installations	Clarified.
83.444 (a–g)	80.806 Requirements of main installation	No change.
83.445 (a–i)	80.807 Requirements of radiotelephone installation	No change.
83.446 (a&b)	80.808 Requirements of reserve installation	No change.
83.447	80.809 Routing of power supply wiring	No change.
83.448	80.810 User of reserve installation	Clarified.
83.449 (a&b)	80.811 Tests of reserve installation and automatic radiotelegraph alarm-signal keyer	No change.
83.451	80.812 Automatic-alarm-signal keying device	No change.
83.452 (a&b)	80.813 Installation of automatic-alarm-signal keying device	No change.

REDESIGNATION TABLE—CONTINUED

Old section No.	New section No. and title	Summary of changes
83.453 (a&b)	80.814 Radiotelegraph auto alarm	Simplified.
83.454 (a–e)	80.815 Installation of radiotelegraph auto alarm	Clarified.
83.457 (a–c)	80.817 Tests of radiotelegraph auto alarm	No change.
83.458 (a&b)	80.818 Direction finding and homing equipment	No change.
83.459 (a&b)	80.819 Requirements for radio direction finder	No change.
83.460	80.820 Auxiliary receiving antenna	Simplified.
83.461 (a&b)	80.821 Installation of direction finder	Simplified.
83.462 (a&b)	80.822 Contingent acceptance of direction finder calibration	Clarified.
83.463 (a–c)	80.823 Check bearings by authorized ship personnel	Simplified.
83.464 (a&b)	80.824 Homing facility requirements	No change.
83.465 (a–c)	80.825 Radar installation requirements specifications	Clarified.
83.466 (a–c)	80.826 Interior communication systems	No change.
83.467	80.827 Requirements for interior communications system	No change.
83.468	80.828 Radiotelegraph station clock	No change.
83.469 (a–f)	80.829 Survival craft non-portable radiotelegraph installation	No change.
83.471 (a–e)	80.830 Power supply for survival craft non-portable radiotelegraph installation	No change.
83.472 (a–c)	80.831 Survival craft portable radiotelegraph equipment	No change.
83.473 (a–c)	80.832 Tests of survival craft radio equipment	No change.
83.474 (a–d)	80.833 Class S survival craft emergency position indicating radiobeacons EPIRB's	No change.
83.475 (a–c)	80.834 Survival craft portable two-way radiotelephone apparatus	No change.
83.479 (a&b)	80.835 Ship and survival craft station spare parts, tools, instruction books, circuit diagrams and testing equipment.	No change.
83.480 (a–d)	80.836 General and individual ship exemptions	No change.
83.481	Deleted	
83.482 (a–e)	80.853 Radiotelephone station	Clarified.
83.483 (a–f)	80.854 Radiotelephone installation	Clarified.
83.484 (a–h)	80.855 Radiotelephone transmitter	Clarified.
83.486	80.856 Automatic radiotelephone alarm signal generator	No change.
83.487	80.857 Installation of automatic radiotelephone alarm signal generator	No change.
83.488 (a–e)	80.858 Radiotelephone receiver	No change.
83.489 (a&b)	80.859 Main power supply	No change.
83.491 (a–h)	80.860 Reserve power supply	No change.
83.492	80.861 Required capacity	No change.
83.493 (a–e)	80.862 Proof of capacity	No change.
83.494 (a–c)	80.863 Antenna system	No change.
83.496 (a&b)	80.864 Emergency electric lights	No change.
83.497	80.865 Radiotelephone station clock	No change.
83.498	80.866 Spare antenna	No change.
83.499 (a&b)	80.867 Ship station tools, instruction books, circuit diagrams and testing equipment	No change.
83.501	80.868 Card of instructions	No change.
83.502	80.869 Test of radiotelephone station	No change.
83.504 (a&b)	80.870 Survival craft radio equipment	No change.
83.511	80.901 Applicability	No change.
83.512	80.903 Inspection of radiotelephone installation	No change.
83.513	80.411 Vessel certification or exemption	Simplified.
83.514 (a–d)	80.905 Radiotelephone installation	Simplified.
83.516 (a&b)	80.907 Principal operating position	Simplified.
83.517 (a&b)	80.909 Medium frequency transmitter	No change.
83.518 (a–e)	80.911 VHF transmitter	Simplified.
83.519 (a–f)	80.913 Radiotelephone receivers	Clarified.
83.521 (a–c)	80.915 Main power supply	Clarified.
83.522 (a–g)	80.917 Reserve power supply	Simplified.
83.523	80.919 Required capacity	Clarified.
83.524 (a–e)	80.921 Proof of capacity	Clarified.
83.526	80.923 Antenna system	Clarified.
83.527 (a&b)	80.925 Electric light	Clarified.
83.528	80.927 Antenna radio frequency indicator	No change.
83.529	80.929 Nameplate	No change.
83.531	80.931 Test of radiotelephone installation	No change.
83.532 (a–c)	80.933 General exemption	No change.
83.536 (a–e)	80.951 Applicability	No change.
83.537	80.953 Inspection and certification	No change.
83.539 (a–d)	80.955 Radiotelephone installation	No change.
83.541 (a&b)	80.957 Principal operating position	No change.
83.542 (a–c)	80.959 Radiotelephone transmitter	No change.
83.543 (a&b)	80.961 Radiotelephone receiver	No change.
83.544 (a&b)	80.963 Main power supply	No change.
83.545 (a–e)	80.965 Reserve power supply	No change.
83.546	80.967 Antenna system	No change.
83.547 (a&b)	80.969 Illumination of operating controls	No change.
83.548	80.971 Test of radiotelephone installation	Simplified.

Redesignation Table

REDESIGNATION TABLE—CONTINUED

Old section No.	New section No. and title	Summary of changes
83.551 (a&b)	80.251 Scope	Simplified.
83.552 (a–g)	80.253 Technical requirements of main transmitter	Clarified.
83.553 (a–e)	80.255 Technical requirements of reserve transmitter	Clarified.
83.554 (a&b)	80.251 Scope	Simplified.
83.555 (a–h)	80.259 Technical requirements for radiotelephone auto alarm receiver (auto alarm)	Clarified.
83.556 (a–k)	80.257 Manufacturing requirements for radiotelegraph auto alarm receiver (auto alarm).	No change.
83.557	80.251 Scope	Clarified.
83.561	Delted	
83.562 (a–l)	80.261 Technical requirements for automatic alarm signal keying device	Simplified.
83.564	80.251 Scope	Simplified.
83.567 (a–e)	80.263 Common requirements for survival craft radio equipment	Simplified.
83.568 (a–g)	80.265 Requirements for survival craft portable radio equipment	Simplified.
83.569 (a–e)	80.267 Requirements for survival craft nonportable radio equipment	Simplified.
83.570 (a–c)	80.269 Technical requirements for radiotelephone distress frequency watch receiver	Simplified.
83.601 (a–e)	80.1059 Special requirements for Class S EPIRB stations	Clarified.
83.603 (a–i)	80.271 Technical requirements for portable survival craft radiotelephone tranceivers	Clarified.
83.651 (a&b)	80.149 Answer to notice of violation	No change.
83.652	Deleted	
83.701 (a–d)	80.1001 Applicability	Clarified.
83.703	80.1003 Station required	Simplified.
83.705	80.1005 Inspection of station	No change.
83.709 (a–b)	80.1007 Bridge-to-bridge radiotelephone installation	Clarified.
83.711	80.1009 Principal operator and operating position	No change.
83.713 (a–b)	80.1011 Transmitter	Clarified.
83.715 (a–c)	80.1013 Receiver	Simplified.
83.717 (a–c)	80.1015 Power supply	Simplified.
83.719 (a&b)	80.1017 Antenna system	No change.
83.721	80.1019 Antenna radio frequency indicator	No change.
83.723	80.1021 Nameplate	No change.
83.725	80.1023 Test of radiotelephone installation	No change.
83.811 (a&b)	80.1177 Assignment and use of frequencies	Simplified.
83.813 (a&b)	80.15 Eligibility for station license	Simplified.
83.815 (a–c)	80.1175 Scope of communications	Simplified.
83.817	80.1179 On-board repeater limitations	Simplified.
83.819 (a–c)	80.413 On-board station equipment records	Simplified.
83.821	Deleted.	
83.823 (a&b)	80.1175 Scope of communications	Simplified.
83.825 (a–d)	80.1181 Station identification	Clarified.
83.835 (a–f)	80.1183 Remote control for maneuvering or navigation	No change.
83.840	80.1185 Supplemental eligibility requirement for satellite stations	No change.
83.841	80.1187 Scope of communication	No change.
83.842 (a–d)	80.1189 Order of priority	No change.
83.843 (a&b)	80.377 Frequencies for ship earth stations	Simplified.
83.851 (a–d)	80.871 VHF radiotelephone station	No change.
83.852 (a–d)	80.872 The VHF radiotelephone installation	No change.
83.853 (a–d)	80.873 VHF radiotelephone transmitter	No change.
83.854 (a–e)	80.874 VHF radiotelephone receiver	No change.
83.855 (a–d)	80.875 VHF radiotelephone power supply	Simplified.
83.856	80.876 VHF radiotelephone antenna system	No change.
83.857 (a–h)	80.877 Controls and indicators required for the VHF radiotelephone installation	No change.
83.1100	80.1169 Automated Maritime Telecommunications System (AMTS)	Simplified.
83.1103	80.1169 Automated Maritime Telecommunications System (AMTS)	Simplified.
83.1105	80.385 Frequencies for automated systems	No change.
	80.1171 Assignment and use of frequencies	Simplified.

List of CFR Sections Affected

All changes in this volume of the Code of Federal Regulations which were made by documents published in the FEDERAL REGISTER since January 1, 1986, are enumerated in the following list. Entries indicate the nature of the changes effected. Page numbers refer to FEDERAL REGISTER pages. The user should consult the entries for chapters and parts as well as sections for revisions.

For the period before January 1, 1986, see the ''List of CFR Sections Affected, 1949–1963, 1964–1972, and 1973–1985'' published in seven separate volumes.

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Chapter I

80 Added; eff. 10–2–86 (regulations transferred from Parts 81 and 83) 31213
80.156 Correctly added 34984
80.207 (d) table footnote 5 corrected 34984
80.313 Introductory text corrected 34984
80.355 Heading corrected; (c)(2) correctly removed; (c)(3) and (4) correctly redesignated as (c)(2) and (c) 34984
80.357 Heading corrected 34984
80.373 (d)(1) table corrected 34984
80.559 (c) corrected 34984
81 Removed; eff. 10–2–86 (regulations transferred to Part 80) 31213
83 Removed; eff. 10–2–86 (regulations transferred to Part 80) 31213
87.29 (a)(7) added 1513
87.49 Redesignated as 87.51; new 87.49 added 17341
87.51 Redesignated from 87.49 17341
87.77 (b) amended; eff. 10–2–86 31305
87.183 (j)(3)(ii) amended; (cc)(3) revised; (cc)(4) added 1513
(j)(1) amended; eff. 10–2–86 31305
87.237 Amended; eff. 10–2–86 31305
Corrected 34984

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87.305 Added 29106
87.431 (d) redesignated as (e); new (d) added 1513
87.433 (b) amended 1513
87.513 (g) revised 37911
90.7 Amended; eff. 10–22–86 14995
90.17 (c)(3) revised; eff. 10–22–86 14995
90.53 (a) table and (b)(31) revised; (b)(8) removed; eff. 10–22–86 14995
(b)(1) introductory text, (ii), and (iii) amended; eff. 10–2–86 31305
90.63 (d)(15) revised; eff. 10–22–86 14995
90.65 (c)(37) revised; eff. 10–22–86 14995
90.67 (c) (18) and (29) revised; eff. 10–22–86 14995
90.73 (d) (28), (30), and (32), and (e)(4) introductory text revised; eff. 10–22–86 14995
90.75 (c)(15), (25) introductory text and (vi) revised; (c)(25) (vii) and (viii) added 18331
90.79 (d) (4) and (13) revised; eff. 10–22–86 14996
(d)(4) revised 36014
90.81 (d)(4) revised; eff. 10–22–86 14996
(a) and (d)(4) revised; (d)(1) removed; (c) table amended 30867
90.89 (c)(10) revised; eff. 10–22–86 14996

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90.91 (c)(10) revised; eff. 10–22–86 14996
90.93 (c)(11) revised; eff. 10–22–86 14996
90.103 (c)(11), (15) and (16) amended; eff. 10–2–86 31305
90.111 Revised; eff. 10–22–86 14996
90.119 (a)(2)(ii) revised; eff. 10–22–86 14996
90.127 Heading and (a) revised; eff. 10–22–86 14996
90.129 Introductory text revised; eff. 10–22–86 14996
(g) revised 15003
90.135 Revised; eff. 10–22–86 14997
(c) (1) and (2) redesignated as (c)(2) and (3); new (c)(1) added 18795
(a)(8) added 36014
90.137 (a) introductory text revised; (a)(3) added; eff. 10–22–86 14997
90.139 Heading and (b) revised; eff. 10–22–86 14997
90.141 Revised; eff. 10–22–86 14997
90.145 (c) added; eff. 10–22–86 14997
90.151 (a) and (d) revised; eff. 10–22–86 14997
90.159 Revised; eff. 10–22–86 14997
90.175 Revised; eff. 10–22–86 14998
(f)(3) revised; (f)(13) added 36014
90.176 (a) (1) and (3) and (b) (1) and (3) revised; eff. 10–22–86 14998
90.179 (e) revised 36014
90.205 (b) table amended 37400
90.209 Second (h) redesignated as (i) 37400
(b)(4) and (c) introductory text revised; (b) (5) through (8), (c)(1) through (3), and (h) and (i) redesignated as (b) (6) through (9), (c)(1) (i) through (iii), and (i) and (j); new (b)(5), (c)(2) (i) through (iii), and (h) added 37401
90.211 (d) introductory text and (2) revised; (d)(1)(iii) added 37401
90.213 (a) table amended; footnote 11 revised 37401
90.237 Introductory text revised; eff. 10–22–86 14998
90.303 Table amended; footnote 4 added 4361

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90.311 Table amended 4362
90.477 (a) revised; eff. 10–22–86 14998
(b) introductory text revised 37401
90.492 Revised 37402
90.494 (b) revised; eff. 10–22–86 14999
90.525 Removed 37406
90.527 Removed 37406
90.555 (Subpart R) Heading revised 37406
90.601—90.657 (Subpart S) Heading revised 37402
90.601 Revised 37402
90.603 Introductory text revised 37402
90.605 Revised; eff. 10–22–86 14999
90.607 (e) added; eff. 10–22–86 14999
90.611—90.633 Undesignated center heading revised 37402
90.613 Introductory text revised; table heading parenthetical text removed; new table added 37402
90.617 Heading revised; Tables 2, 3, and 4 redesignated as Tables 2A, 3A, and 4A and headings revised; new Tables 2B, 3B, and 4B added 37404
90.621 (a) and (c) revised; eff. 10–22–86 14999
(a)(1) (i) and (iv), and (2)(i) and (g) revised 37404
90.627 (a) and (b)(2) revised; (b)(3) added 37404
90.635—90.657 Undesignated center heading revised 37404
90.635 (d) Tables 2, 3, and 4 headings revised 37404
90.637 (a) revised 37405
90.645 (f) and (g) revised; (h) redesignated as (i); new (h) added 37405
90.657 Revised; eff. 10–22–86 14999
94.3 Amended 2704
Effective date corrected 4596
94.5 Amended; eff. 10–2–86 31305
94.9 (b)(1) amended; eff. 10–2–86 31305
94.15 (b) revised 41630
94.17 Revised 10546
94.27 (a)(5) revised; (b) redesignated as (a)(6) and revised 2704

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Effective date corrected 4596
94.31 (i) revised 15003
94.51 Revised 2704
Effective date corrected 4596
94.61 (a) amended 2704
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94.63 (d)(1) amended 2704
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94.75 (b) table amended 19841
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97 Temporary waiver granted 10546
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97.3 (k) added 2716
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97.7 Revised 2716
(b) table amended 9012
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97.21 Revised (effective date pending) 30646
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97.25 (b) revised 42576
97.27 Revised (effective date pending) 30646
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97.28 (e) revised 42577
97.29 (a) revised (effective date pending) 30646
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97.61 Revised 2719
(b)(1) amended 3788
(a) table and (c) amended; (b) revised 7798
(a) table amended; (d)(2) revised 9012
(c) revised 37027
97.67 (a) and (b) revised; (g), (h), and (i) added 2720
(c) removed 17343
Petitions dismissed 28237
(i) revised 37027
(i) correctly designated 39861
97.69 (d) added 3070
97.79 (b) revised 3070
97.80 Added 3070
(b) revised 39537
97.84 (d)(1) amended 21175
97.85 (f)(2) removed; (f)(3) redesignated as (f)(2) 2720

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(g) revised 17343
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(g) amended 37027
97.87 (d) amended 2720
97.114 (c)(2) corrected 2402
(b)(4) added 3070
(b)(4) revised 39537
97.185 (b) table amended; (c)(6) removed 2720
97.415 Revised 2720
97.517 Revised (effective date pending) 30646
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97.521 Revised (effective date pending) 30646
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97 Appendix 5 removed 17343
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80.5 Amended 7417, 35244
80.19 Table corrected 35244
80.23 (c) revised 10231
80.80 (a)(4) footnote 1 revised 35244
80.89 (g) added 35244
80.95 (a)(3) revised 35244
80.102 (a) amended; (e) added 35244
80.111 (a)(6) added 35244
80.143 (b)(4) added 35244
80.177 (d) added 41434
80.203 (b) amended 41434
80.205 (a) table amended; (a) table Footnote 12 added 7418
80.207 (d) table amended; (d) table Footnote 12 added 7418
(a) introductory text revised; (a)(4) added 35244
80.209 (a) table amended; (a) table Footnote 4 and (c) added 7418
80.213 (c), (d), (f), and (g) redesignated as (d), (c), (g), and (k); new (f), (h), (i), and (j) added 7418
(h) and (i)(1) (i) and (vii) revised; (i)(1) introductory text republished 28825
80.215 (m) and (n) added 7419
(b)(1)(i) corrected; (c)(1) footnote 12 added; (e)(1), (g) (3), and (4) revised; (m) and (n) correctly designated 35244
80.219 (a)(3) correctly revised 35244

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80.225 Introductory text amended 35245
80.303 (a) revised 35245
80.327 (c) revised 35245
80.355 Heading revised 35245
80.369 (c) revised 35245
80.371 (a) table amended; (d) amended 35245
80.371 (c) revised 48439
80.373 (c)(1) table, (2)(iii), (f) table and footnotes 2, 4 and 10 amended; (c)(1) table footnotes 3 and 4 added; (c)(2) introductry text, (f) table footnotes 5 and 9, and (i) heading revised; (c)(2) (iv) and (v) removed 35245
80.375 (c) and (d) revised 7419
80.383 (b)(2) correctly revised 35245
80.387 (b) table amended; (b) table footnote 3 added 35245
80.409 (a)(3) and (f)(1) revised 35245
80.471 Heading correctly revised 35245
80.475 (a) revised; (b) (1) and (2) corrected 35245
80.477 (c) added 35245
80.514 Added 35246
80.601—80.603 (Subpart M) Heading revised 35246
80.605 Revised 7419
80.655 (a)(1) revised; (a)(2) redesignated as (a)(3); new (a)(2) added 35246
80.825 Revised; eff. 10–13–87 35247
80.860 Correctly designated 35246
80.871 (d) table corrected 35246
80.879 Added 35246
80.1019 Revised 35246
80.1053 (a)(4) corrected 35246
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80.1185 Revised 27003
80.1187 Revised 27003
80.1189 Added 27003
90.7 Amended 29855
90.17 (d)(5) added 6155
(b) table amended 29855
(d)(2) removed 29857
90.19 (f)(6) added 6155
(d) table amended 29855
(f)(2) removed 29857
90.21 (d)(5) added 6155
(d)(2) removed 29857
90.23 (d)(4) added 6155
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90.25 (d)(5) added 6155
(c)(19) revised 29855
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90.53 (c)(5) added 6155
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90.63 (e)(5) added 6155
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90.67 (d)(4) added 6155
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90.69 (d)(4) added 6156
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90.73 (e)(6) added 6156
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90.75 (d)(5) added 6156
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(d)(1) removed 29857
90.79 (e)(4) added 6156
(c) table amended 29856
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90.81 (e)(3) added 6156
(e)(1) removed 29857
90.89 (d)(4) added 6156
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90.91 (d)(6) added 6156
(b) table amended 29856
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90.93 (e) added 6156
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90.95 (f) added 6156
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90.103 (c)(9) amended 29856
90.127 (a) revised 10231
90.129 (o) introductory text amended 29856
90.135 (f) added 10232
90.151 (d) revised 10232
90.203 (e) through (h) added 47570
90.205 Petition comment time extended 4016
90.207 (k) amended 29856
90.209 Petition comment time extended 4016
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90.213 Petition comment time extended 4016
90.261 (b) amended 29856
90.266 (g) amended 29856
90.267 (a) (1) and (2) revised; (a)(6)(iii) added 4501
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90.271 (d) removed 29857
90.273 Added 6156
90.275 Added 6157
90.277 Added 6157
90.279 Added 6157
90.281 Added 6158
90.303 (a) table amended 29856
90.354 Revised 10232
90.360 (b) and (c) revised 10232
90.376 (a) revised; (c) added 1332
90.427 Existing text designated as (a); new (b) added 47570
90.477 Petition comment time extended 4016
(f) added 15501
(d)(3) table amended 29856
90.490 (c) revised; (d) removed 15501
90.492 Petition comment time extended 4016
90.525 Petition comment time extended 4016
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90.555 (Subpart R) Petition comment time extended 4016
(b) table amended 29856
90.601—90.657 (Subpart S) Petition comment time extended 4016
90.601 Petition comment time extended 4016
90.603 Petition comment time extended 4016
90.611—90.633 Petition comment time extended 4016
90.611 (b) revised 10232
90.613 Petition comment time extended 4016
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90.617 (a) introductory text, (b) introductory text, (c) introductory text, and (d) introductory text revised 3662
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90.621 (g) revised; (h) added 3662
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90.627 Petition comment time extended 4016
90.635—90.657 Petition comment time extended 4016
90.635 Petition comment time extended 4016
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90.637 (a) revised; (c) added 1332
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90.645 Petition comment time extended 4016
94.9 (b)(2)(iii) and (3) amended 7146
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94.25 (b) revised 10232
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94.27 (a) introductory text and (3) amended 29857
94.31 (a) revised 29857
94.45 (b) introductory text amended; (b) (1) and (2) removed 29857
94.61 (b) table amended; (b) table footnote 15 removed; (b) table footnotes 30 and 31 added 7146
(b) table footnote 22 amended 29857
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94.65 (g)(1) and (2) redesignated as (g)(4) and (3); new (g)(1) and (2) and (m) added 7146
(g)(3) and (j)(5) introductory text amended 29857
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94.67 Table amended 7146
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94.71 (b) table amended 7146
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94.73 (a)(1) and (2) removed; (a) table added 7146

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80.157 Revised 46455
80.203 (f), (g), (h), and (i) redesignated as (g), (h), (i), and (j); new (f) added; eff. 10–24–88.....37308
80.205 (a) footnote 12 revised; eff. 10–24–88.....37308
80.207 (d) table amended 8905
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95.57 (b) introductory text and (1) revised 47716
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80.383 (a) table revised 8746
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Regulation at 57 FR 45750 effective date corrected to 1–4–93 45946
87.185 Regulation at 57 FR 45750 effective date corrected to 1–4–93 45946
87.187 (m) through (bb) redesignated as (n) through (cc); new (m) added 30127
(l)(1), (bb) and (cc) revised 44954
Regulation at 57 FR 45750 effective date corrected to 1–4–93 45946
(l)(1), (bb) and (cc) correctly designated 52021
87.189 Regulation at 57 FR 45750 effective date corrected to 1–4–93 45946
87.195 (a) amended 30128
87.199 Added 30128
87.217 (a)(1) revised 67696
87.263 (a)(3) revised 44954
87.303 (b) table amended 44954
(d)(1) amended 67696
87.305 (a)(1) amended 44954
87.471 (b) revised 67696
90 Temporary regulation 17787
Order 21110
90.5 (b) revised 21407
90.7 Amended 44954
90.19 (f)(7) revised 44955
90.21 (b) table amended; (c)(19) added 30129
90.23 (c)(14) revised 44955
90.27 Added 12178
90.53 (a) and (b) revised 12180
90.55 Introductory text amended 12181
90.59 Amended 31476
90.63 (c) table corrected 376, 38537
90.65 (b) table corrected 38537
(c)(37), (38) and (40) revised 44955
90.67 (c)(34) amended 30129
(c)(28), (31) and (33) revised 44955

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90.69 Heading, (a) introductory text, (a)(1) introductory text and (b) introductory text amended 31476
(a)(2) revised 31477
90.71 (c)(2) amended 31476
90.73 (d)(7) amended 30129
(d)(10) amended 31476
(d)(3), (29), (30) and (33) revised 44955
90.75 (b) table corrected 38537
(c)(10) revised 40369
(c)(3) and (27) revised 44955
90.79 (d)(4) amended 30129
(d)(21) and (22) revised 44956
90.81 (d)(4) revised 44956
90.91 (c)(2) amended 30129
90.93 (c)(10) revised 44956
90.103 (c)(26) and (27) revised 44956
90.125 Revised 21407
90.137 (a)(2) revised 44956
90.159 (a) revised 44956
(b)(1) revised 62291
90.173 (k) revised 51252
Regulation at 58 FR 51252 eff. date corrected to 11-1-93 53245
90.175 (a) revised 44957
(c) revised 62291
90.176 (a) and (b) revised; (c) redesignated as (d); new (c) added 12181
90.235 (l) revised 30996
90.239 (c)(3)(ii) revised 44957
90.241 (a)(4) revised 44957
90.250 (d) revised 44957
90.257 (b) introductory text revised; (b)(1) amended 30129
90.261 (e) revised 33212
90.271 (a)(1) revised 44957
90.273 (b) amended 31476
(c) introductory text and (d) revised 44957
90.279 (a) revised 44957
90.307 (d) revised 44957
90.309 (a)(2) through (5) and Tables A through E revised 44958
90.311 (a) table amended 12181
90.315 (a), (d) Table 1, (e) Table 2 and (f) through (i) revised 44959
90.423 (a)(1), (c)(1) and (2) revised 44960
90.425 (d)(9) added 39451
(a)(4)(ii) revised 44960
90.463 (f) revised 44960

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90.477 (d)(3) revised 44961
90.483 (b)(1)(ii), (2)(i), (ii), (c) and (d) revised 44961
90.494 (a) Footnote 1 amended 40369
(f) revised 44962
Revised 62291
90.495 Added 62292
90.496 Added 62293
90.555 (a) table and (b) table amended 12181
(a) table amended 31476
(b) table amended 44962
90.609 (d)(4) revised 44962
90.615 (a) amended 31477
(b)(2)(ii) revised 44962
(b)(2)(ii) correctly revised 61844
90.617 (b) amended 31476
(d) introductory text revised; Table 4C amended 44962
90.619 (a)(3) and (b)(7)(iii) amended 31476
(b)(6) revised 44963
90.621 (b)(2)(i) and (c) revised 44963
(b) introductory text, (1), (2) introductory text, (4) and (6) revised; (b)(3) amended; (b)(7) added; (c) and (d) removed; (e), (f), (g), (i) and (j) redesignated as (c), (d), (e), (f), (g) and (h) 53431
(h) correctly redesignated as (f) 58729, 59298
90.623 (c) introductory text and (d) amended 44963
90.627 (b) introductory text amended 44963
90.629 Revised 34379
90.631 (f) revised 12177
Regulation at 58 FR 12177 suspended in part 31345
(b) revised 34380
90.635 Tables 2, 3 and 4 revised 44963
90.647 (b) revised; (c) added 12177
90.657 Revised 44964
90.713 (a)(1) and (6) revised; eff. 10–5–93 36363
90.719 Revised 12182
90.725 (h) introductory text revised; eff. 10–5–93 36363
90.729 (c) revised 44964
90.731 Revised 30996
94 Authority citation revised 68062
94.3 Amended 44964

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94.15 (g)(1) and (2) revised 44965
94.17 (a)(1) revised 29793
94.29 Revised 21407
94.45 (a)(10) revised; eff. 12–20–93 49233
94.59 Revised; eff. 10–4–93 46550
94.61 (b) revised; eff. 12–20–93 49233
94.63 (d)(4)(i) revised 44965
(a) revised; eff. 12–20–93 49234
94.65 (a)(1) revised 25951
(a)(1)(v) revised 44965
(g) and (i) revised; (h) and (j) through (m) redesignated as (l) and (m) through (p); new (h), (j) and (k) added; eff. 12–20–93 49234
(m)(8) introductory text revised; (q) and (r) added; eff. 12–20–93 49239
94.71 (b) revised; eff. 12–20–93 49240
94.73 Revised; eff. 12–20–93 49240
94.75 (b) revised; eff. 12–20–93 49241
94.77 Introductory text and (a) heading revised; eff. 12–20–93 49242
94.79 Revised; eff. 12–20–93 49242
94.81 (c) added; eff. 12–20–93 49242
94.85 Removed 68062
94.90 (f) revised 44965
94.94 Revised; eff. 12–20–93 49242
94.113 Revised 68062
95 Reconsideration petition 48459
95.87 Revised 21407
95.813 (a)(3) revised; (a)(4) added 25952
95.815 (e) revised 25952
97 Ruling 48459
97.17 (b) and (f) revised; (g) added 30717
97.19 (a) and (b) revised 30718
97.21 Revised 53138
97.29 Added 30718
97.113 Revised 43072
(f) correctly added 47219
97.201 (b) revised 64384
97.205 (b) revised 64385
97.301 (f) amended 64385
97.507 (c) revised; (d) removed; (e) redesignated as (d) 29126
97.511 Revised 29126
97.513 Removed 29127
97.521 (c) revised 29127
97.527 (a) revised; (c) removed; (d) through (g) redesignated as (c) through (f) 29127

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99 Added 42685
Revised 59183
100 Authority citation revised 42251
100.51 (e) added 42251

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300 Revised 44136

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80 Waiver 1285
80.3 (g) through (k) removed; (f) and (l) through (o) redesignated as (g) through (k); new (f) added 18499
80.205 (a) table corrected 7714
80.215 (d) Note 3 amended 35269
80.1061 (e) amended; (f) revised 35269
87 Waiver 1285
87.139 (d) revised 35269
87.199 (e) and (f) revised 35269
90 Waiver 1285
Interpretation 15857
90.5 (h), (i) and (j) redesignated as (i), (j) and (k); new (h) added 18499
(h) through (k) redesignated (i) through (l); new (h) added 59957
90.73 (c) table corrected; CFR correction 30304
90.75 (a) introductory text revised; (c)(10) amended 59957
90.115 Revised 59957
90.119 Revised 59957
90.131 Introductory text added 59958
90.135 (c) revised 59958
90.145 (c) amended; (d) and (e) added 59958
90.149 (a) revised 59958
90.153 Amended 9101
Introductory text amended; (a) through (d) added 59958
90.155 (a) revised 59958
90.159 (a), (b) and (c) amended 59959
90.160—90.169 Undesignated center heading and note added 59959
90.160 Added 59959
90.161 Added 59959

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90.162 Added 59960
90.163 Added 59961
90.164 Added 59961
90.165 Added 59961
90.166 Added 59962
90.167 Added 59963
90.168 Added 59963
90.169 Added 59964
90.179 (g) added 59965
90.209 (h)(3) revised; (h)(4) removed; eff. 10–6–94 45989
90.403 (c) revised 59965
90.405 (b) revised 59965
90.415 (b) revised 59965
90.425 (e) added 59965
90.437 (b) and (c) revised 59965
90.449 Revised 59965
90.476 (c) added 59965
90.483 Introductory text revised 59966
90.494 (c) revised 59966
90.603 (c) revised 59966
90.607 (b) introductory text and (c) introductory text revised 59966
90.619 (b)(5) table revised; (b)(6) removed 31558
90.621 Corrected 59298
90.623 (c) introductory text revised 59966
90.627 (b) introductory text revised; (b)(2) amended; (b)(3) removed 59966
90.631 (a) amended; (b) and (c) revised 59966
90.633 (a) revised; (e) amended 59966
90.645 (c) revised 59966
90.703 (c) revised 59966
90.733 (a)(3) revised 59967
94.47 (c) added 9101
94.59 Amended; (a), (b) and (f) revised 19646
94.59 (b) and (f) revised 65503
94.61 (b) table amended 53331
94.65 (g) revised 19647
94.81 (c) revised 19647
95 Waiver 1285
Technical correction 25825
95.816 Added 24957
95.819 Revised 24958
95.821 Amended 9102
97.3 (a)(28) through (44) redesignated as (a)(29) through (45); new (a)(28) added; (a)(7) and new (36) revised 18975

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97.5 Revised 54831
97.7 Revised 54832
97.9 Revised 54832
97.17 (b) revised; (g) removed 543
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97.19 (a) and (b) revised 543
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97.21 Revised 54832
97.23 Revised 54833
97.25 Revised 54833
97.27 Revised 54833
97.29 Removed 543
Added 54833
97.109 (e) revised 18975
97.205 (g) added 18975
97.216 Redesignated as 97.217 18975
97.217 Redesignated from 97.216 18975
97.219 Added 18975
97.301 (a) through (f) introductory texts revised 54833
97.501 Introductory text, (d) and (e) revised; (f) added 54834
97.505 Revised 54834
97.507 (a) introductory text and (3) revised 54834
97.509 Revised 54834
97.511 Revised 54835
97.515 Removed 54835
97.517 Removed 54835
97.519 (b) revised; (d) added 54835
99 Waiver 1285
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Authority citation revised 14117
Redesignated as 24 18499
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99.12 Corrected 15269
99.13 Removed 14117
99.53 (d) corrected 15269
99.101 Added 14118
99.102 Revised 14118
99.103 Revised 14118
(a) corrected 15269
99.129 Added 14118
99.130 Revised 14119
(a) table correctly revised 15269
99.132 (a) corrected 15269
99.133 (a)(1)(ii) revised 14119
99.231 (a) Table 1 correctly revised 15270
99.233 (a) Table 2 corrected 15270
99.411 Redesignated as 24.411 55210

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80.5 Amended 35510
80.21 (b)(2) amended; eff. 10–31–95 50122
80.59 (e) introductory text amended; eff. 10–31–95 50122
80.371 (c) table amended 35510
80.373 (f) table amended 35510
80.385 (a)(3) added 15687
80.417 Amended; eff. 10–31–95 50122
80.514 Introductory text revised; eff. 10–31–95 50122
80.836 Heading, (a) and (c) revised 58244
80.933 Heading and (b) revised; (c) redesignated as (e); new (c) and (d) added 58245
80.1065 (b)(5)(iii) revised 58245
(b)(5)(iii) corrected 62927
80.1085 (a)(3) revised; eff. 10–31–95 50122
87.187 (p) revised 37829
(p) corrected 40227
87.303 (d)(1) and (2) revised 37829
90 Order on reconsideration 3773
Interpretation 9787
Waiver 18999
Policy statement 20247
Authority citation revised 21990, 37156, 48917, 55484
Reconsideration petition ... 39660, 46537
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90.7 Amended 15251, 21990, 35510
Amended; eff. 10–23–95 48917
90.17 (b) table, (c)(13), (24) and (e)(3) revised; (c)(28), (29) and (30) added 37156
90.19 (d) table, (e)(26) and (g)(5) revised; (e)(19) removed; (e)(32), (33), (34) and (g)(3)(iii) added; (f)(5)(ii) amended 37163
(e)(5) through (8) removed; eff. 10–31–95 50123
90.21 (b) table, (c)(16) and (e)(3) revised; (c)(20), (21) and (22) added 37173
90.23 (b) table, (c)(18) and (e)(2) revised; (c)(20) through (23) added 37178
90.25 (b) table, (c)(22) and (e)(2) revised; (c)(24) through (27) added 37183

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90.27 (b) table, (c)(2), (11), (13) introductory text, (i) and (ii) revised; (c)(12) removed; (c)(27) and (28) added 37188
90.53 (a) table, (b)(30) and (d)(5) revised; (b)(35) through (38) added 37193
90.63 (c) table, (d)(24) and (f)(3) revised; (d)(28), (29) and (30) added 37195
90.65 (b) table amended; (c)(44) added 21986
(b) table, (c)(41) and (e)(4) revised; (c)(45), (46) and (47) added 37200
90.67 (b) table amended; (c)(38) added 21986
(b) table, (c)(36) and (e)(3) revised; (c)(39) through (42) added 37206
90.69 (b) table, (c)(12) and (e)(3) revised; (c)(14) and (15) added 37213
90.71 (b) table and (e)(3) revised; (c)(12) through (15) added 37214
90.73 (c) table, (d)(35), (e)(4) table and (f)(4) revised; (d)(38) through (41) added 37215
90.75 (b) table, (c)(23) table and (24), (d)(4) and (e)(4) revised; (c)(38) removed; (c)(46) through (51) added 37220
90.79 (c) table, (d)(23) and (f)(3) revised; (d)(29), (30) and (31) added 37239
90.81 (c) table, (d)(11) and (f)(3) revised; (d)(16), (17) and (18) added 37244
90.89 (b) table amended; (c)(23) added 21986
(b) table, (c)(21) and (e)(2) revised; (c)(24), (25) and (26) added 37247
90.91 (b) table, (c)(18) and (e)(2) revised; (c)(22), (23) and (24) added 37252
90.93 (b) table, (c)(15) and (d)(2) revised; (c)(17), (18) and (19) added 37257
90.95 (c) table, (d)(2), (6), (18) and (e)(2) revised; (d)(20) through (23) added 37260
90.101 Revised 15252
90.103 (d) removed; (e) redesignated as (d) 15252

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90.129 (n) revised; eff. 10–31–95 50123
90.155 (a) revised; (d) and (e) added 15252
90.173 (f) revised; (l) and (m) added 37261
(k) revised; eff. 10–23–95 48917
90.175 (a) revised 37261
90.179 (f) revised 15252
90.203 (b)(7) added 15252
(j) added 37261
90.205 (b) table amended 15252
Revised 37262
90.207 (g) removed 15252
Introductory text revised; (a) through (l) redesignated as (b) through (m); new (a) and (n) added 37263
90.209 (b)(10) and (m) added 15252
Revised 37263
90.210 Added 37264
90.211 Revised 37266
90.213 (a) table amended 15253
Revised 37266
90.214 Added 37267
90.217 Revised 37267
90.235 (e) revised; eff. 10–31–95 50123
90.238 (e) revised 37268
90.239 Removed 15253
90.243 (b)(2) revised 37268
90.257 (b) introductory text revised 37268
90.261 (f) revised 37268
90.267 Revised 37268
90.271 Removed 37269
90.273 (a) revised 37269
90.283 Added 35510
90.311 Introductory text, (a) table, (b) introductory text, table, (2) and (4) revised; (a)(3) added 37272
90.315 (j) revised; (l) and (m) removed 37277
90.350—90.363 (Subpart M) Added 15253
90.357 (a) table amended 37277
90.461 (c)(4) revised; eff. 10–31–95 50123
90.555 (a) and (b) amended 35511
Removed 37277
90.603 (c) revised 15495
90.617 (d) introductory text revised 21990
(d) table amended; eff. 10–23–95 48918

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90.619 (a)(5) table revised; eff. 10–23–95 48918
90.631 (f) and (i) revised 21991
(f) revised; eff. 10–23–95 48918
90.635 (b) revised; eff. 10–31–95 50123
90.661 Undesignated center heading and section added 21991
90.663 Added 21991
90.665 Added 21991
(c) and (d) revised; eff. 10–23–95 48918
(c) corrected 61487
90.667 Added 21991
Revised; eff. 10–23–95 48918
90.669 Added 21992
90.671 Added 21992
90.703 (c) revised 15495
90.737 (e) revised; eff. 10–31–95 50123
90.741 Table amended 37277
90.801—90.815 (Subpart U) Added; eff. 10–23–95 48919
90.816 Added 55485
95.39 Amended; eff. 10–31–95 50123
95.72 Revised; eff. 10–31–95 50123
95.107 (d) revised; eff. 10–31–95 50123
95.111 Amended; eff. 10–31–95 50123
95.225 (b) revised; eff. 10–31–95 50123
95.428 (b) revised; eff. 10–31–95 50123
97.3 (a)(11) through (45) redesignated as (a)(12) through (46); new (a)(11) added 7460
97.15 (a) revised; eff. 10–31–95 50123
97.17 (f) revised; (h) added 7460
(g) removed; (h) redesignated as (g) 53132
97.19 Added 7460
(b) revised; eff. 10–31–95 50123
(d) introductory text revised; (d)(4) added 53132
97.21 (a)(3) revised 7461
(a)(3)(ii) revised 53133
(a)(3)(ii) corrected 54409
97.109 (d) and (e) revised 26001
97.201 (b) revised 15687
97.207 (g) introductory text, (h) and (i) revised; eff. 10–31–95 50124
97.221 Added 26001
97.301 (a) table amended 15687
97.303 (e) added 15687

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97.305 (c) table amended 15688
97.307 (f)(13) added 15688
97.309 (a)(4) added 55486
97.313 (h) added 15688
100 Authority citation revised 65595
100.17 Revised 65595
100.19 Revised 65595
100.53 Added 65595
100.71—100.80 (Subpart E) Added 65595

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80.13 Revised; interim 18226
80.21 (b)(1) amended 8478
80.59 (e) introductory text amended 8478
Heading, (a) and (b) revised 25805
80.110 Revised 4368
80.383 (a) table, (b)(4) and (5) amended; (b)(6) added 26120
(a) table amended; (b)(7) and (8) added 26466
80.385 (a)(2) table amended; eff. 10–4–96 46566
80.401 Revised 25805
80.409 (b)(2) amended; (f)(2) revised 25807
80.411 (b) amended 25807
80.836 (c) revised; (d) redesignated as (e); new (d) added 19559
80.953 Revised 25807
80.1005 Amended 25807
87.18 Added; interim 18226
87.75 Revised 4368
90 Reconsideration petition 3600
Authority citation revised ... 6155, 45635
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90.5 (k) and (l) redesignated as (l) and (m); new (k) added 45635
90.7 Amended 6155, 31052
90.17 (c)(11) revised 6576
90.19 (d) table amended 4234
(e)(17) revised 6576
90.21 (c)(8) revised 6576

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90.27 (a) and (b) table amended 6576
90.75 (b) table amended; (c)(52) added 4234
(c)(25) introductory text, (i), (ii) and (iii) revised; (c)(25)(iv) through (vii) removed; (c)(25)(viii) redesignated as (c)(25)(iv) 31052
90.155 (a) revised 6155
90.173 (k) revised; (n) added 6155
90.177 (d)(2) amended 8478
90.203 (b)(7) revised 18986
90.210 Introductory text, (d)(4), (e)(4) and (m) amended 4235
Table amended 6155
(k) revised 18986
90.213 (a) table amended 4235, 18986
(a) table corrected 38403
90.219 Added 31052
90.238 (h) revised 6576
90.243 (a)(1), (2) and (b)(1) revised 6576
90.267 (a)(3) revised; (a)(7) added 4235
90.273 (b) amended 6576
90.363 (d) revised 18986
90.419 Revised; eff. 10–28–96 45356
90.421 (k) redesignated as (l); new (k) added 6576
90.441 Revised 4369
90.443 (c) removed; (d) and (e) redesignated as (c) and (d) 4369
90.477 (d)(3) amended 6576
90.483 (d) amended 6576
90.494 (g) revised 8483
90.609 (c) and (d) revised 6155
(d) corrected 32710
90.611 (a) and (c) revised; (d) removed 6155
90.615 Revised 6156
90.617 (b) introductory text, (c) introductory text, (d) introductory text and Table 4A revised 6156
(a) amended 6576
90.619 (a)(3) introductory text, (5) introductory text, table, (b)(8) table, (9) table, (10) table and (11) table revised 6156
(a)(1) and (b)(7)(iii) amended 6577
90.621 (a) introductory text, (1)(iii), (b) introductory text, (c) and (e) introductory text revised; (a)(1)(iv), (e)(2), (3) and (4) removed 6157

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90.629 (e) added 6157
90.631 (b) amended 6157
(g) amended 6577
90.681 Undesignated center heading and section added 6158
90.683 Added 6158
90.685 Added 6158
90.687 Added 6158
90.689 Added 6158
90.691 Added 6158
90.693 Added 6159
90.699 Added 6159
90.720 Revised 6577
90.723 (f) revised 3845
90.751 Added 3845
90.753 Added 3845
90.755 Added 3845
90.757 Added 3845
90.901—90.913 (Subpart V) Added 6159
94 Order 2452
Removed 26677
94.25 (i)(2) amended 8478
94.111 Heading and introductory text revised 4369
94.113 Removed 4369
95.39 Amended 8478
95.83 (a)(3) added 4369
95.191—95.194 (Subpart B) Added 28768
95.401 Revised 28769
(c) added; eff. 10–4–96 46566
95.601 Revised 28769
Revised; eff. 10–4–96 46566
95.603 Heading revised; (d) added 28769
(e) added; eff. 10–4–96 46567
95.605 Revised 28769
Revised; eff. 10–4–96 46567
95.627 Redesignated as 95.629; new 95.627 added 28769
95.629 Redesignated as 95.631; new 95.629 redesignated from 95.627; (b) revised; (d) and (e) redesignated as (e) and (f); new (d) added 28769
Redesignated as 95.631; new 95.629 added; eff. 10-4-96 46567
95.631 Redesignated as 95.633; new 95.631 redesignated from 95.629; (c) added 28769
Redesignated as 95.633; new 95.631 redesignated from 95.629; eff. 10–4–96 46567
(g) added; eff. 10–4–96 46568

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95.633 Redesignated as 95.635; new 95.633 redesignated from 95.631 28769
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(d) added; eff. 10–4–96 46568
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(c) added; eff. 10–4–96 46568
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95.639 Redesignated from 95.637; eff. 10–4–96 46567
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95.803 (a) and (b) revised 32711
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95.815 (b), (d)(2) and (f)(3) revised; eff. 11–18–96 49075
95.816 (d)(2) removed; (d)(3) redesignated as (d)(2); (c)(1), (2), (4), (6), (d)(1) and new (2) revised; new (d)(3) added; eff. 11–18–96 49075
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95.833 Revised 1288
95.855 (a) revised 32711
95.863 Revised 32711
95.1001—95.1019 (Subpart G) Added; eff. 10–4–96 46569
97.13 (c) added 41019
97.15 (d) revised 4369
97.21 (a)(3)(i) and (ii) amended 21386
97.303 (e)(4) and (5) revised 15386
97.503 (b)(1), (2) and (3) revised; (c) table amended 41019
97.509 (b)(5) removed 9953
97.521 (e) removed 9953
97.527 (c) through (f) removed 9953
101 Added 26677
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101.3 Amended 29693, 31052
Amended; eff. 10–28–96 44181
101.69 Undesignated center heading added; section revised 29693
101.71 Added 29694
101.73 Added 29694
101.75 Added 29694
101.77 Added 29695
101.79 Added 29695
101.81 Added 29695
101.109 (c) table amended; eff. 10–28–96 44181
101.113 (a) table amended; (c) added; eff. 10–28–96 44182
101.133 (d) added; eff. 10–28–96 44183
101.147 (a) amended 29695
(y) added; eff. 10–28–96 44183
101.151 Added 31052

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