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§ 112.55–10 Storage battery charging.

(a) Each storage battery installation for emergency lighting and power, and starting batteries for an emergency diesel or gas turbine driven generator set, must have apparatus to automatically maintain the battery fully charged.

(b) When the ship's service generating plant is available, the battery must have a continuous trickle charge, except that after discharge the battery must be charged automatically at a higher rate.

(c) Charging operations must not cause an absence of battery power.

(d) There must be instruments to show the rate of charge.

§ 112.55–15 Capacity of storage batteries.

(a) A storage battery for an emergency lighting and power system must have the capacity—

(1) To close all watertight doors two times;

(2) To open all watertight doors once; and

(3) To carry the remaining emergency loads continuously for the time prescribed in § 112.05–5(a), table 112.05–5(a).

(b) At the end of the time specified in paragraph (a) of this section, the potential of the storage battery must be at least 88 percent of the standard voltage.

[CGD 74–125A, 47 FR 15267, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28288, June 4, 1996; 61 FR 39695, July 30, 1996]

PART 113—COMMUNICATION AND ALARM SYSTEMS AND EQUIPMENT

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AUTHORITY: 46 U.S.C. 3306, 3703; 49 CFR 1.46.

SOURCE: CGD 74–125A, 47 FR 15272, Apr. 8, 1982, unless otherwise noted.

Subpart 113.05—General Provisions

§ 113.05–5 Approved equipment.

If approved equipment is required in this part, that equipment must be specifically approved by the Commandant.

NOTE: Many specifications for equipment that must be approved are in Subchapter Q for this chapter.

§ 113.05–7 Environmental tests.

Communication, alarm system, control, and monitoring equipment must meet the environmental tests of—

(a) Table 4/11.1 of ABS Rules for Building and Classing Steel Vessels or the applicable ENV category of Lloyd's Register Type approval System—Test Specification No. 1; and

(b) IEC 533 as appropriate.

[CGD 94–108, 61 FR 28288, June 4, 1996, as amended at 62 FR 23910, May 1, 1997]

Subpart 113.10—Fire and Smoke Detecting and Alarm Systems

§ 113.10–1 Approved equipment.

Each alarm annunciator, fire detector, test station, manual station, and vibrating bell must be approved under Subpart 161.002 of this chapter and meet the requirements of this subpart.

§ 113.10–3 Cable runs.

Cable runs between the fire alarm annunciator and fire detecting or fire alarm zones must be as direct as practicable and, where practicable, must not be in staterooms, lockers, or other enclosed spaces in order to reduce the risk of damage by a localized fire or other cause.

§ 113.10–5 Common return.

A conductor must not be used as a common return from more than one zone.

§ 113.10–7 Connection boxes.

Each connection box must be constructed in accordance with NEMA 250 Type 4 or 4X or IEC IP 56 requirements.

[CGD 94–108, 61 FR 28288, June 4, 1996, as amended at 62 FR 23910, May 1, 1997]

§ 113.10–9 Power supply.

(a) *General.* There must be at least two sources of power for the electrical equipment of each fire detecting and alarm system. The normal source must be the main power source. The other source must be the emergency power source or an automatically charged battery. If the other source is an automatically charged battery, the charger must be supplied from the final emergency power source. Upon loss of power to the system from the normal source, the system must be automatically supplied from the other source.

(b) *Batteries.* Each battery used in a fire detecting and alarm system must meet Subpart 111.15 of this chapter.

(c) *Capacity of power supply branch circuit.* The capacity of each branch circuit providing power to a fire detection

or alarm system must not be less than 125 percent of the maximum load.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28288, June 4, 1996]

Subpart 113.20—Automatic Sprinkler Systems

§ 113.20–1 Sprinkler alarm system.

Each sprinkler alarm system, including annunciator, power supply, alarm switches, and bells, must meet Subpart 76.25 of this chapter.

§ 113.20–3 Connection boxes.

Each connection box and each switch enclosure in an automatic sprinkler system must be constructed in accordance with NEMA 250 Type 4 or 4X or IEC IP 56 requirements.

[CGD 94–108, 61 FR 28288, June 4, 1996, as amended at 62 FR 23910, May 1, 1997]

Subpart 113.25—General Emergency Alarm Systems

EDITORIAL NOTE: Nomenclature changes appear at CGD 94–108, 61 FR 28288, June 4, 1996.

§ 113.25–1 Applicability.

(a) This subpart, except §§ 113.25–25 and 113.25–30, applies to each manned vessel of over 100 gross tons, except barges, scows, and similar vessels.

(b) Section 113.25–25 applies to each manned ocean and coastwise barge of over 100 gross tons if the crew is divided into watches for the purpose of steering.

(c) Section 113.25–30 applies to each barge of 300 or more gross tons that has sleeping accommodations for more than six persons.

§ 113.25–3 Requirements.

Each vessel must have a general emergency alarm system that meets the requirements of this subpart.

§ 113.25–5 Location of contact makers.

(a) *Passenger vessels and cargo and miscellaneous vessels.* Each passenger vessel, cargo vessel, and miscellaneous vessel must have a manually operated contact maker for the general emergency alarm system:

(1) In the navigating bridge; and

(2) At the feeder distribution panel if the general alarm power supply is not in or next to the navigating bridge.

(b) *Tank vessels.* Each tank vessel must have a manually operated contact maker for the general emergency alarm system:

(1) In the navigating bridge;

(2) At the deck officers' quarters farthest from the engineroom;

(3) in the engineroom;

(4) At the location of the emergency means of stopping cargo transfer required under 33 CFR 155.780; and

(5) At the feeder distribution panel if the general alarm power supply is not in or next to the navigating bridge.

(c) *Mobile offshore drilling units.* Each mobile offshore drilling unit must have a manually operated contact maker for the general emergency alarm system:

(1) In the main control room;

(2) At the drilling console;

(3) At the feeder distribution panel;

(4) In the navigating bridge, if a navigating bridge is installed; and

(5) In a routinely occupied space that is as far as practicable from all other contact makers.

(d) *Additional contact maker.* A vessel must not have more than one other contact maker that operates the general emergency alarm system in addition to those required under paragraph (a), (b), or (c) of this section unless the installation of other contact makers has been accepted by the Commandant.

(e) *Special system.* If a vessel has an emergency squad when operating, has a manual fire alarm system, or is an ocean-going passenger vessel, it must have:

(1) An independent manually operated contact maker in the navigating bridge that is connected to operate only the general emergency alarm signal in crew's quarters and machinery spaces; or

(2) A separate alarm system that sounds in the crew's quarters and machinery spaces.

§ 113.25–6 Power supply.

(a) The power supply for the general emergency alarm system must meet

the requirements of SOLAS 74, regulations III–6.4.2 and III/50.

(b) The emergency power source for the general emergency alarm system must meet the requirements of SOLAS 74, regulation II–1/42 or II–1/43, as applicable.

[CGD 94–108, 61 FR 28288, June 4, 1996]

§ 113.25–7 Power supply overcurrent protection.

(a) If the general emergency alarm system is the only load supplied by the general emergency alarm system battery or batteries, the battery or batteries must have an enclosed fused switch or circuit breaker that has a means of locking. The fused switched or circuit breaker must be outside of, and next to, the battery room or battery locker, and the capacity of the fuses or circuit breaker must be at least 200 percent of the connected load.

(b) If the general emergency alarm system is supplied from an emergency or interior communication switchboard, or if duplicate general alarm batteries supply other loads as allowed under § 113.25–6(e)(2), there must be a fused switch or circuit breaker supplying the general emergency alarm system that has a means of locking.

§ 113.25–8 Distribution of general emergency alarm system feeders and branch circuits.

(a) Each system must have a feeder distribution panel to divide the system into the necessary number of zone, feeders, except where, because of the arrangement of the vessel, only one zone feeder is necessary; then a branch circuit distribution panel or feeder distribution panel must be used.

(b) The feeder distribution panel must have overcurrent protection for each zone feeder, but there must be no disconnect switches.

(c) The feeder distribution panel must be in an enclosed space next to the general alarm power supply.

(d) Each system must have at least one feeder for each vertical fire zone that has general emergency alarm signal.

(e) Each system must have one or more branch circuit distribution panels for each zone feeder, with at least one fused branch circuit for each deck level. The distribution panel must be above the uppermost continuous deck, in the zone served, and there must be no disconnect switches for the branch circuits.

(f) A branch circuit must not supply emergency alarm signal on more than one deck level, except for a single branch circuit supplying all levels of a single space containing more than one deck level if all other requirements of this section are met.

(g) On a vessel not divided into fire zones by main vertical fire bulkheads, the general emergency alarm system must be arranged into vertical service zones not more than 40 meters (131 feet) long, and there must be a general alarm feeder for each of these zones that has general emergency alarm signal.

(h) General alarm feeders and branch circuit cables must be in passageways and must not be in staterooms, lockers, galleys, machinery spaces, or other enclosed spaces, unless it is necessary to supply general emergency alarm signal in those spaces.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28288, June 4, 1996]

§ 113.25–9 Location of general emergency alarm signal.

General emergency alarm signal must:

(a) Be located in passenger and crew quarters areas where they can alert persons in spaces where those persons may be maintaining, repairing, or operating equipment, stowing or drawing stores or equipment, or transiting, such as public spaces, work spaces, machinery spaces, workshops, galleys, emergency firepump room, bow thruster rooms, storage areas for paint, rope, and other stores, underdeck passageways in cargo areas, steering gear rooms, windless rooms, holds of roll-on/roll-off vessels, and, except those that are accessible only through bolted manhole covers, duct keels with valve operators; and

(b) Be audible in the spaces identified in paragraph (a) of this section with all normally closed doors and accesses closed; and

(c) Be installed in cabins without loudspeaker installation. Other audible

devices, such as electronic alarm transducers, are permitted.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28288, June 4, 1996]

§ 113.25–10 Emergency red-flashing lights.

(a) In a space described in § 113.25–9(a), where the general emergency alarm signal cannot be heard over the background noise, there must be a red-flashing light or rotating beacon, in addition to the general emergency alarm signal, that:

(1) Has sufficient intensity above the background lighting that would alert personnel in the space;

(2) Is activated whenever the general emergency alarm signal in the space are activated; and

(3) Is supplied by the general emergency alarm system power supply or the vessel emergency power source through a relay that is operated by the general emergency alarm system.

(b) A red-flashing light or rotating beacon must be installed so that it is visible in the cargo pump rooms of vessels that carry combustible liquid cargoes. The installation must be in accordance with the requirements of part 111, subpart 111.105, of this chapter.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28288, June 4, 1996; 62 FR 23910, May 1, 1997]

§ 113.25–11 Contact makers.

Each contact maker must—

(a) Have normally open contacts and be constructed in accordance with NEMA 250 Type 4 or 4X or IEC IP 56 requirements;

(b) Have a switch handle that can be maintained in the ''on'' position;

(c) Have the ''off'' and ''on'' positions of the operating handle permanently marked; and

(d) Have an inductive load rating not less than the connected load or, on large vessels, have auxiliary devices to interrupt the load current.

[CGD 94–108, 61 FR 28288, June 4, 1996, as amended at 62 FR 23910, May 1, 1997]

§ 113.25–12 Alarm signals.

(a) Each general emergency alarm signal must be an electrically-operated bell, klaxon, or other warning device capable of producing a signal or tone distinct from any other audible signal on the vessel.

(b) Electronic devices used to produce the general emergency alarm signal must meet the requirements of subpart 113.50 of this part.

(c) The minimum sound pressure levels for the emergency alarm tone in interior and exterior spaces must be 80 dB(A) and at least 10 dB(A) above ambient noise levels existing during normal equipment operation with the vessel underway in moderate weather.

[CGD 94–108, 61 FR 28289, June 4, 1996]

§ 113.25–14 Electric cable and distribution fittings.

Each cable entrance to an emergency alarm signal or distribution fitting must be made watertight by a terminal or stuffing tube.

§ 113.25–15 Distribution panels.

Each distribution panel must:

(a) Be watertight;

(b) Need a tool to be opened.

§ 113.25–16 Overcurrent protection.

(a) Each fuse in a general emergency alarm system must meet the requirements of part 111, subpart 111.53, of this chapter.

(b) Each overcurrent protection device must cause as wide a differential as possible between the rating of the branch circuit overcurrent protection device and that of the feeder overcurrent protection device.

(c) The capacity of the feeder overcurrent device must be as near practicable to 200 percent of the load supplied. The capacity of a branch circuit overcurrent device must not be higher than 50 percent of the capacity of the feeder overcurrent device.

[CGD 94–108, 61 FR 28289, June 4, 1996]

§ 113.25–20 Marking of equipment.

(a) Each general emergency alarm system fused switch and distribution panel must have a fixed nameplate on the outside of its cover that has a description of its function. The rating of fuses must also be shown on the outside of the cover of a fused switch.

(b) Each general alarm contact maker must be marked ''GENERAL ALARM'' in red letters on a corrosion-resistant plate or on a sign.

(c) A contact maker that operates only the general emergency alarm signal in crew quarters, machinery spaces, and work spaces must be marked ''CREW ALARM'' by the method described in paragraph (b) of this section.

(d) Each general emergency alarm signal must be marked ''GENERAL ALARM—WHEN EMERGENCY ALARM SIGNAL RINGS GO TO YOUR STATION'' in red letters at least ½ inch high.

(e) Each general emergency alarm system distribution panel must have a directory attached to the inside of its cover giving the designation of each circuit, the area supplied by each circuit, and the rating of each circuit fuse.

§ 113.25–25 General emergency alarm systems for manned ocean and coastwise barges.

A manned ocean or coastwise barge of more than 100 gross tons, if it is one that operates with the crew divided into watches for steering the vessel, must have an emergency alarm signal installation. The system must:

(a) Have an automatically charged battery as the power source;

(b) Have a manually operated contact maker at the steering station and in the crew accommodation area; and

(c) Must meet the requirements of § 113.25.7 and §§ 113.25–9 through 113.25–20 of this subpart.

§ 113.25–30 General emergency alarm systems for barges of 300 or more gross tons with sleeping accommodations for more than six persons.

The general emergency alarm system for a barge of 300 or more gross tons with sleeping accommodations for more than six persons must meet the requirements of Subpart 113.25, except as follows:

(a) The number and location of contact makers must be determined by the design, service, and operation of the barge.

NOTE: Contact makers in the primary work area, quarters area, galley and mess area, machinery spaces, and the navigating bridge or control area should be considered.

(b) If a distribution panel cannot be above the uppermost continuous deck because of the design of the barge and is installed below the deck, it must be as near the deck as practicable.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28289, June 4, 1996]

Subpart 113.27—Engineers' Assistance-Needed Alarm

§ 113.27–1 Engineers' assistance-needed alarm.

Each self-propelled ocean, Great Lakes, or coastwise vessel must have a manually-operated engineers' assistance-needed alarm that is:

(a) Operated from:

(1) The engine control room, if the vessel has an engine control room; or

(2) The maneuvering platform, if the vessel has no engine control room;

(b) Audible in the engineers' accommodation spaces; and

(c) Powered from the general alarm power source.

Subpart 113.30—Internal Communications

§ 113.30–1 Applicability.

This subpart applies to each self-propelled vessel.

§ 113.30–3 Means of communications.

(a) An emergency means of communication required by this subpart must—

(1) Be comprised of either fixed or portable equipment; and

(2) Provide common talking means of two-way voice communication and calling among the navigating bridge, emergency control stations, muster stations, embarkation stations, and other strategic positions listed in § 113.30–5.

(b) The means of communication and calling must be a sound-powered telephone or other reliable voice communication method and must be independent of the vessel's electrical system.

[CGD 94–108, 61 FR 28289, June 4, 1996]

§ 113.30–5 Requirements.

(a) *Communication.* Each vessel must have a means of communication among the following:

(1) Navigating bridge.

(2) Steering gear room, if outside the engineroom.

(3) Alternative steering station if outside of the steering gear room.

(4) Engine control room, if the vessel has an engine control room.

(5) Maneuvering platform, if the vessel has no engine control room.

(6) Control room, if the vessel is a mobile offshore drilling unit.

(7) The engineering officers' accommodations, if the vessel is an automated, self-propelled vessel under § 62.50–20(f) of this chapter.

(b) *Gyrocompass.* Each vessel that has a master gyrocompass that is not in or next to the navigating bridge must have a means of communication between the master gyrocompass and the navigating bridge repeater compass.

(c) *Radar.* Each vessel that has a radar plan position indicator that is not in or next to the navigating bridge must have a means of communication between the navigating bridge and the radar plan position indicator.

(d) *Emergency lockers.* If the emergency equipment lockers or spaces used by the emergency squad are not next to the navigating bridge or, on a mobile offshore drilling unit, next to the control room, there must be a means of communication between the navigating bridge or control room and the emergency equipment lockers or spaces.

(e) *Radio and radio direction finder.* Communication to the radio and radio direction finder must meet the following requirements:

(1) Each vessel that has a radio installation must have a means of communication between the radio room, the navigating bridge, or, if the vessel is a mobile offshore drilling unit, the control room, and any other place from which the vessel may be navigated under normal conditions, other than a place that is only for emergency functions, a place that is only for docking or maneuvering, or a place that is for navigating the vessel in close quarters. A location that has the apparatus that is necessary to steer the vessel, give engine orders, and control the whistle, is a place from which the vessel may be navigated.

(2) If the operating position of the emergency radio installation is not in the compartment normally used for operating the main radio installation, there must be means of communication between the emergency radio room, the navigating bridge, or, if the vessel is a mobile offshore drilling unit, the control room, and any other place from which the vessel may be navigated under normal conditions; other than a place that is only for emergency functions, a place that is only for docking or maneuvering, or a place that is for navigating the vessel in close quarters.

(3) Each vessel equipped with radio direction-finding apparatus that is not in or next to the navigating bridge must have a means of communication between the navigating bridge and the direction-finding apparatus.

(4) The communication system required by this paragraph must be independent of all other systems on the vessel. The location of the termination of these systems is subject to approval by the Federal Communication Commission.

(f) *Fire or smoke detecting systems.* Each vessel equipped with a fire or smoke detecting system, if control units are not in the navigating bridge, must have means of communication between the navigating bridge and the stations where the control units are located.

(g) *Lookout.* Each vessel must have a means of communication between the navigating bridge and the bow or forward lookout station unless direct voice communication is possible.

(h) *Engineroom local control station.* Each self-propelled vessel equipped with control from the navigating bridge must have a means of communication between the local station for the control of the speed or direction of thrust of the propulsion machinery and the engine control room, unless an engine order telegraph is installed in accordance with § 113.35–3. Each communication station at a local control station must—

(1) Be on a circuit separate from any other station required by this section; and

(2) Provide the capability of reliable voice communication when the vessel is underway.

(i) *Mobile offshore drilling units.* Each non-self-propelled mobile offshore drilling unit must have a means of communication among the control room, drill floor, machinery space, and silicon controlled rectifier (SCR) room (if installed). Each column-stabilized mobile offshore drilling unit must have a means of communication between the ballast control room and the spaces that contain the ballast pumps and valves.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28289, June 4, 1996; 62 FR 23910, May 1, 1997]

§ 113.30–20 General requirements.

(a) The communications stations listed in § 113.30–5(a) through (d), (f), (g), and (i) and other communications stations for the operation of the vessel, such as the captain's and chief engineer's offices and staterooms, emergency power room, carbon dioxide (or other extinguishing agent) control room, and firepump room, must not be on the same circuit as communications stations installed to meet the requirements of §§ 113.30–5(e) and 113.30–5(h).

(b) If a communications station is in the weather and on the same circuit as other required stations, there must be a cut-out switch on the navigating bridge that can isolate this station from the rest of the stations, unless the system possesses other effective means of station isolation during a fault condition.

(c) Jack boxes or headsets must not be on a communications system that includes any station required by this subpart, except for a station installed to meet §§ 113.30–5(h) or 113.30–25(d).

[CGD 94–108, 61 FR 28289, June 4, 1996]

§ 113.30–25 Detailed requirements.

(a) Each sound-powered telephone station must include a permanently-wired handset with a push-to-talk button and a hanger for the handset, except those stations detailed in paragraph (d) of this section. The hanger must be constructed so that it holds the handset away from the bulkhead and so that the handset will not be dislodged by the motion of the vessel.

(b) Each voice communication station device in the weather must be in a proper enclosure as required in § 111.01–9 of this chapter. The audible signal device must be outside the station enclosure.

(c) Each station in a navigating bridge or a machinery space must be in an enclosure meeting at least NEMA 250 Type 2 or IEC IP 22 requirements.

(d) In a noisy location, such as an engine room, there must be a booth or other equipment to permit reliable voice communication during vessel operation.

(e) In a location where the voice communication station audible signal device cannot be heard throughout the space, there must be an additional audible signal device or visual device, such as a light, which is energized from the final emergency bus.

(f) If two or more voice communication stations are near each other, there must be a means that indicates the station called.

(g) Each voice communication talking circuit must be electrically independent of each calling circuit. A short circuit, open circuit, or ground on either side of a calling circuit must not affect a talking circuit. Circuits must be insulated from ground.

(h) Each connection box must meet at least NEMA 250 Type 4 or 4X or IEC IP 56 requirements.

(i) Voice communication cables must run as close to the fore and aft centerline of the vessel as practicable. The cable must not run through high fire-risk spaces, such as machinery rooms and galleys, unless it is technically impractical to route them otherwise or they are required to serve circuits in the high-risk area. Cable running through or into these high-risk areas must meet the requirements of EC 331.

[CGD 94–108, 61 FR 28289, June 4, 1996; 61 FR 33045, June 26, 1996; 61 FR 36787, July 12, 1996, as amended at 62 FR 23910, May 1, 1997]

Subpart 113.35—Engine Order Telegraph Systems

§ 113.35–1 Definitions.

As used in this subpart:

(a) *Indicator* means an instrument in the engine room to receive and acknowledge engine orders; and

(b) *Transmitter* means an instrument to send engine orders to the engineroom and receive acknowledgement from the engineroom.

§ 113.35–3 General requirements.

(a) Each self-propelled vessel, except as provided in paragraph (d) of this section, must have an electric or mechanical engine order telegraph system from the navigating bridge to the engineroom.

(b) On a vessel with more than one propulsion engine, each engine must have this system.

(c) On a double-ended vessel that has two navigating bridges, this system must be between the engineroom and each navigating bridge.

(d) If a small vessel has no engine order telegraph system between the navigating bridge and the engineroom, the propulsion plant must be controlled entirely from the navigating bridge, with no means of normal engine control from the engineroom.

(e) On vessels equipped with pilothouse control, each local control station in the engineroom must have an indicator if:

(1) Manual operation from the local control station is an alternative means of control; and

(2) The local control station is not immediately adjacent to the engineroom control station; and

(3) Reliable voice communication and calling that meets the requirements of § 113.30–5(h) is not provided.

(f) Engine order telegraph and remote propulsion control systems must be electrically separate and independent, except that a single mechanical operator control device with separate transmitters and connections for each system may be used.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 81–030, 53 FR 17847, May 18, 1988; CGD 94–108, 61 FR 28290, June 4, 1996]

§ 113.35–5 Electric engine order telegraph systems.

(a) Each electric engine order telegraph system must have transmitters and indicators that are electrically connected to each other.

(b) Each engineroom indicator must be capable of acknowledgment of orders.

(c) There must be an audible signal at each instrument. The signal at both locations must sound continuously when the transmitter and the indicator do not show the same order.

(d) Each telegraph instrument must meet the protection requirements of § 111.01–9 of this chapter.

(e) Each system must have an alarm which—

(1) Automatically sounds and visually signals a loss of power to the system;

(2) Is on the navigating bridge; and

(3) Has a means to reduce the audible signal from 100 percent to not less than 50 percent.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28290, June 4, 1996]

§ 113.35–7 Electric engine order telegraph systems; operations.

(a) Where two or more transmitters, located on or on top of, or on the wings of, the navigating bridge operate a common indicator in the engineroom, the transmitters must:

(1) Operate in synchronism as required in paragraph (b) of this section; or

(2) Operate under the control of a transmitter transfer control in accordance with paragraph (c) of this section.

(b) All transmitter handles and pointers must operate in synchronism. Where the transmitters are mechanically interlocked to effect synchronous operation, the requirements of § 113.35–13 must be met.

(c) Except for a transmitter in an unattended navigating bridge on a double-ended vessel, each transmitter must operate under the control of a transmitter transfer control so that movement of any one transmitter handle automatically connects that transmitter electrically to the engineroom indicator and simultaneously disconnects electrically all other transmitters. The reply pointers of all transmitters must operate in synchronism at all times.

(d) On a double-ended vessel that has two navigating bridges, a manually operated transfer switch which will disconnect the system in the unattended navigating bridge must be provided.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982. Redesignated and amended by CGD 94–108, 61 FR 28290, June 4, 1996]

§ 113.35–9 Mechanical engine order telegraph systems.

(a) Each mechanical engine order telegraph system must consist of transmitters and indicators mechanically connected to each other, as by means of chains and wires.

(b) Each transmitter and each indicator must have an audible signal device to indicate, in the case of an indicator, the receipt of an order, and in the case of a transmitter, the acknowledgment of an order. The audible signal device must not be dependent upon any source of power for operation other than that of the movement of the transmitter or indicator handle.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28290, June 4, 1996]

§ 113.35–13 Mechanical engine order telegraph systems; operation.

If more than one transmitter operates a common indicator in the engineroom, all the transmitters must be mechanically interlocked and operate in synchronism. A failure of the transmission wire or chain at any transmitter must not interrupt or disable any other transmitter.

§ 113.35–15 Mechanical engine order telegraph systems; application.

If a mechanical engine order telegraph system is installed on any vessel to provide the communication required by this subpart, the length of cables or other mechanical limitations must not prevent the efficient operation of the system.

§ 113.35–17 Vessels with navigating bridge control.

Each vessel with navigating bridge throttle control must have a positive mechanical stop on each telegraph transmitter that prevents movement to the ''Navigating Bridge Control'' position without positive action by the operator.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28290, June 4, 1996]

Subpart 113.37—Shaft Speed and Thrust Indicators

§ 113.37–1 Applicability.

This subpart applies to all self-propelled vessels.

§ 113.37–5 General requirements.

(a) A vessel equipped with fixed pitch propellers must have on the navigating bridge and at the engineroom control station a propeller speed and direction indicator for each shaft.

(b) A vessel equipped with controllable pitch propellers must have on the navigating bridge and at the engineroom control station a propeller speed and pitch position indicator for each shaft.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28290, June 4, 1996]

§ 113.37–10 Detailed requirements.

(a) Each indicator must be independent of the propulsion control system. A failure of the propulsion control system must not affect the operation of the indicators.

(b) Each electric component or its enclosure must meet NEMA 250 Type 4 or 4X or IEC IP 56 requirements.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28290, June 4, 1996]

Subpart 113.40—Rudder Angle Indicator Systems

§ 113.40–1 Applicability.

This subpart applies to self-propelled vessels.

§ 113.40–5 General requirements.

The position of the rudder, if power-operated, must be shown at the principal steering station. If there is non-follow-up steering control at the alternative steering station, there must be a separate rudder angle indicator system for that station that is electrically

independent from each other rudder angle indicator system.

§ 113.40–10 Detailed requirements.

(a) Each rudder angle indicator system must have a transmitter at the rudder head that is actuated by movement of the rudder with the angular movements of the rudder transmitted to a remote indicator or indicators. This system must be independent of all other systems and not receive power or signal from the steering gear control, autopilot, or dynamic positioning systems. However, the indicator may be physically located on a control console, such as an integrated bridge system, if it is readily visible by the helmsman at the steering stand.

(b) Each electric component or its enclosure must meet NEMA 250 Type 4 or 4X or IEC IP 56 requirements.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28290, June 4, 1996; 62 FR 23910, May 1, 1997]

Subpart 113.43—Steering Failure Alarm Systems

§ 113.43–1 Applicability.

This subpart applies to each vessel of 1600 gross tons and over that has power driven main or auxiliary steering gear.

§ 113.43–3 Alarm system.

(a) Each vessel must have a steering failure alarm system that actuates an audible and visible alarm in the pilothouse when the actual position of the rudder differs by more than 5 degrees from the rudder position ordered by the followup control systems, required by part 58, subpart 58.25, of this chapter, for more than:

(1) 30 seconds for ordered rudder position changes of 70 degrees;

(2) 6.5 seconds for ordered rudder position changes of 5 degrees; and

(3) The time period calculated by the following formula for ordered rudder positions changes between 5 degrees and 70 degrees:

$$t = (R/2.76)+4.64$$

Where
t = maximum time delay in seconds
R = ordered rudder change in degrees

(b) The alarm system must be separate from, and independent of, each steering gear control system, except for input received from the steering wheel shaft.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 62 FR 23910, May 1, 1997]

§ 113.43–5 Power supply.

Each steering failure alarm system must be supplied by a circuit that:

(a) Is independent of other steering gear system and steering alarm circuits;

(b) Is fed from the final emergency power source through the emergency distribution panel in the wheelhouse, if installed; and

(c) Has no overcurrent protection except short-circuit protection by an instantaneous fuse or circuit breaker rated or set at 400 to 500 percent of:

(1) The current-carrying capacity of the smallest alarm system interconnecting conductors; or

(2) The normal load of the system.

Subpart 113.45—Refrigerated Spaces Alarm Systems

§ 113.45–5 General requirements.

(a) Each refrigerated space that is accessible to the vessel's personnel and that can be locked from the outside so that it cannot be opened from the inside, must have an audible alarm system that can be operated from within the refrigerated space.

(b) The alarm activator must be in the refrigerated space at its exit.

(c) The audible signal must sound at a manned location.

(d) If there is a common audible signal for more than one lockable refrigerated space, there must be an annunciator for locating the space from which the signal was initiated.

Subpart 113.50—Public Address Systems

§ 113.50–1 Applicability.

This subpart applies to each vessel required to have a general emergency alarm system in accordance with § 113.25–1.

[CGD 94–108, 61 FR 28290, June 4, 1996]

§ 113.50–5 General requirements.

(a) Each vessel must have an amplifier-type announcing system that will supplement the general emergency alarm. This system must provide for the transmission of orders and information throughout the vessel by means of microphones and loudspeakers connected through an amplifier. If a decentralized-type system is used, its overall performance must not be affected by the failure of a single call station. This system may be combined with the general emergency alarm and fire detecting and alarm systems. The public address system must be protected against unauthorized use.

(b) The announcing station must be located adjacent to the general emergency alarm contact maker on the navigating bridge.

(c) There must be a means to silence all other audio distribution systems at the announcing station.

(d) The system may be arranged to allow broadcasting separately to, or to any combination of, various areas on the vessel. If the amplifier system is used for the general emergency alarm required by subpart 113.25 of this part, the operation of a general emergency alarm contact maker must activate all speakers in the system, except that a separate crew alarm may be used as allowed by § 113.25–5(e)(2).

(e) The amplifier, and any device used to produce the general emergency alarm signal, must be provided in duplicate.

(f) The power supply must be in accordance with the requirements of §§ 113.25–6 and 113.25–7.

(g) Each electrical subsystem in a weather location must be watertight or in a watertight enclosure (NEMA 250 Type 4 or 4X or IEC IP 56).

[CGD 94–108, 61 FR 28290, June 4, 1996, as amended at 62 FR 23910, May 1, 1997]

§ 113.50–10 Additional requirements for passenger vessels.

Each passenger vessel must have a public address system capable of broadcasting separately or collectively to the following stations:

(a) Survival craft stations, port.

(b) Survival craft stations, starboard.

(c) Survival craft embarkation stations, port.

(d) Survival craft embarkation stations, starboard.

(e) Public spaces used for passenger assembly points.

(f) Crew quarters.

(g) Accommodation spaces and service spaces.

[CGD 94–108, 61 FR 28290, June 4, 1996]

§ 113.50–15 Loudspeakers.

(a) Loudspeakers must be located to eliminate feedback or other interference which would degrade communication.

(b) Loudspeakers must be located to provide intelligible and audible one-way communication throughout the vessel. Weatherdeck loudspeakers must be watertight and suitably protected from the effects of the wind and seas.

(c) There must be a sufficient number of loudspeakers throughout the vessel. The public address system must be installed with regard to acoustically marginal conditions and not require any action from the addressee. With the vessel underway in normal conditions, the minimum sound pressure levels for broadcasting emergency announcements must be—

(1) In interior spaces, 75 dB(A) or, if the background noise level exceeds 75 dB(A), then at least 20 dB(A) above maximum background noise level; and

(2) In exterior spaces, 80 dB(A) or, if the background noise level exceeds 80 dB(A), then at least 15 dB(A) above maximum background noise level.

(d) Loudspeakers must not have external volume controls or local cutout switches.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28291, June 4, 1996; 61 FR 36787, July 12, 1996]

§ 113.50–20 Distribution of cable runs.

(a) Each system must have a feeder distribution panel to divide the system into the necessary number of zone feeders. Where, because of the arrangement of the vessel, only one zone feeder is necessary, a branch circuit distribution panel must be used.

(b) The feeder distribution panel must be in an enclosed space next to the public address system power supply.

(c) Each system must have at least one feeder for each vertical fire zone.

(d) Each system must have one or more branch circuit distribution panels for each zone feeder, with at least one branch circuit for each deck level. The distribution panel must be above the uppermost continuous deck, in the zone served, and there must be no disconnect switches for the branch circuits.

(e) A branch circuit must not supply speakers on more than one deck level, except for a single branch circuit supplying all levels of a single space if all other requirements of this section are met.

(f) On a vessel not divided into vertical fire zones by main vertical fire bulkheads, the vessel must be divided into vertical zones not more than 40 meters (131 feet) long. There must be a feeder for each of these zones.

(g) Feeders and branch circuit cables must be in passageways. They must not be in staterooms, lockers, galleys, or machinery spaces, unless it is necessary to supply public address speakers in those spaces.

[CGD 94–108, 61 FR 28291, June 4, 1996]

Subpart 113.65—Whistle Operators

§ 113.65–5 General requirements.

Each whistle operator must meet section 37.19 of IEEE Standard No. 45.

[CGD 74–125A, 47 FR 15272, Apr. 8, 1982, as amended by CGD 82–036, 48 FR 655, Jan. 6, 1983; CGD 94–108, 61 FR 28291, June 4, 1996]

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EDITORIAL NOTE: This listing is provided for informational purposes only. It is compiled by and kept current by the U.S. Coast Guard, Department of Transportation.

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