

APPENDIX E TO PART 835 [RESERVED]

**PART 840—EXTRAORDINARY
NUCLEAR OCCURRENCES**

Sec.

840.1 Scope and purpose.

840.2 Procedures.

840.3 Determination of extraordinary nuclear occurrence.

840.4 Criterion I—Substantial discharge of radioactive material or substantial radiation levels offsite.

840.5 Criterion II—Substantial damages to persons offsite or property offsite.

AUTHORITY: Sec. 161 of the Atomic Energy Act of 1954, Pub. L. 83-703, 68 Stat. 919 (42 U.S.C. 2201); sec. 170 of the Atomic Energy Act of 1954, Pub. L. 85-256, 71 Stat. 576, as amended by Pub. L. 89-645, 80 Stat. 891 (42 U.S.C. 2210); Department of Energy Organization Act, Pub. L. 95-91, 91 Stat. 565-613 (42 U.S.C. 7101-7352).

SOURCE: 49 FR 21473, May 21, 1984, unless otherwise noted.

§840.1 Scope and purpose.

(a) *Scope.* This subpart applies to those DOE contractor activities to which the nuclear hazards indemnity provisions in 41 CFR 9-50.704-6 apply, and to other persons indemnified with respect to such activities.

(b) *Purpose.* One purpose of this subpart is to set forth the criteria which the DOE proposes to follow in order to determine whether there has been an "extraordinary nuclear occurrence." The other purpose is to establish the conditions of the waivers of defenses proposed for incorporation in indemnity agreements.

(1) The system is to come into effect only where the discharge or dispersal constitutes a substantial amount of source, special nuclear or byproduct material, or has caused substantial radiation levels offsite. The various limits in present DOE regulations are not appropriate for direct application in the determination of an "extraordinary nuclear occurrence," for they were arrived at with other purposes in mind, and those limits have been set at a level which is conservatively arrived at by incorporating a significant safety factor. Thus, a discharge or dispersal which exceeds the limits in DOE regulations, or in DOE orders, although possible cause for concern, is not one

which would be expected to cause substantial injury or damage unless it exceeds by some significant multiple the appropriate regulatory limit. Accordingly, in arriving at the values in the criteria to be deemed "substantial" it is more appropriate to adopt values separate from DOE health and safety orders, and, of course the selection of these values will not in any way affect such orders. A substantial discharge, for purposes of the criteria, represents a perturbation of the environment which is clearly above that which could be anticipated from the conduct of normal activities. The criteria are intended solely for the purposes of administration of DOE statutory responsibilities under Pub. L. 89-645, and are not intended to indicate a level of discharge or dispersal at which damage is likely to occur, or even a level at which some type of protective action is indicated. It should be clearly understood that the criteria in no way establish or indicate that there is a specific threshold of exposure at which biological damage from radiation will take place. It cannot be emphasized too frequently that the levels set to be used as criteria for the first part of the determination, that is, the criteria for amounts offsite or radiation levels offsite which are substantial, are not meant to indicate that, because such amounts or levels are determined to be substantial for purposes of administration, they are "substantial" in terms of their propensity for causing injury or damage.

(2) It is the purpose of the second part of the determination that DOE decide whether there have in fact been or will probably be substantial damages to persons offsite or property offsite. The criteria for substantial damages were formulated, and the numerical values selected, on a wholly different basis from that on which the criteria used for the first part of the determination with respect to substantial discharge were derived. The only interrelation between the values selected for the discharge criteria and the damage criteria is that the discharge values are set so low that it is extremely unlikely the damage criteria could be satisfied unless the discharge values have been exceeded.

(3) The first part of the test is designed so that DOE can assure itself that something exceptional has occurred; that something untoward and unexpected has in fact taken place and that this event is of sufficient significance to raise the possibility that some damage to persons or property offsite has resulted or may result. If there appears to be no damage, the waivers will not apply because DOE will be unable, under the second part of the test, to make a determination that "substantial damages" have resulted or will probably result. If damages have resulted or will probably result, they could vary from de minimis to serious, and the waivers will not apply until the damages, both actual and probable, are determined to be "substantial" within the second part of the test.

(4) The presence or absence of an extraordinary nuclear occurrence determination does not concomitantly determine whether or not a particular claimant will recover on his claim. In effect, it is intended primarily to determine whether certain potential obstacles to recovery are to be removed from the route the claimant would ordinarily follow to seek compensation for his injury or damage. If there has not been an extraordinary nuclear occurrence determination, the claimant must proceed (in the absence of settlement) with a tort action subject to whatever issues must be met, and whatever defenses are available to the defendant, under the law applicable in the relevant jurisdiction. If there has been an extraordinary nuclear occurrence determination, the claimant must still proceed (in the absence of settlement) with a tort action, but the claimant's burden is substantially eased by the elimination of certain issues which may be involved and certain defenses which may be available to the defendant. In either case the defendant may defend with respect to such of the following matters as are in issue in any given claim: the nature of the claimant's alleged damages, the causal relationship between the event and the alleged damages, and the amount of the alleged damages.

§ 840.2 Procedures.

(a) DOE may initiate, on its own motion, the making of a determination as to whether or not there has been an extraordinary nuclear occurrence. In the event DOE does not so initiate the making of a determination, any affected person, or any person with whom an indemnity agreement is executed may petition DOE for a determination of whether or not there has been an extraordinary nuclear occurrence. If DOE does not have, or does not expect to have, within 7 days after it has received notification of an alleged event, enough information available to make a determination that there has been an extraordinary nuclear occurrence, DOE will publish a notice in the FEDERAL REGISTER setting forth the date and place of the alleged event and requesting any persons having knowledge thereof to submit their information to DOE.

(b) When a procedure is initiated under paragraph (a) of this section, the principal staff which will begin immediately to assemble the relevant information and prepare a report on which the DOE can make its determination will consist of the Directors or their designees of the following Divisions or Offices: Office of Nuclear Safety, Office of Operational Safety, Office of Health and Environmental Research, the General Counsel or his designee, and a representative of the program division whose facility or device may be involved.

§ 840.3 Determination of extraordinary nuclear occurrence.

If the DOE determines that both of the criteria set forth in § 840.4 and § 840.5 have been met, it will make the determination that there has been an extraordinary nuclear occurrence. If the DOE publishes a notice in the FEDERAL REGISTER in accordance with § 840.2(a) and does not make a determination within 90 days thereafter that there has been an extraordinary nuclear occurrence, the alleged event will be deemed not to be an extraordinary nuclear occurrence. The time for the making of a determination may be extended by DOE by notice published in the FEDERAL REGISTER.

§840.4 Criterion I—Substantial discharge of radioactive material or substantial radiation levels offsite.

DOE will determine that there has been a substantial discharge or dispersal of radioactive material offsite, or that there have been substantial levels of radiation offsite, when as a result of an event comprised of one or more related happenings, radioactive material is released from its intended place of confinement or radiation levels occur offsite and either of the following findings are also made:

(a) DOE finds that one or more persons offsite were, could have been, or might be exposed to radiation or to radioactive material, resulting in a dose or in a projected dose in excess of one of the levels in the following table:

TOTAL PROJECTED RADIATION DOSES

Critical organ	Dose (rems)
Thyroid	30
Whole Body	20
Bone Marrow	20
Skin	60
Other organs or tissues	30

Exposures from the following types of sources of radiation shall be included:

(1) Radiation from sources external to the body;

(2) Radioactive material that may be taken into the body from its occurrence in air or water; and

(3) Radioactive material that may be taken into the body from its occurrence in food or on terrestrial surfaces.

(b) DOE finds that—

(1) Surface contamination of at least a total of any 100 square meters of offsite property has occurred as the result of a release of radioactive material from a production or utilization facility or device and such contamination is characterized by levels of radiation in excess of one of the values listed in column 1 or column 2 of the following table, or

(2) Surface contamination of any offsite property has occurred as the result of a release of radioactive material in the course of transportation and such contamination is characterized by levels of radiation in excess of one of the values listed in column 2 of the following table:

TOTAL SURFACE CONTAMINATION LEVELS ¹

Type of emitter	Column 1—Offsite property ²	Column 2—Other offsite property
Alpha emission from transuranic isotopes.	3.5 microcuries per square meter.	0.35 microcuries per square meter.
Alpha emission from isotopes other than transuranic isotopes.	35 microcuries per square meter.	3.5 microcuries per square meter.
Beta or gamma emission.	40 millirads/hour 1 cm (measured through not more than 7 milligrams per square centimeter of total absorber).	4 millirads/hour 1 cm (measured through not more than 7 milligrams per square centimeter of total absorber).

¹The maximum levels (above background), observed or projected, 8 or more hours after initial deposition.

²Contiguous to site, owned or leased by person with whom an indemnity agreement is executed.

[49 FR 21473, May 21, 1984; 49 FR 24374, June 13, 1984]

§840.5 Criterion II—Substantial damages to persons offsite or property offsite.

(a) After DOE has determined that an event has satisfied Criterion I, DOE will determine that the event has resulted or will probably result in substantial damages to persons offsite or property offsite if any of the following findings are made:

(1) DOE finds that such event has resulted in the death or hospitalization, within 30 days of the event, of five or more people located offsite showing objective clinical evidence of physical injury from exposure to the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material; or

(2) DOE finds that \$2,500,000 or more of damage offsite has been or will probably be sustained by any one person, or \$5 million or more of such damage in the aggregate has been or will probably be sustained, as the result of such event; or

(3) DOE finds that \$5,000 or more of damage offsite has been or will probably be sustained by each of 50 or more persons, provided that \$1 million or more of such damage in the aggregate has been or will probably be sustained, as the result of such event.

(b) As used in paragraphs (a) (2) and (3) of this section “damage” shall be that arising out of or resulting from the radioactive, toxic, explosive, or

other hazardous properties of source, special nuclear, or byproduct material, and shall be based upon estimates of one or more of the following:

- (1) Total cost necessary to put affected property back into use.
- (2) Loss of use of affected property.
- (3) Value of affected property where not practical to restore to use.
- (4) Financial loss resulting from protective actions appropriate to reduce or avoid exposure to radiation or to radioactive materials.

PART 860—TRESPASSING ON DEPARTMENT OF ENERGY PROPERTY

- Sec.
- 860.1 Purpose.
- 860.2 Scope.
- 860.3 Trespass.
- 860.4 Unauthorized introduction of weapons or dangerous materials.
- 860.5 Violations and penalties.
- 860.6 Posting.
- 860.7 Effective date of prohibition on designated locations.
- 860.8 Applicability of other laws.

AUTHORITY: Sec. 161, 68 Stat. 948, sec. 229, 70 Stat. 1070; (42 U.S.C. 2201; 2278a); sec. 104, 88 Stat. 1237, sec. 105, 88 Stat. 1238 (42 U.S.C. 5814, 5815); sec. 5, Pub. L. 100-185, 101 Stat. 1279 (18 U.S.C. 3559); sec. 6, Pub. L. 100-185, 101 Stat. 1280 (18 U.S.C. 3571); sec. 7041, Pub. L. 100-690, 102 Stat. 4899 (18 U.S.C. 3559).

SOURCE: 58 FR 47985, Sept. 14, 1993, unless otherwise noted.

§ 860.1 Purpose.

The regulations in this part are issued for the protection and security of facilities, installations and real property subject to the jurisdiction or administration, or in the custody of, the Department of Energy.

§ 860.2 Scope.

The regulations in this part apply to all facilities, installations and real property subject to the jurisdiction or administration of the Department of Energy or in its custody which have been posted with a notice of the prohibitions and penalties set forth in this part.

§ 860.3 Trespass.

Unauthorized entry upon any facility, installation or real property subject to this part is prohibited.

§ 860.4 Unauthorized introduction of weapons or dangerous materials.

Unauthorized carrying, transporting, or otherwise introducing or causing to be introduced any dangerous weapon, explosive, or other dangerous instrument or material likely to produce substantial injury or damage to persons or property, into or upon any facility, installation or real property subject to this part, is prohibited.

§ 860.5 Violations and penalties.

(a) Whoever willfully violates either § 860.3 or § 860.4 shall, upon conviction, be guilty of an infraction punishable by a fine of not more than \$5,000.

(b) Whoever willfully violates either § 860.3 or § 860.4 with respect to any facility, installation or real property enclosed by a fence, wall, floor, roof, or other structural barrier shall upon conviction, be guilty of a Class A misdemeanor punishable by a fine not to exceed \$100,000 or imprisonment for not more than one year, or both.

§ 860.6 Posting.

Notices stating the pertinent prohibitions of §§ 860.3 and 860.4 and penalties of § 860.5 will be conspicuously posted at all entrances of each designated facility, installation or parcel of real property and at such intervals along the perimeter as will provide reasonable assurance of notice to persons about to enter.

§ 860.7 Effective date of prohibition on designated locations.

The prohibitions in §§ 860.3 and 860.4 shall take effect as to any facility, installation or real property on publication in the FEDERAL REGISTER of the notice designating the facility, installation or real property and posting in accordance with § 860.6.

§ 860.8 Applicability of other laws.

Nothing in this part shall be construed to affect the applicability of the provisions of State or other Federal laws.

PART 861—CONTROL OF TRAFFIC AT NEVADA TEST SITE

- Sec.
- 861.1 Purpose.

§ 861.1

- 861.2 Scope.
- 861.3 Definitions.
- 861.4 Use of site streets.
- 861.5 Penalties.
- 861.6 Posting and distribution.
- 861.7 Applicability of other laws.

APPENDIX A TO PART 861—PERIMETER DESCRIPTION OF DOE'S NEVADA TEST SITE

AUTHORITY: 62 Stat. 281, as amended; sec. 103, 63 Stat. 380, as amended, sec. 205, 63 Stat. 389; sec. 161, 68 Stat. 948, as amended, sec. 1, 81 Stat. 54; 40 U.S.C. 318; 42 U.S.C. 2201; 5 U.S.C. 552; Federal Property Management Regulations T.R. D-11, 34 FR 1997, and Delegation of Authority to Manager, Nevada Operations Office.

SOURCE: 41 FR 56788, Dec. 30, 1976, unless otherwise noted.

§ 861.1 Purpose.

The regulations in this part are designed to facilitate the control of traffic at the Nevada Test Site.

§ 861.2 Scope.

This part applies to all persons who use the streets of the Nevada Test Site.

§ 861.3 Definitions.

As used in this part:

(a) *DOE* means the Department of Energy.

(b) *Nevada Test Site* means DOE's Nevada Test Site located in Nye County, Nev. A perimeter description is attached as Appendix A to this part.

(c) *Nevada Test Site Traffic Regulations* means the traffic directives promulgated by the Manager of the Nevada Operations Office pursuant to § 861.4.

(d) *Person* means every natural person, firm, trust partnership, association or corporation.

(e) *Street* means the entire width between the boundary lines of every way when any part thereof is open to the use of those admitted to the Nevada Test Site for purposes of vehicular travel.

(f) *Traffic* means pedestrians, ridden or herded animals, vehicles, and other conveyances, either singly or together, while using any roadway for purposes of travel.

(g) *Vehicle* means every device in, upon or by which any person or property is or may be transported or drawn upon a roadway, excepting devices moved by human power or used exclusively upon stationary rails or tracks.

10 CFR Ch. III (1-1-98 Edition)

§ 861.4 Use of site streets.

All persons using the streets of the Nevada Test Site shall do so in a careful and safe manner.

(a) The Nevada Test Site Traffic Regulations supplement this section by identifying the specific traffic requirements relating to such matters as:

(1) Enforcement and obedience to Traffic Regulations, including the authority of police officers and traffic regulations, and responsibility to report accidents.

(2) Traffic signs, signals, and markings, including required compliance with traffic lanes and traffic control devices, and prohibitions on display of unauthorized traffic signs, signals, or marking or interference with authorized traffic control devices.

(3) Speeding or driving under the influence of intoxicating liquor or drugs, including prohibitions on reckless driving, and promulgation of maximum permissible speeds.

(4) Turning movements, including required position and method of turning at intersections, limitations on turning around, and obedience to turning markers and no-turn signs.

(5) Stopping and yielding, including obedience to stop and yield signs, requirements, when entering stop or yield intersections, emerging from alleys, driveways, or buildings, operation of vehicles on approach of authorized emergency vehicles and stops when traffic is obstructed.

(6) Pedestrians' rights and duties, including pedestrian's right-of-way in crosswalks, when a pedestrian must yield, required use or right half of crosswalks and requirements concerning walking along roadways and prohibited pedestrian crossings.

(7) Parking, stopping, and standing, specifying when parking, stopping, and standing are prohibited, including special provisions applicable to buses, requirements that parking not obstruct traffic and be close to curb, and concerning lamps on parked vehicles.

(8) Privileges of drivers of authorized emergency vehicles, including exemptions from parking and standing, stopping, speeding and turning limitations,

under specified circumstances and within specified limitations.

(9) Miscellaneous driving rules, including requirements for convoys, and limitations on backing, opening and closing vehicle doors, following fire apparatus, crossing a fire hose, driving through a safety zone, through convoys, on sidewalks or shoulders of roadways, boarding or alighting from vehicles, passing a bus on the right, and unlawful riding.

(b) The Nevada Test Site Traffic Regulations, when posted and distributed as specified in §861.6, shall have the same force and effect as if made a part hereof.

§861.5 Penalties.

Any person doing any act forbidden or failing to do any act required by the Nevada Test Site Traffic Regulations shall, upon conviction, be punishable by a fine of not more than \$50 or imprisonment for not more than 30 days, or both.

§861.6 Posting and distribution.

Notices including the provisions of the Nevada Test Site Traffic Regulations will be conspicuously posted at the Nevada Test Site. Such other distribution of the Nevada Test Site Regulations will be made by the Manager as will provide reasonable assurance of notice to persons subject to the regulations.

§861.7 Applicability of other laws.

Nothing in this part shall be construed to affect the applicability of the provisions of State laws or of other Federal laws.

APPENDIX A TO PART 861—PERIMETER DESCRIPTION OF DOE'S NEVADA TEST SITE

The Nevada Test Site, containing approximately 858,764 acres located in Nye County, Nev., is described as follows:

Beginning at the northwesterly corner of the tract of land hereinafter described, said corner being at latitude 37°20'45", longitude 116°34'20";
 Thence easterly approximately 6.73 miles, to a point at latitude 37°20'45" longitude 116°27'00";
 Thence northeasterly approximately 4.94 miles to a point at latitude 37°23'07", longitude 116°22'30";

Thence easterly approximately 4.81 miles to a point at latitude 37°23'07", longitude 116°17'15";

Thence southeasterly approximately 6.77 miles to a point at latitude 37°19'47", longitude 116°11'10";

Thence southerly approximately 5.27 miles to a point at latitude 37°15'12.043", longitude 116°11'10";

Thence easterly approximately 14.21 miles to a point at latitude 37°15'07.268", longitude 115°55'42.268";

Thence southerly approximately 39.52 miles to a point at latitude 36°40'43.752", longitude 115°55'37.687";

Thence westerly approximately 2.87 miles to a point at latitude 36°40'40.227", longitude 115°58'43.956";

Thence southerly approximately 5.23 miles to a point at latitude 36°36'07.317", longitude 115°58'41.227";

Thence southwesterly along a perimeter distance approximately 5.82 miles to a point at latitude 36°34'39.754", longitude 116°04'11.167";

Thence northerly approximately 3.20 miles to a point at latitude 36°37'26.804", longitude 116°04'11.355";

Thence northwesterly approximately 5.16 miles to a point at latitude 36°40'28.854", longitude 116°08'17.749";

Thence westerly approximately 8.63 miles to a point at latitude 36°40'23.246", longitude 116°17'37.466";

Thence southerly approximately 0.19 mile to a point at latitude 36°40'13.330", longitude 116°17'37.461";

Thence westerly approximately 8.49 miles to a point at latitude 36°40'13.666", longitude 116°26'47.915";

Thence northerly approximately 32.87 miles to a point at latitude 37°08'50", longitude 116°26'44.125";

Thence northwesterly approximately 15.37 miles to a point at latitude 37°20'45", longitude 116°34'20", the point of beginning herein.

[41 FR 56788, Dec. 30, 1978, as amended at 44 FR 37939, June 29, 1979]

PART 862—RESTRICTIONS ON AIRCRAFT LANDING AND AIR DELIVERY AT DEPARTMENT OF ENERGY NUCLEAR SITES

- Sec.
- 862.1 Purpose.
- 862.2 Scope.
- 862.3 Definitions.
- 862.4 Prohibitions and penalties.
- 862.5 Procedures for removal of downed aircraft.
- 862.6 Voluntary minimum altitude.
- 862.7 Designation of sites.

§ 862.1

AUTHORITY: 42 U.S.C. 2201(b), 2201(i) and 2278(a).

SOURCE: 52 FR 29838, Aug. 12, 1987, unless otherwise noted.

§ 862.1 Purpose.

The purpose of this part is to set forth Department of Energy, hereinafter "DOE", security policy regarding aircraft and air delivery on nuclear sites under the jurisdiction of DOE pursuant to the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*).

§ 862.2 Scope.

(a) This part applies to all persons or aircraft entering or otherwise within or above areas within the boundaries of lands or waters subject to the jurisdiction, administration, or in the custody of the DOE at sites designated by DOE.

(b) This part is not applicable to:

(1) Aircraft operating pursuant to official business of the Federal Government;

(2) Aircraft over-flying or in the process of landing pursuant to official business of a state or local law enforcement authority with prior notification to DOE; or

(3) Aircraft in the process of landing on a DOE site due to circumstances beyond the control of the operator and with prior notification to DOE, if possible.

(c) Aircraft in paragraphs (b)(2) and (b)(3) of this section are within the scope of this part upon landing at a DOE designated site.

§ 862.3 Definitions.

(a) *Air delivery.* Delivering or retrieving a person or object by airborne means, including but not limited to, aircraft.

(b) *Aircraft.* A manned or unmanned device or any portion thereof, that is commonly used or intended to be used for flight in the air, including powerless flight. Such devices include but are not limited to any parachute, hovercraft, helicopter, glider, airplane or lighter than air vehicle.

(c) *Boundary.* A delineation on a map of Federal interest in land or water utilized by DOE pursuant to the Atomic Energy Act of 1954, as amended:

(1) Authorized by Congress, or

10 CFR Ch. III (1-1-98 Edition)

(2) Published pursuant to law in the FEDERAL REGISTER, or

(3) Filed or recorded with a State or political subdivision in accordance with applicable law.

(d) *Designated site.* An area of land or water identified in accordance with § 862.7 of this part.

(e) *Downed aircraft.* An aircraft that is on a designated site due to emergency landing or for any other reason.

(f) *Manager of Operations.* The Manager of a DOE Operations Office, the Manager of the Pittsburgh Naval Reactors Office, the Manager of the Schnectady Naval Reactors Office and, for designated sites administered directly by DOE Headquarters, the Director of the Office of Safeguards and Security.

§ 862.4 Prohibitions and penalties.

(a) The following activities are prohibited by this part:

(1) Operation or use of aircraft on lands or waters of designated sites.

(2) Air delivery to or from designated sites.

(3) Removal or movement of downed aircraft, or participation in the removal or movement of downed aircraft, from or on a designated site unless prior authorization is obtained pursuant to § 862.5 of this part.

(4) Failure to remove a downed aircraft from a designated site in accordance with an order issued by the cognizant DOE Manager of Operations under § 862.5 of this part.

(5) Violation of Federal Aviation Administration regulations regarding minimum altitudes and prohibited flight maneuvers over a designated site.

(b) A person willfully engaging in activities prohibited by this part may be subject to the imposition of criminal penalties set forth in sections 223 and 229 of the Atomic Energy Act, as amended (42 U.S.C. 2273 and 2278(a)).

§ 862.5 Procedures for removal of downed aircraft.

(a) An aircraft on or brought on to a designated site, except as provided in § 862.2 (b)(1), shall not be moved within or removed from such areas except as provided for in this section. All such aircraft are subject to full inspection

by DOE security personnel upon landing upon order of the Manager of Operations or his designee. Any attempt to depart or remove the aircraft from a designated site without clearance obtained pursuant to this section, may be assumed to be indicative of hostile intent by security forces at such sites.

(b)(1) The cognizant DOE Manager of Operations for a designated site may, on his own initiative, issue a written order to the owner or operator of a downed aircraft to require the removal of that aircraft from the site within 20 days of this notice. Such an order shall specify:

(i) The date upon which removal operations must be completed;

(ii) The times and means of access to and from the downed aircraft to be removed;

(iii) The manner of removal; and

(iv) An estimate of the cost of removal to DOE for which the owner or operator will be held liable if removal is accomplished by DOE.

(2) The owner or operator of the downed aircraft may file a written petition, supported by affidavits, to the cognizant Manager of Operations requesting that the order be modified or set aside. The petition may be granted by the Manager of Operations for good cause shown, upon a finding that it is clearly consistent with the national security, public safety, and federal property interests. Such petition must be filed at least 10 days prior to the date upon which removal is to be initiated, as specified in the order. The written decision of the Manager of Operations shall be a final agency action.

(c)(1) The owner of a downed aircraft may petition the cognizant Manager of Operations of permission to move or remove the downed aircraft from or within a designated site. The petition must provide assurances that the owner will fully compensate DOE for all costs incurred or damages experienced as a result of landing or removal through a contract for services. The Manager of Operations may, for good cause shown, waive part or all of the compensation which might otherwise be due DOE.

(2) The Manager of Operations may deny such petition in whole or part and prohibit removal of a downed aircraft upon finding that:

(i) The removal of a downed aircraft would create an unacceptable safety or security risk;

(ii) The removal of a downed aircraft would result in excessive resource loss of property damage or an unacceptable disruption of federal activities;

(iii) The removal of downed aircraft is impracticable or impossible;

(iv) The owner has failed to provide adequate assurances that all costs incurred or damages experienced by DOE due to landing or removal of aircraft will be fully paid immediately upon removal by the owner under a contract for services;

(v) An inspection of the aircraft has not been conducted by DOE security personnel.

(3) In the event that such petition is granted in whole or part, the cognizant Manager of Operations may issue an order, as set forth in (b)(1) (i) through (iv) of this section. In the event that a petition is denied in whole or part, the Manager of Operations shall issue a written decision which shall set forth the reasons for such denial.

(d) Failure to comply with an order issued by the Manager of Operations pursuant to this section is basis for DOE to consider the downed aircraft to be abandoned property. DOE may take whatever measures it deems necessary when it determines that downed aircraft is abandoned property.

(e) Notwithstanding paragraphs (b) and (c) of this section, the Manager of Operations may move or remove a downed aircraft from such an area upon oral or written notification to the owner or operator of such aircraft upon a finding that national security or operational requirements necessitate expedited movement or removal. The owner or operator may be held jointly and separately liable for all expenses incurred by DOE in the movement or removal of such aircraft. Such expenses shall be deemed to be incurred through an implied contract at law for services.

§ 862.6 Voluntary minimum altitude.

In addition to complying with all applicable FAA prohibitions or restrictions, aircraft are requested to maintain a minimum altitude of 2,000 feet above the terrain of a designated site.

Applicable FAA prohibitions or restrictions take precedence over this voluntary minimum altitude.

§ 862.7 Designation of sites.

(a) DOE shall designate sites covered by this part as deemed necessary, consistent with the national security and public safety, through notice in the FEDERAL REGISTER.

(b) This part shall be effective as to any facility, installation, or real property on publication in the FEDERAL REGISTER of the notice designating the site.

(c) Upon designation of a site, the cognizant Manager of Operations may inform the public of such designation through press release or posting of notice at airfields in the vicinity of the designated site.

PART 871—AIR TRANSPORTATION OF PLUTONIUM

Sec.

871.1 National security exemption.

871.2 Public health and safety exemption.

871.3 Records.

871.4 Limitation on redelegation of authority.

AUTHORITY: Pub. L. 94-187, 88 Stat. 1077, 1078 (42 U.S.C. 2391 et seq.); Energy Reorganization Act, Pub. L. 93-438, 88 Stat. 1233 (42 U.S.C. 5801 et seq.); secs. 2, 3, 91, 123, and 161 of the Atomic Energy Act of 1954, as amended.

SOURCE: 42 FR 48332, Sept. 23, 1977, unless otherwise noted.

§ 871.1 National security exemption.

(a) The following DOE air shipments of plutonium are considered as being made for the purposes of national security within the meaning of section 502(2) of Public Law 94-187:

(1) Shipments made in support of the development, production, testing, sampling, maintenance, repair, modification, or retirement of atomic weapons or devices;

(2) Shipments made pursuant to international agreements for cooperation for mutual defense purposes; and

(3) Shipments necessary to respond to an emergency situation involving a possible threat to the national security.

(b) The Managers of DOE's Albuquerque, San Francisco, Oak Ridge, Savannah River, and Nevada Operations Offices may authorize air shipments falling within paragraph (a)(1) of this section, on a case-by-case basis: *Provided*, That the matter falls within their respective scopes of responsibility and that they determine such shipment is required to be made by aircraft either because:

(1) The delay resulting from using ground transportation methods would have serious adverse impact upon a national security requirement;

(2) Safeguards or safety considerations dictate the use of air transportation;

(3) The nature of the item to be shipped necessitates the use of air transportation in order to avoid possible damage which may be expected from other available transportation environments; or

(4) The nature of the item being shipped necessitates rapid shipment by air in order to preserve the chemical, physical, or isotopic properties of the item.

They may also authorize air shipments falling within paragraph (a)(2) of this section in all cases since the inherent time delays of surface transportation for such shipments are considered unacceptable. They may also authorize air shipments falling within paragraph (a)(3) of this section in cases where failure to make shipments by air could jeopardize the national security of the United States.

§ 871.2 Public health and safety exemption.

The Managers of DOE's Albuquerque, San Francisco, Oak Ridge, Savannah River, Nevada, Chicago, Idaho, and Richland Operations Offices may authorize, on a case-by-case basis, DOE air shipments of plutonium where they determine that rapid shipment by air is required to respond to an emergency situation involving possible loss of life, serious personal injuries, considerable property damage, or other significant threat to the public health and safety.

§ 871.3 Records.

Determinations made by the authorizing officials pursuant to these rules

shall be matters of record. Such authorizations shall be reported to the Assistant Administrator for National Security within twenty-four hours after authorization is granted.

§871.4 Limitation on redelegation of authority.

The authority delegated in this part may not be redelegated without the prior approval of the Assistant Administrator for National Security.

PART 903—POWER AND TRANSMISSION RATES

Subpart A—Procedures for Public Participation in Power and Transmission Rate Adjustments and Extensions for the Alaska, Southeastern, Southwestern, and Western Area Power Administrations

Sec.

- 903.1 Purpose and scope; application.
- 903.2 Definitions.
- 903.11 Advance announcement of rate adjustment.
- 903.13 Notice of proposed rates.
- 903.14 Consultation and comment period.
- 903.15 Public information forums.
- 903.16 Public comment forums.
- 903.17 Informal public meetings for minor rate adjustments.
- 903.18 Revision of proposed rates.
- 903.21 Completion of rate development; provisional rates.
- 903.22 Final rate approval.
- 903.23 Rate extensions.

AUTHORITY: Secs. 301(b), 302(a), and 644 of Department of Energy Organization Act, Pub. L. 95-91 (42 U.S.C. 7101 *et seq.*); sec. 5 of the Flood Control Act of 1944 (16 U.S.C. 825s); the Reclamation Act of 1902 (43 U.S.C. 372 *et seq.*), as amended and supplemented by subsequent enactments, particularly sec. 9(c) of the Reclamation Project Act of 1939 (43 U.S.C. 485h(c)); and the Acts specifically applicable to individual projects or power systems.

SOURCE: 50 FR 37837, Sept. 18, 1985, unless otherwise noted.

Subpart A—Procedures for Public Participation in Power and Transmission Rate Adjustments and Extensions for the Alaska, Southeastern, Southwestern, and Western Area Power Administrations

§ 903.1 Purpose and scope; application.

(a) Except as otherwise provided herein, these regulations establish procedures for the development of power and transmission rates by the Administrators of the Alaska, Southeastern, Southwestern, and Western Area Power Administrations; for the providing of opportunities for interested members of the public to participate in the development of such rates; for the confirmation, approval, and placement in effect on an interim basis by the Deputy Secretary of the Department of Energy of such rates; and for the submission of such rates to the Federal Energy Regulatory Commission with or without prior interim approval. These regulations supplement Delegation Order No. 0204-108 of the Secretary of Energy, which was published in the FEDERAL REGISTER and became effective on December 14, 1983 (48 FR 55664), with respect to the activities of the Deputy Secretary and the Administrators.

(b) These procedures shall apply to all power and transmission rate adjustment proceedings for the Power Marketing Administrations (PMAs) which are commenced after these regulations become effective or were in process on the effective date of these regulations, but for which the FERC had not issued any substantive orders on or before December 14, 1983. These procedures supersede "Procedures for Public Participation in Power and Transmission Rate Adjustments and Extensions for the Alaska, Southeastern, Southwestern, and Western Area Power Administrations" published in 45 FR 86983 (December 31, 1980) and amended at 46 FR 6864 (January 22, 1981) and 46 FR 25427 (May 7, 1981).

(c) Except to the extent deemed appropriate by the Administrator in accordance with applicable law, these procedures do not apply to rates for short term sales of capacity, energy, or transmission service.

[50 FR 37837, Sept. 18, 1985; 50 FR 48075, Nov. 21, 1985]

§ 903.2 Definitions.

As used herein—

(a) *Administrator* means the Administrator of the PMA whose rate is involved in the rate adjustment, or anyone acting in such capacity.

(b) *Department* means the Department of Energy, including the PMAs but excluding the Federal Energy Regulatory Commission.

(c) *Deputy Secretary* means the Deputy Secretary of the Department of Energy, or anyone acting in such capacity.

(d) *FERC* means the Federal Energy Regulatory Commission.

(e) *Major rate adjustment* means a rate adjustment other than a minor rate adjustment.

(f) *Minor rate adjustment* means a rate adjustment which (1) will produce less than 1 percent change in the annual revenues of the power system or (2) is for a power system which has either annual sales normally less than 100 million kilowatt hours or an installed capacity of less than 20,000 kilowatts.

(g) *Notice* means the statement which informs customers and the general public of Proposed Rates or proposed rate extensions, opportunities for consultation and comment, and public forums. The Notice shall be by and effective on the date of publication in the FEDERAL REGISTER. Whenever a time period is provided, the date of publication in the FEDERAL REGISTER shall determine the commencement of the time period, unless otherwise provided in the Notice. The Notice shall include the name, address, and telephone number of the person to contact if participation or further information is sought.

(h) *Power Marketing Administration or PMA* means the Alaska Power Administration, Southeastern Power Administration, Southwestern Power Administration, or Western Area Power Administration.

(i) *Power system* means a powerplant or a group of powerplants and related facilities, including transmission facilities, or a transmission system, that the PMA treats as one unit for the purposes of establishing rates and demonstrating repayment.

(j) *Proposed Rate* means a rate revision or a rate for a new service which is under consideration by the Department on which public comment is invited.

(k) *Provisional Rate* means a rate which has been confirmed, approved, and placed in effect on an interim basis by the Deputy Secretary.

(l) *Rate* means the monetary charge or the formula for computing such a charge for any electric service provided by the PMA, including but not limited to charges for capacity (or demand), energy, or transmission service; however, it does not include leasing fees, service facility charges, or other types of facility use charges. A rate may be set forth in a rate schedule or in a contract.

(m) *Rate adjustment* means a change in an existing rate or rates, or the establishment of a rate or rates for a new service. It does not include a change in rate schedule provisions or in contract terms, other than changes in the price per unit of service, nor does it include changes in the monetary charge pursuant to a formula stated in a rate schedule or a contract.

(n) *Rate schedule* means a document identified as a “rate schedule,” “schedule of rates,” or “schedule rate” which designates the rate or rates applicable to a class of service specified therein and may contain other terms and conditions relating to the service.

(o) *Short term sales* means sales that last for no longer than one year.

(p) *Substitute Rate* means a rate which has been developed in place of the rate that was disapproved by the FERC.

[50 FR 37837, Sept. 18, 1985; 50 FR 48075, Nov. 21, 1985]

§ 903.11 Advance announcement of rate adjustment.

The Administrator may announce that the development of rates for a new service or revised rates for an existing

Department of Energy

§ 903.15

service is under consideration. The announcement shall contain pertinent information relevant to the rate adjustment. The announcement may be through direct contact with customers, at public meetings, by press release, by newspaper advertisement, and/or by FEDERAL REGISTER publication. Written comments relevant to rate policy and design and to the rate adjustment process may be submitted by interested parties in response to the announcement. Any comments received shall be considered in the development of Proposed Rates.

§ 903.13 Notice of proposed rates.

(a) The Administrator shall give Notice that Proposed Rates have been prepared and are under consideration. The Notice shall include:

- (1) The Proposed Rates;
- (2) An explanation of the need for and derivation of the Proposed Rates;
- (3) The locations at which data, studies, reports, or other documents used in developing the Proposed Rates are available for inspection and/or copying;
- (4) The dates, times, and locations of any initially scheduled public forums; and
- (5) Address to which written comments relative to the Proposed Rates and requests to be informed of FERC actions concerning the rates may be submitted.

(b) Upon request, customers of the power system and other interested persons will be provided with copies of the principal documents used in developing the Proposed Rates.

§ 903.14 Consultation and comment period.

All interested persons will have the opportunity to consult with and obtain information from the PMA, to examine backup data, and to make suggestions for modification of the Proposed Rates for a period ending (a) 90 days in the case of major rate adjustments, or 30 days in the case of minor rate adjustments, after the Notice of Proposed Rates is published in the FEDERAL REGISTER, except that such periods may be shortened for good cause shown; (b) 15 days after any answer which may be provided pursuant to § 903.15(b) hereof; (c) 15 days after the close of the last

public forum; or (d) such other time as the Administrator may designate; whichever is later. At anytime during this period, interested persons may submit written comments to the PMA regarding the Proposed Rates. The Administrator may also provide additional time for the submission of written rebuttal comments. All written comments shall be available at a designated location for inspection, and copies also will be furnished on request for which the Administrator may assess a fee. Prior to the action described in § 903.21, the Administrator may, by appropriate announcement postpone any procedural date or make other procedural changes for good cause shown at the request of any party or on the Administrator's own motion. The Administrator shall maintain, and distribute on request, a list of interested persons.

§ 903.15 Public information forums.

(a) One or more public information forums shall be held for major rate adjustments, except as otherwise provided in paragraph (c) of this section, and may be held for minor adjustments, to explain, and to answer questions concerning, the Proposed Rates and the basis of and justification for proposing such rates. The number, dates, and locations of such forums will be determined by the Administrator in accordance with the anticipated or demonstrated interest in the Proposed Rates. Notice shall be given in advance of such forums. A public information forum may be combined with a public comment forum held in accordance with § 903.16.

(b) The Administrator shall appoint a forum chairperson. Questions raised at the forum concerning the Proposed Rates and the studies shall be answered by PMA representatives at the forum, at a subsequent forum, or in writing at least 15 days before the end of the consultation and comment period. However, questions that involve voluminous data contained in the PMA records may be answered by providing an opportunity for consultation and for a review of the records at the PMA offices. As a minimum, the proceedings of the forum held at the principal location shall be transcribed. Copies of all

documents introduced, and of questions and written answers shall be available at a designated location for inspection and copies will be furnished by the Administrator on request, for which a fee may be assessed. Copies of the transcript may be obtained from the transcribing service.

(c) No public information forum need be held for major rate adjustments if, after the Administrator has given Notice of a scheduled forum, no person indicates in writing by a prescribed date an intent to appear at such public forum.

§ 903.16 Public comment forums.

(a) One or more public comment forums shall be held for major rate adjustments, except as otherwise provided in paragraph (c) of this section, and may be held for minor rate adjustments, to provide interested persons an opportunity for oral presentation of views, data, and arguments regarding the Proposed Rates. The number, dates, and locations of such forums will be determined by the Administrator in accordance with the anticipated or demonstrated interest in the Proposed Rates. Notice shall be given at least 30 days in advance of the first public comment forum at each location and shall include the purpose, date, time, place, and other information relative to the forum, as well as the locations where pertinent documents are available for examination and/or copying.

(b) The Administrator shall designate a forum chairperson. At the forum, PMA representatives may question those persons making oral statements and comments. The chairperson shall have discretion to establish the sequence of, and the time limits for, oral presentations and to determine if the comments are relevant and noncumulative. Forum proceedings shall be transcribed. Copies of all documents introduced shall be available at a designated location for inspection, and copies shall be furnished on request for which the Administrator may assess a fee. Copies of the transcript may be obtained from the transcribing service.

(c) No public comment forum need be held for major rate adjustments if, after the Administrator has given notice of a scheduled forum, no person in-

dicates in writing by a prescribed date an intent to appear at such public forum.

§ 903.17 Informal public meetings for minor rate adjustments.

In lieu of public information or comment forums in conjunction with a minor rate adjustment, informal public meetings may be held if deemed appropriate by the Administrator. Such informal meetings will not require a Notice or a transcription.

§ 903.18 Revision of proposed rates.

During or after the consultation and comment period and review of the oral and written comments on the Proposed Rates, the Administrator may revise the Proposed Rates. If the Administrator determines that further public comment should be invited, the Administrator shall afford interested persons an appropriate period to submit further written comments to the PMA regarding the revised Proposed Rates. The Administrator may convene one or more additional public information and/or public comment forums. The Administrator shall give Notice of any such additional forums.

§ 903.21 Completion of rate development; provisional rates.

(a) Following completion of the consultation and comment period and review of any oral and written comments on the Proposed Rates, the Administrator may: (1) Withdraw the proposal; (2) develop rates which in the Administrator's and the Deputy Secretary's judgment should be confirmed, approved, and placed into effect on an interim basis (Provisional Rates); or (3) develop rates which in the Administrator's judgment should be confirmed, approved, and placed into effect by the FERC on a final basis without being placed into effect on an interim basis. A statement shall be prepared and made available to the public setting forth the principal factors on which the Deputy Secretary's or the Administrator's decision was based. The statement shall include an explanation responding to the major comments, criticisms, and alternatives offered during the comment period. The Administrator shall certify that the rates are

consistent with applicable law and that they are the lowest possible rates to customers consistent with sound business principles. The rates shall be submitted promptly to the FERC for confirmation and approval on a final basis.

(b) The Deputy Secretary shall set the effective date for Provisional Rates. The effective date shall be at least 30 days after the Deputy Secretary's decision except that the effective date may be sooner when appropriate to meet a contract deadline, to avoid financial difficulties, to provide a rate for a new service, or to make a minor rate adjustment.

(c) The effective date may be adjusted by the Administrator to coincide with the beginning of the next billing period following the effective date set by the Deputy Secretary for the Provisional Rates.

(d) Provisional Rates shall remain in effect on an interim basis until: (1) They are confirmed and approved on a final basis by the FERC; (2) they are disapproved and the rates last previously confirmed and approved on a final basis become effective; (3) they are disapproved and higher Substitute Rates are confirmed and approved on a final basis and placed in effect by the FERC; (4) they are disapproved and lower Substitute Rates are confirmed and approved on a final basis by the FERC; or (5) they are superseded by other Provisional Rates placed in effect by the Deputy Secretary, whichever occurs first.

§ 903.22 Final rate approval.

(a) Any rate submitted to the FERC for confirmation and approval on a final basis shall be accompanied with such supporting data, studies, and documents as the FERC may require, and also with the transcripts of forums, written answers to questions, written comments, the Administrator's certification, and the statement of principal factors leading to the decision. The FERC shall also be furnished a listing of those customers and other participants in the rate proceeding who have requested they be informed of FERC action concerning the rates.

(b) If the FERC confirms and approves Provisional Rates on a final basis, such confirmation and approval

shall be effective as of the date such rates were placed in effect by the Deputy Secretary, as such date may have been adjusted by the Administrator. If the FERC confirms and approves on a final basis rates submitted by the Administrator without interim approval, such confirmation and approval shall be effective on a date set by the FERC.

(c) If the FERC disapproves Provisional Rates or other submitted rates, the Administrator shall develop Substitute Rates which take into consideration the reasons given by the FERC for its disapproval. If, in the Administrator's judgment, public comment should be invited upon proposed Substitute Rates, the Administrator may provide for a public consultation and comment period before submitting the Substitute Rates. Whether or not such public consultation and comment periods are provided, the Administrator will, upon request, provide customers of the power system and other interested persons with copies of the principal documents used in the development of the Substitute Rates. Within 120 days of the date of FERC disapproval of submitted rates, including Substitute Rates, or such additional time periods as the FERC may provide, the Administrator will submit the Substitute Rates to the FERC. A statement explaining the Administrator's decision shall accompany the submission.

(d) A Provisional Rate that is disapproved by the FERC shall remain in effect until higher or lower rates are confirmed and approved by the FERC on a final basis or are superseded by other rates placed into effect by the Deputy Secretary on an interim basis: Provided, That if the Administrator does not file a Substitute Rate within 120 days of the disapproval or such greater time as the FERC may provide, and if the rate has been disapproved because the FERC determined that it would result in total revenues in excess of those required by law, the rate last previously confirmed and approved on a final basis will become effective on a date and for a period determined by the FERC and revenues collected in excess of such rate during such period will be refunded in accordance with paragraph (g) of this section.

(e) If a Substitute Rate confirmed and approved on a final basis by the FERC is higher than the provisional rate which was disapproved, the Substitute Rate shall become effective on a subsequent date set by the FERC, unless a subsequent Provisional Rate even higher than the Substitute Rate has been put into effect. FERC confirmation and approval of the higher Substitute Rate shall constitute final confirmation and approval of the lower disapproved Provisional Rate during the interim period that it was in effect.

(f) If a Substitute Rate confirmed and approved by the FERC on a final basis is lower than the disapproved provisional rate, such lower rate shall be effective as of the date the higher disapproved rate was placed in effect.

(g) Any overpayment shall be refunded with interest unless the FERC determines that the administrative cost of a refund would exceed the amount to be refunded, in which case no refund will be required. The interest rate applicable to any refund will be determined by the FERC.

(h) A rate confirmed and approved by the FERC on a final basis shall remain in effect for such period or periods as the FERC may provide or until a different rate is confirmed, approved and placed in effect on an interim or final basis: *Provided*, That the Deputy Secretary may extend a rate on an interim basis beyond the period specified by the FERC.

§ 903.23 Rate extensions.

(a) The following regulations shall apply to the extension of rates which were previously confirmed and approved by the FERC or the Federal Power Commission, or established by the Secretary of the Interior, and for which no adjustment is contemplated:

(1) The Administrator shall give Notice of the proposed extension at least 30 days before the expiration of the prior confirmation and approval, except that such period may be shortened for good cause shown.

(2) The Administrator may allow for consultation and comment, as provided in these procedures, for such period as the Administrator may provide. One or more public information and comment forums may be held, as provided in

these procedures, at such times and locations and with such advance Notice as the Administrator may provide.

(3) Following notice of the proposed extension and the conclusion of any consultation and comment period, the Deputy Secretary may extend the rates on an interim basis.

(b) Provisional Rates and other existing rates may be extended on a temporary basis by the Deputy Secretary without advance notice or comment pending further action pursuant to these regulations or by the FERC. The Deputy Secretary shall publish notice in the FEDERAL REGISTER of such extension and shall promptly advise the FERC of the extension.

PART 904—GENERAL REGULATIONS FOR THE CHARGES FOR THE SALE OF POWER FROM THE BOULDER CANYON PROJECT

Subpart A—Power Marketing

- Sec.
- 904.1 Purpose.
- 904.2 Scope.
- 904.3 Definitions.
- 904.4 Marketing responsibilities.
- 904.5 Revenue requirements.
- 904.6 Charge for capacity and firm energy.
- 904.7 Base charge.
- 904.8 Lower basin development fund contribution charge.
- 904.9 Excess capacity.
- 904.10 Excess energy.
- 904.11 Lay off of energy.
- 904.12 Payments to contractors.
- 904.13 Disputes.
- 904.14 Future regulations.

AUTHORITY: Reclamation Act of 1902 (32 Stat. 388); Boulder Canyon Project Act of 1928 (43 U.S.C. 617 *et seq.*); Boulder Canyon Project Adjustment Act of 1940 (43 U.S.C. 618 *et seq.*); Department of Energy Organization Act (42 U.S.C. 7101 *et seq.*); Colorado River Storage Project Act of 1956 (43 U.S.C. 620 *et seq.*); Colorado River Basin Project Act of 1968 (43 U.S.C. 1501 *et seq.*); and Hoover Power Plant Act of 1984 (98 Stat. 1333 (43 U.S.C. 619 *et seq.*)).

SOURCE: 51 FR 43154, Nov. 28, 1986, unless otherwise noted.

Subpart A—Power Marketing

§ 904.1 Purpose.

(a) The Secretary of Energy, acting by and through the Administrator of

the Western Area Power Administration (Administrator), is authorized and directed to promulgate charges for the sale of power generated at the Boulder Canyon Project powerplant, and also to promulgate such general regulations as the Secretary finds necessary and appropriate in accordance with the power marketing authorities in the Reclamation Act of 1902 (32 Stat. 388) and all acts amendatory thereof and supplementary thereto, and the Department of Energy Organization Act (42 U.S.C. 7101 *et seq.*).

(b) In accordance with the Boulder Canyon Project Act of 1928 (43 U.S.C. 617 *et seq.*), as amended and supplemented (Project Act); the Boulder Canyon Project Adjustment Act of 1940 (43 U.S.C. 618 *et seq.*), as amended and supplemented (Adjustment Act); the Department of Energy Organization Act (42 U.S.C. 7101 *et seq.*); and the Hoover Power Plant Act of 1984 (98 Stat. 1333 (43 U.S.C. 619 *et seq.*)) (Hoover Power Plant Act); the Western Area Power Administration (Western) promulgates these General Regulations for the Charges for the Sale of Power From the Boulder Canyon Project (General Regulations) defining the methodology to be used in the computation of the charges for the sale of power from the Boulder Canyon Project.

§904.2 Scope.

These General Regulations are effective June 1, 1987, and shall apply as the basis for computation of all charges applicable to any sale of power from the Boulder Canyon Project after May 31, 1987. "General Regulations for Power Generation, Operation, Maintenance, and Replacement at the Boulder Canyon Project, Arizona/Nevada" are the subject of a separate rulemaking of the Department of the Interior under 43 CFR part 431. The "General Regulations for Generation and Sale of Power in Accordance with the Boulder Canyon Project Adjustment Act" (1941 General Regulations) dated May 20, 1941, and the "General Regulations for Lease of Power" dated April 25, 1930, terminate May 31, 1987.

§904.3 Definitions.

The following terms wherever used herein shall have the following meanings:

(a) *Billing Period* shall mean the service period beginning on the first day and extending through the last day of any calendar month.

(b) *Boulder City Area Projects* shall mean the Boulder Canyon Project, the Parker-Davis Project, and the United States entitlement in the Navajo Generating Station (a feature of the Central Arizona Project).

(c) *Capacity* shall mean the aggregate of contingent capacity specified in section 105(a)(1)(A) and the contingent capacity specified in section 105(A)(1)(B) of the Hoover Power Plant Act (43 U.S.C. 619).

(d) *Central Arizona Project* shall mean those works as described in section 1521(a) of the Colorado River Basin Project Act of 1968 (43 U.S.C. 1501 *et seq.*), as amended.

(e) *Colorado River Dam Fund* or *Fund* shall mean that special fund established by section 2 of the Project Act and which is to be used only for the purposes specified in the Project Act, the Adjustment Act, the Colorado River Basin Project Act of 1968, and the Hoover Power Plant Act.

(f) *Contract* shall mean any contract for the sale of Boulder Canyon Project capacity and energy for delivery after May 31, 1987, between Western and any contractor.

(g) *Contractor* shall mean the entities entering into contracts with Western for electric service pursuant to the Hoover Power Plant Act.

(h) *Excess Capacity* shall mean capacity which is in excess of the lesser of: (1) Capacity that Hoover Powerplant is capable of generating with all units in service at a net effective head of 498 feet, or (2) 1,951,000 kW.

(i) *Excess Energy* shall mean energy obligated from the Project pursuant to section 105(a)(1)(C) of the Hoover Power Plant Act (43 U.S.C. 619).

(j) *Firm Energy* shall mean energy obligated from the Project pursuant to section 105(a)(1)(A) and section 105(a)(1)(B) of the Hoover Power Plant Act (43 U.S.C. 619).

(k) *Overruns* shall mean the use of capacity or energy, without the approval of Western, in amounts greater than Western's contract delivery obligation in effect for each type of service provided for in the Contract.

(l) *Project or Boulder Canyon Project* shall mean all works authorized by the Project Act, the Hoover Power Plant Act, and any future additions authorized by Congress, to be constructed and owned by the United States, but exclusive of the main canal and appurtenances authorized by the Project Act, now known as the All-American Canal.

(m) *Replacements* shall mean such work, materials, equipment, or facilities as determined by the United States to be necessary to keep the Project in good operating condition, but shall not include (except where used in conjunction with the word "emergency" or the phrase "however necessitated") work, materials, equipment, or facilities made necessary by any act of God, or of the public enemy, or by any major catastrophe.

(n) *Upgrading Program* shall mean the program authorized by section 101(a) of the Hoover Power Plant Act (43 U.S.C. 619(a)) for increasing the capacity of existing generating equipment and appurtenances at the Hoover Powerplant, as generally described in the report of the Department of the Interior, Bureau of Reclamation, entitled "Hoover Powerplant Upgrading, Special Report," issued in May 1980, as supplemented in the report entitled, "January 1985 Supplement (revised September 1985) to Hoover Powerplant Upgrading, Special Report-May 1980."

§ 904.4 Marketing responsibilities.

(a) Capacity and energy available from the Project will be marketed by Western under terms of the Conformed General Consolidated Power Marketing Criteria or Regulations for Boulder City Area Projects (Conformed Criteria) published in the FEDERAL REGISTER (49 FR 50582) on December 28, 1984. Western shall dispose of capacity and energy from the Project in accordance with section 105(a)(1) of the Hoover Power Plant Act (43 U.S.C. 619(a)(1)), these General Regulations,

and the Contracts between the Contractors and Western.

(b) Procedures for the scheduling and delivery of capacity and energy shall be provided for in the Contracts between the Contractors and Western.

§ 904.5 Revenue requirements.

(a) Western shall collect all electric service revenues from the Project in accordance with applicable statutes and regulations and deposit such revenues into the Colorado River Dam Fund. All receipts from the Project shall be available for payment of the costs and financial obligations associated with the Project. The Secretary of the Interior is responsible for the administration of the Colorado River Dam Fund.

(b) The electric service revenue of the Project shall be collected through a charge, computed to be sufficient, together with other net revenues from the Project, to recover the following costs and financial obligations associated with the Project over the appropriate repayment periods set out in paragraph (c) of this section:

(1) Annual costs of operation and maintenance;

(2) Annual interest on unpaid investments in accordance with appropriate statutory authorities;

(3) Annual repayment of funds, and all reasonable costs incurred in obtaining such funds, advanced by non-Federal Contractors to the Secretary of the Interior for the Upgrading Program;

(4) The annual payment of \$300,000 to each of the States of Arizona and Nevada provided for in section 618(c) of the Adjustment Act and section 1543(c)(2) of the Colorado River Basin Project Act (43 U.S.C. 1501 *et seq.*) (Basin Act), as amended or supplemented;

(5) Capital costs of investments and Replacements, including amounts re-advanced from the United States Treasury (Treasury);

(6) Repayment to the Treasury of the advances to the Colorado River Dam Fund for the Project made prior to May 31, 1987, for which payment was deferred because of a deficiency in firm energy generation due to a shortage of

Department of Energy

§ 904.5

available water, as provided for in article 14(a) of the 1941 General Regulations and section 8 of the Boulder City Act of 1958 (72 Stat. 1726), as shown on the books of accounts of Reclamation as of May 31, 1987;

(7) Repayment to the Treasury of the first \$25,000,000 of advances made to the Colorado River Dam Fund deemed to be allocated to flood control by section 617a(b) of the Project Act as provided by section 618f of the Adjustment Act; and

(8) Any other financial obligations of the Project imposed in accordance with law.

(c) The Project repayment period shall extend to the final year allowed under applicable cost recovery criteria. The revenue for the costs and financial obligations set out in paragraph (b) of this section shall be collected over the following repayment periods:

(1) The repayment period for advances made to the Colorado River Dam Fund from funds advanced to the Secretary of the Interior by non-Federal entities for the Uprating Program and associated work shall be the period commencing with the first day of the month following completion of each segment of the Uprating Program, or June 1, 1987, whichever is later, and ending September 30, 2017;

(2) The repayment period for the payments to the Treasury of the advances to the Colorado River Dam Fund for the Project which were payable prior to May 31, 1987, but which were deferred pursuant to article 14(a) of the 1941 General Regulations and section 8 of the Boulder City Act of 1958, shall be the power contract period beginning June 1, 1987, and ending September 30, 2017. Such repayment period is based on a 50-year repayment period beginning June 1, 1937, adjusted for the periods the initial payments were deferred;

(3) The repayment period for the payment to the Treasury of the first \$25,000,000 of advances made to the Colorado River Dam Fund deemed to be allocated to flood control by section 617a(b) of the Project Act and deferred by section 618(f) of the Adjustment Act shall be the 50-year period beginning June 1, 1987;

(4) The repayment period for advances to the Colorado River Dam

Fund for the Project made on or after June 1, 1937, and prior to June 1, 1987, shall be the 50-year period beginning June 1 immediately following the year of operation in which the funds were advanced;

(5) The repayment period for investments, other than for the visitor facilities authorized by section 101(a) of the Hoover Power Plant Act (43 U.S.C. 619(a)), made from Federal appropriations on or after June 1, 1987, shall be a 50-year period beginning with the first day of the fiscal year following the fiscal year the investment is placed in service; and

(6) The repayment period for the visitor facilities authorized by section 101(a) of the Hoover Power Plant Act (43 U.S.C. 619(a)) shall be the 50-year period beginning June 1, 1987, or when substantially completed, as determined by the Secretary of the Interior, if later.

(d) Annual costs for operation and maintenance and payments to States as set out in paragraph (b) of this section shall be collected as long as revenues accrue from the operation of the Project.

(e) Surplus revenues will also be collected for transfer from the Colorado River Dam Fund for contribution to the Lower Colorado River Basin Development Fund pursuant to section 1543(c)(2) of the Basin Act as amended by the Hoover Power Plant Act to provide revenue for the purposes of sections 1543(f) and 1543(g) of the Basin Act.

(f) All annual costs will be calculated based on a Federal fiscal year. To accommodate the transition from the pre-1987 operating year of June 1 to May 31 to a fiscal year, there will be a 4-month transition period beginning June 1, 1987, and ending September 30, 1987.

(g) If integrated operation of the Boulder Canyon Project with other Boulder City Area Projects and other Federal projects on the Colorado River, as provided in §904.9 of these General Regulations, confers a direct power benefit upon such other Boulder City Area Projects and such other Federal projects, or if a direct power benefit is conferred by other Boulder City Area Projects or other Federal projects on

the Colorado River upon the Boulder Canyon Project, Western shall equitably apportion such benefits and appropriate charges among the Boulder Canyon Project, other Boulder City Area Projects, and other Federal projects on the Colorado River.

§904.6 Charge for capacity and firm energy.

The charge for Capacity and Firm Energy from the Project shall be composed of two separate charges; a charge to provide for the basic revenue requirements, as identified in paragraphs (b), (c), and (d) of §904.5 of these General Regulations (Base Charge), and a charge to provide the surplus revenue for the Lower Colorado River Basin Development Fund contribution, as identified in paragraph (e) of §904.5 of these General Regulations (Lower Basin Development Fund Contribution Charge).

§904.7 Base charge.

(a) The Base Charge shall be developed by the Administrator and promulgated in accordance with appropriate DOE regulations. The Base Charge shall be composed of a capacity component and an energy component.

(b) The capacity component of the Base Charge shall be a dollar per kilowattmonth amount determined by (1) multiplying the estimated average annual revenue requirement developed pursuant to paragraphs (b), (c), and (d) of §904.5 of these General Regulations by 50 percent, and (2) dividing the results of that multiplication by the estimated average annual kW rating of the Project, and (3) dividing the quotient by 12. The total estimated kW rating will be based on the powerplant output capability with all units in service at 498 feet of net effective head or 1,951,000 kW, whichever is less. The capacity component of the Base Charge shall be applied each billing period to each kW of rated output to which each Contractor is entitled by Contract. Adjustments to the application of the capacity component shall be made during outages which cause significant reductions in capacity as provided by the Contract.

(c) The energy component of the Base Charge shall be a mills per kWh amount determined by (1) multiplying

the estimated average annual revenue requirements developed pursuant to paragraphs (b), (c), and (d) of §904.5 of these General Regulations by 50 percent and (2) dividing the results of that multiplication by the average annual kWh estimated to be available from the Project. The energy component of the Base Charge shall be applied to each kWh made available to each Contractor, as provided for by Contract, except for the energy purchased by Western, at the request of a Contractor, to meet that Contractor's deficiency in Firm Energy pursuant to section 105(a)(2) of the Hoover Power Plant Act (43 U.S.C. 619(a)(2)) and section F of the Conformed Criteria, and that Contractor's Uprating Program credit carry forward, as provided by Contract.

(d) Application of the Base Charge to capacity and energy overruns will be provided for by Contract. The capacity component and the energy component of the Base Charge shall be applied each billing period for each Contractor.

(e) The Base Charge shall be reviewed annually. The Base Charge shall be adjusted either upward or downward, when necessary and administratively feasible, to assure sufficient revenues to effect payment of all costs and financial obligations associated with the Project pursuant to paragraphs (b), (c), and (d) of §904.5 of these General Regulations. The Administrator shall provide all Contractors an opportunity to comment on any proposed adjustment to the Base Charge pursuant to the DOE's power rate adjustment procedures then in effect.

§904.8 Lower basin development fund contribution charge.

(a) The Lower Basin Development Fund Contribution Charge will be developed by the Administrator of Western on the basis that the equivalent of 4½ mills or 2½ mills per kWh, as appropriate, required to be included in the rates charged to purchasers pursuant to section 1543(c)(2) of the Basin Act, as amended by the Hoover Power Plant Act, shall be collected from the energy sales of the Project.

(b) The Lower Basin Development Fund Contribution Charge shall be applied to each kWh made available to

Department of Energy

§ 904.11

each Contractor, as provided for by Contract, except for the energy purchased by Western at the request of a Contractor to meet:

(1) That Contractor's deficiency in Firm Energy, pursuant to section 105(a)(2) of the Hoover Power Plant Act (43 U.S.C. 619(a)(2)) and section F of the Conformed Criteria; and

(2) That Contractor's Upgrading Program credit carry forward as provided by Contract. A 4½ mills per kWh charge shall be applied to each kWh made available to an Arizona Contractor, and a 2½ mills per kWh charge shall be applied to each kWh made available to a California or Nevada Contractor; provided, that after the repayment period of the Central Arizona Project, a 2½ mills per kWh charge shall be applied to each kWh made available to the Arizona, California, and Nevada Contractors. The Lower Basin Development Fund Contribution Charge shall be applied to energy overruns. The Lower Basin Development Fund Contribution Charge shall be applied each billing period for each Contractor.

§ 904.9 Excess capacity.

(a) If the Upgrading Program results in Excess Capacity, Western shall be entitled to such Excess Capacity to integrate the operation of the Boulder City Area Projects and other Federal Projects on the Colorado River. Specific criteria for the use of Excess Capacity by Western will be provided by Contract. All Excess Capacity not required by Western for the purposes specified by Contract will be available to all Contractors at no additional cost on a pro rata basis based on the ratio of each Contractor's Capacity allocation to the total Capacity allocation.

(b) Credits for benefits resulting from project integration shall be determined by Western and such benefits shall be apportioned in accordance with paragraph (9) of § 904.5 of these General Regulations.

§ 904.10 Excess energy.

(a) If excess Energy is determined by the United States to be available, it shall be made available to the Contractors, in accordance with the priority entitlement of section 105(a)(1)(C) of

the Hoover Power Plant Act (43 U.S.C. 619(a)(1)(c)). After the annual first- and second-priority entitlement to excess energy has been obligated for delivery, Western will make available one-third of the third-priority excess energy to the Arizona Power Authority, one-third to the Colorado River Commission of Nevada, and one-third to the California Contractors.

(b) Western will make available third-priority excess energy to the California Contractors based on the following formula:

$F = \frac{1}{2} (A/B + C/D)$ (E); Where:

A=Contractor's allocated Capacity

B=Total California allocated Capacity

C=Contractor's allocated Firm Energy

D=Total California allocated Firm Energy

E=Third-priority Excess Energy available to California

F=Contractor's third-priority Excess Energy

(c) The charge for all Excess Energy shall be the charge for Boulder Canyon Project Firm Energy existing at the time the Excess Energy is made available to the Contractor, including the appropriate Lower Basin Development Fund Contribution Charge.

§ 904.11 Lay off of energy.

(a) If any Contractor determines that it is temporarily unable to utilize Firm Energy or Excess Energy, Western will, at the Contractor's request, attempt to lay off the Firm Energy or Excess Energy the Contractor declares to be available for lay off, pursuant to the provisions for lay off of energy specified in the Contract.

(b) If Western is unable to lay off such energy, or if the Contractor fails to request Western to attempt to lay off the energy, the Contractor will be billed for the Firm Energy or Excess Energy that was available to the Contractor but could not be delivered to the Contractor or sold to another customer.

(c) In the event that Western must lay off the Firm Energy or Excess Energy at a rate lower than the effective Firm Energy rate, the Contractor will be billed for the difference between the

amount that Western would have received at the then existing Firm Energy rate, including the appropriate Lower Basin Development Fund Contribution Charge, and the amount actually received.

§ 904.12 Payments to contractors.

(a) Funds advanced to the Secretary of the Interior for the Uprating Program and costs reasonably incurred by the Contractor in advancing such funds, as approved by Western, shall be returned to the Contractor advancing the funds during the Contract period through credits on that Contractor's power bills. Appropriate credits will be developed and applied pursuant to terms and conditions agreed to by contract or agreement.

(b) All other obligations of the United States to return funds to a Contractor shall be repaid to such Contractor through credits on power bills, with or without interest, pursuant to terms and conditions agreed to by contract or agreement.

§ 904.13 Disputes.

(a) All actions by the Secretary of Energy, acting by and through the Administrator of Western, shall be binding unless or until reversed or modified in accordance with provisions contained herein.

(b) Any disputes or disagreements as to interpretation or performance of the provisions of these General Regulations under the responsibility of Western shall first be presented to and decided by the Administrator. The Administrator shall be deemed to have denied the Contractor's contention or claim if it is not acted upon within ninety (90) days of its having been presented.

(c) The decision of the Administrator shall be final unless, within thirty (30) days from the date of such decision, a written request for arbitration is received by the Administrator. The Administrator shall have ninety (90) days from the date of receipt of a request for arbitration either to concur in or deny in writing the request for such arbitration. Failure by the Administrator to take any action within the ninety (90) day period shall be deemed a denial of the request for arbitration. In the

event of a denial of a request for arbitration, the decision of the Administrator shall become final. Upon a decision becoming final, the disputing Contractor's remedy lies with the appropriate Federal court. Any claim that a final decision of the Administrator violates any right accorded the Contractor under the Project Act, the Adjustment Act, or Title I of the Hoover Power Plant Act is barred unless suit asserting such claim is filed in a Federal court of competent jurisdiction within one (1) year after final refusal by the Administrator to correct the action complained of, in accordance with section 105(h) of the Hoover Power Plant Act.

(d) When a timely request for arbitration is received by the Administrator and the Administrator concurs in writing, the disputing Contractor and the Administrator shall, within thirty (30) days after receipt of notice of such concurrence, each name one arbitrator to the panel of arbitrators which will decide the dispute. All arbitrators shall be skilled and experienced in the field pertaining to the dispute. In the event there is more than one disputing Contractor, the disputing Contractors shall collectively name one arbitrator to the panel of arbitrators. In the event of their failure collectively to name such an arbitrator within fifteen (15) days after their first meeting, that arbitrator shall be named as provided in the Commercial Arbitration Rules of the American Arbitration Association. The two arbitrators thus selected shall name a third arbitrator within thirty (30) days of their first meeting. In the event of their failure to so name such third arbitrator, that arbitrator shall be named as provided in the Commercial Arbitration Rules of the American Arbitration Association. The third arbitrator shall act as chairperson of the panel. The arbitration shall be governed by the Commercial Arbitration Rules of the American Arbitration Association. The arbitration shall be limited to the issue submitted. The panel of arbitrators shall not rewrite, change, or amend these General Regulations or the Contracts of any of the parties to the dispute. The panel of arbitrators shall render a final decision in this dispute within sixty (60) days

Department of Energy

§ 905.2

after the date of the naming of the third arbitrator. A decision of any two of the three arbitrators named to the panel shall be final and binding on all parties involved in the dispute.

§904.14 Future regulations.

(a) Western may from time to time promulgate such additional or amendatory regulations as deemed necessary for the administration of the Project in accordance with applicable law; *Provided*, That no right under any Contract shall be impaired or obligation thereunder be extended thereby.

(b) Any modification, extension, or waiver of any provision of these General Regulations granted for the benefit of any one or more Contractors shall not be denied to any other Contractor.

(c) Western reserves the right to terminate, modify, or extend these regulations, either partially or in their entirety, to the extent permitted by law or existing contract.

PART 905—ENERGY PLANNING AND MANAGEMENT PROGRAM

Subpart A—General Provisions

Sec.

905.1 Purpose.

905.2 Definitions.

Subpart B—Integrated Resource Planning

905.10 Applicability.

905.11 Integrated resource plan contents.

905.12 Submittal procedures.

905.13 Approval criteria.

905.14 Small customer plan.

905.15 Processing of IRPs and small customer plans.

905.16 Annual IRP progress reports.

905.17 Noncompliance.

905.18 Administrative appeal process.

905.19 Periodic review by Western.

905.20 Freedom of Information Act.

905.21 Program review.

Subpart C—Power Marketing Initiative

905.30 Purpose and applicability.

905.31 Term.

905.32 Resource extensions and resource pool size.

905.33 Extension formula.

905.34 Adjustment provisions.

905.35 New customer eligibility.

905.36 Marketing criteria.

905.37 Process.

Subpart D—Energy Services

905.40 Technical assistance.

AUTHORITY: 42 U.S.C. §§7152 and 7191; 32 Stat. 388, as amended; and 42 U.S.C. §§7275-7276c.

SOURCE: 60 FR 54174, Oct. 20, 1995, unless otherwise noted.

Subpart A—General Provisions

§905.1 Purpose.

The purposes of the Energy Planning and Management Program (Program) are to implement section 114 of the Energy Policy Act of 1992 (EPAAct) and to extend the Western Area Power Administration's (Western) long-term firm power resource commitments in support of customer integrated resource planning.

§905.2 Definitions.

Administrator means the Administrator of Western.

Applicable integrated resource plan or applicable IRP, when used with reference to a customer, means the integrated resource plan (IRP) approved by Western under these regulations for that customer.

Customer means any entity that purchases firm capacity, with or without energy, from Western under a long-term firm power contract. The term includes a member-based association (MBA) and its distribution or user members that receive direct benefit from Western's power.

Integrated resource planning means a planning process for new energy resources that evaluates the full range of alternatives, including new generating capacity, power purchases, energy conservation and efficiency, cogeneration and district heating and cooling applications, and renewable energy resources, in order to provide adequate and reliable service to a customer's electric consumers at the customer's or member's lowest system cost. The process shall take into account necessary features for system operation, such as diversity, reliability, dispatchability, and other factors of risk; shall take into account the ability to verify energy savings achieved

§ 905.10

through energy efficiency and the projected durability of such savings measured over time; and shall treat demand and supply resources on a consistent and integrated basis.

Least-cost option means an option for providing reliable electric services to electric consumers which will, to the extent practicable, minimize life-cycle system costs, including adverse environmental effects, of providing such service. To the extent practicable, energy efficiency and renewable resources may be given priority in any least-cost option.

Long-term firm power contract means any contract with Western for the sale of firm capacity, with or without energy, which is to be delivered over a period of more than 1 year. This term includes contracts for the long-term sale of power from the Boulder Canyon Project.

Member-Based Association or *MBA* means:

- (1) An entity composed of utilities or user members; or
- (2) An entity which acts as an agent for, or subcontracts with, but does not assume power supply responsibility for its principals or subcontractors, who are its members.

Small customer means a customer with total annual sales or usage of 25 GWh or less, as averaged over the previous 5 years, which is not a member of a joint action agency or a generation and transmission (G&T) cooperative with power supply responsibility, and that Western finds has limited economic, managerial, and resource capability to conduct integrated resource planning.

Western means the Western Area Power Administration.

Subpart B—Integrated Resource Planning

§ 905.10 Applicability.

(a) Each customer of Western must address its power resource needs in an IRP prepared and submitted to Western as provided herein, except for:

- (1) Those meeting the criteria for a small customer as detailed in §905.14 this part; and
- (2) State-regulated, investor-owned utilities.

10 CFR Ch. III (1–1–98 Edition)

(b) Nothing in these regulations shall require a customer to take any action inconsistent with a requirement imposed by the Rural Utilities Service or a state utility commission which receives IRP filings from that customer.

§ 905.11 Integrated resource plan contents.

(a) An integrated resource plan should support customer-developed goals and schedules. The plan should evaluate the full range of practicable alternatives for energy resources, and include:

- (1) An assessment of resources on an equitable basis, where supply-side, demand-side, and renewable resources are compared on a fair and accurate basis to determine an appropriate low-cost resource portfolio, and
- (2) An integration of all options in a comprehensive manner.

(b) IRPs must consider electrical energy resource needs and may consider, at the customer's option, water, natural gas, and other energy resources. Each IRP submitted to Western must satisfy the following requirements of section 114 of EPAAct:

(1) Identification and Comparison of All Practicable Energy Efficiency and Energy Supply Resource Options. This is an assessment and comparison of existing and future supply- and demand-side resource options available to a customer based upon its size, type, resource needs, geographic area, and competitive situation. Identification of resource options evaluated by the specific customer, or members in the case of IRP cooperatives or MBAs, must be provided. The options evaluated should relate to the resource situation unique to each Western customer as determined by profile data (such as service area, geographical characteristics, customer mix, historical loads, projected growth, existing system data, rates, and financial information) and load forecasts.

- (i) Supply-side options include, but are not limited to, purchased power contracts, conventional or renewable generation options.
- (ii) Demand-side options alter the customer's use pattern in a manner that provides for an improved combination of energy services at least cost to

the customer and the ultimate consumer.

(iii) Considerations that may be used to develop the potential options include cost, market potential, consumer preferences, environmental impacts, demand or energy impacts, implementation issues, revenue impacts, and commercial availability.

(iv) The IRP discussion comparing resource options must include:

(A) The method or rationale used to select the options to be compared,

(B) The options evaluated,

(C) The assumptions and costs related to the options, and

(D) The evaluation methods, including any quantitative and qualitative methods used to compare the resource options.

(2) An IRP must include an action plan covering a minimum period of 5 years describing specific actions the customer will take to implement its IRP. This plan must outline both short-term (2 years) and long-term (5 years) actions proposed for implementation during the period covered by the plan. The action plan must summarize the load profile data and address the results of the resource evaluation. Where a customer is implementing integrated resource planning in response to State, Federal, and other initiatives, Western will accept action plans of other than 2 and 5 years if they substantially comply with EPAct. For those customers not experiencing or anticipating load growth, the action plan requirement for the IRP may be satisfied by a discussion of current actions and procedures in place to re-evaluate periodically the possible future need for new resources. The action plan must include the following four items:

(i) Actions the customer expects to take in accomplishing the goals identified in the IRP;

(ii) Milestones to be used to evaluate accomplishment of those actions during implementation;

(iii) Quantified estimated energy and capacity benefits for each action planned; and

(iv) Estimated or proposed costs for implementing each action.

(3) An IRP must designate least-cost options to be utilized by the customer.

This requires a comparative evaluation of supply- and demand-side resources using a consistent economic evaluation method. This evaluation should identify the most cost-effective energy services to the consumer, taking into account reliability, economics, price, adverse environmental effects, risk, and all other factors influencing the quality of energy services. The analysis should consider impacts on suppliers, distribution entities, and end-use consumers, as applicable. The resource selection process and criteria must be explicit and identify the rationale for selection. An IRP may strike a reasonable balance among the applicable evaluation factors, as opposed to a plan which seeks to optimize any single criterion. Exceptions to least-cost-based decisions may be made if the customer explains the basis for the decision and can show in the IRP that decisions were based on a reasonable analysis of resource options and environmental effects, were based on response to public input, or were required by Federal or State mandates.

(4) To the extent practicable, the customer shall minimize adverse environmental effects of new resource acquisitions and document these efforts in the IRP. Customers are neither precluded from nor required to include a quantitative analysis of environmental externalities as a part of their integrated resource planning process. Customers are required to include a qualitative analysis of environmental effects.

(5) In the preparation and development of an IRP (or any revision or amendment of an IRP), ample opportunity for full public participation shall be provided. The IRP shall describe how the customer: gathered information from the public, identified public concerns, shared information with the public, and responded to public comments.

(i) Member-based associations and their members must demonstrate public participation in the preparation and development, revision, or amendment of the IRP. No specific number of meetings is required.

(ii) As part of the public participation process, the governing body of an MBA and each MBA member (such as a

board of directors or city council) must approve the IRP, confirming that all requirements have been met. MBA and member approvals must be indicated by signature of a responsible official in the IRP submitted to Western or by documentation of passage of an approval resolution by the appropriate governing body included or referred to in the IRP submitted to Western.

(iii) For Western customers that do not purchase for resale, such as Federal and State government agencies, the public participation requirement is satisfied if there is review and concurrence by a top management official with resource acquisition responsibility, and the concurrence is noted in the IRP submitted to Western.

(6) An IRP must include load forecasting. Load forecasting should include data which reflects the size, type, resource conditions, and demographic nature of the customer using an accepted load forecasting methodology, including but not limited to the time series, end-use, and econometric methods.

(7) Customers must provide methods of validating predicted performance in order to determine whether objectives in the IRP are being met. These validation methods must include identification of the baseline from which a customer will measure the benefits of its IRP implementation. Baseline data that is unavailable should be identified. A reasonable balance must be struck between the cost of data collection and the benefits resulting from obtaining exact information.

§ 905.12 Submittal procedures.

(a) An IRP submitted to Western for approval must have sufficient detail for Western to confirm it meets the requirements of these regulations. Only one IRP is required per customer, regardless of the number of long-term firm power contracts between the customer and Western.

(b) Customers may submit IRPs to Western under one of the following options:

(1) Customers may submit IRPs individually.

(2) MBAs may submit individual IRPs for each of their members or submit one IRP on behalf of all or some of

their members, that specifies the responsibilities and participation levels of individual members and the MBA. Such IRP or IRPs shall constitute the MBA's IRP where the MBA sub-contracts or acts as an agent but does not assume power supply responsibility. Any member of an MBA may submit an individual IRP to Western in lieu of inclusion in an MBA IRP.

(3) Integrated resource planning cooperatives approved by Western pursuant to paragraph (d) of this section must submit an IRP for its members.

(4) Customers that Western determines to be small customers pursuant to section 905.14 may submit a small customer plan in lieu of an IRP.

(c) Schedules.

(1) Except as provided in paragraph (c)(2) of this section, customers must submit their initial IRP to the appropriate Area Manager no later than 1 year after the effective date of this rule, or after becoming a customer, whichever is later. Approved IRP cooperatives shall be allowed 18 months from Western's approval of the IRP cooperative request to submit an initial IRP.

(2) Every customer must provide written notification to Western if it intends to seek approval for IRP cooperative or small customer status. This notification must be provided by the customer to the Western Area Manager of the Area in which the customer is located by December 19, 1995, or within 30 days from the time it becomes a customer, whichever is later.

(3) If an IRP submittal is found to be insufficient after Western review, a notice of deficiencies will be provided to the entity that submitted the IRP. Western, working together with the customer, will determine the time allowable for resubmitting the IRP. However, the time allowed for resubmittal will not be greater than 9 months after the date of the disapproval, unless otherwise provided by contract language in effect as of the effective date of these regulations.

(4) Updated IRPs must be submitted to the appropriate Area Manager every 5 years after Western's approval of the initial IRP.

(5) Amendments and revisions to IRPs may be submitted at any time.

(d) Western shall respond to IRP cooperative status requests within 30 days of receipt. If a request for IRP cooperative status is disapproved, the requesting customers must submit their initial IRPs no later than 1 year after the date of the letter of disapproval. Any subsequent requests by customers for IRP cooperative status will be responded to by Western within 30 days of receipt of the request. Western's approval of IRP cooperative status will not be based on any potential member's contractual status with Western.

§905.13 Approval criteria.

(a) IRP or small customer plan approval will be based upon:

(1) Whether the IRP or small customer plan satisfactorily addresses the criteria in these regulations; and

(2) The reasonableness of the IRP or small customer plan given the size, type, resource needs, geographic area, and competitive situation of the customer.

(b) Western will review resource choices in accordance with section 114 of EPAct and these regulations. Western will disapprove IRPs if resource choices do not meet the reasonableness test set forth in (a)(2) of this section and the provisions of section 114 of EPAct.

(c) Where a customer or group of customers implements integrated resource planning under a program responding to other Federal, State, or other initiatives, Western shall accept and approve such a plan as long as the IRP substantially complies with the requirements of these regulations.

(d) In evaluating an IRP or small customer plan, Western shall consider water planning, efficiency improvements, and conservation in the same manner it considers energy planning and efficiencies. Customers that provide water utility services and customers that service irrigation load as part of their overall load may include water conservation activities in the IRP. To the extent practical, customers should convert their water savings to energy values.

§905.14 Small customer plan.

(a) Small customers may submit a request to prepare a small customer plan

in lieu of an IRP. Requests for small customer status must include data on total annual energy sales and usage for the 5 years prior to the request. This data will be averaged to determine overall annual energy sales and usage so that uncontrollable events, such as extreme weather, do not distort levelized energy sales and usage. Documentation of limited economic, managerial and resource capability must also be included in a request.

(b) Western shall respond to small customer status requests within 30 days of receipt of the request. If a request for small customer status is disapproved, the requesting customer must submit its initial IRP no later than 1 year after the date of the letter of disapproval. Any subsequent requests by customers for small customer status will be responded to by Western within 30 days of receipt of the request.

(c) Small Customer Plan Contents.

Small customer plans shall:

(1) Consider all reasonable opportunities to meet future energy service requirements using demand-side management techniques, new renewable resources, and other programs that will provide retail consumers with electricity at the lowest possible cost;

(2) Minimize, to the extent practicable, adverse environmental effects; and

(3) Present in summary form the following information:

(i) Customer name, address, phone number, and contact person;

(ii) Type of customer;

(iii) Current energy and demand profiles and data on total annual energy sales and usage for the previous 5 years;

(iv) Future energy services projections;

(v) The manner in which paragraphs (c) (1) and (2) of this section were considered; and

(vi) Actions to be implemented over the next 5 years.

(d) The first small customer plan must be submitted to the appropriate Western Area Manager within 1 year after Western's approval of the request for small customer status. Small customers must submit in writing a small customer plan every 5 years.

§ 905.15

10 CFR Ch. III (1–1–98 Edition)

(e) Maintenance of Small Customer Status.

(1) Every year on the anniversary of submittal of the plan, small customers must submit a letter to Western verifying that their annual energy sales or usage is 25 GWh or less averaged over the previous 5 years, and identifying their achievements against their targeted action plans. The letter will be used for overall program evaluation and comparison with the customer's plan, and for verification of continued small customer status.

(2) A customer ceases to be a small customer if it:

(i) Exceeds total annual energy sales or usage of 25 GWh, as averaged over the previous 5 years,

(ii) Becomes a member of a joint action agency or G&T cooperative with power supply responsibility, or

(iii) No longer has a limited economic, managerial, and resource capability. Western will work with a customer who loses small customer status to develop an appropriate schedule, no longer than 1 year, for submittal of an IRP.

(3) Membership in or contracting with an MBA that does not have power supply responsibility shall not affect a customer's status as a small customer. A small customer plan or annual letter may be submitted by or through an MBA that does not have power supply responsibility.

§ 905.15 Processing of IRPs and small customer plans.

Western shall review all IRP and small customer plan submittals and notify the submitting entity of the plan's acceptability within 120 days after receipt.

§ 905.16 Annual IRP progress reports.

IRP progress reports must be submitted each year within 30 days of the anniversary date of the approval of the currently applicable IRP in such form and containing such information as to describe the customer's accomplishments achieved pursuant to the action plan, including projected goals, implementation schedules, and resource expenditures, and energy and capacity benefits and renewable energy developments achieved as compared to those

anticipated. Measured values are preferred, but reasonable estimates are acceptable if measurement is infeasible or not cost-effective. In lieu of a separate progress report, all information from the progress report may be combined with any other report that the customer submits to Western, at the customer's discretion, if that report is submitted within 30 days of the approval anniversary date of the currently applicable IRP.

§ 905.17 Noncompliance.

(a) The penalty set forth in this section shall be imposed for failure to submit or resubmit an IRP or small customer plan in accordance with these regulations. The penalty also will be imposed when Western finds that the customer's activities are not consistent with the applicable IRP or small customer plan unless Western finds that a good faith effort has been made to comply with the approved IRP or small customer plan.

(b) If it appears that a customer's activities may be inconsistent with the applicable IRP or small customer plan, Western will so notify the customer and offer the customer 30 days in which to provide evidence of its good faith effort to comply. If the customer does not correct the specified deficiency or submit such evidence, or if Western finds, after receipt of information from the customer, that a good faith effort has not been made, a penalty shall be imposed.

(c) Western shall provide written notice of the imposition of a penalty to the customer, and to the MBA or IRP cooperative where applicable. The notice must specify the reasons for imposition of the penalty.

(d) Imposition of Penalty.

(1) Beginning with the first full billing period following the notice specified in paragraph (c) of this section a surcharge of 10 percent of the monthly power charges will be imposed until the deficiency specified in the notice is cured, or until 12 months pass, provided that no such penalty shall be immediately imposed if the customer or its MBA or IRP cooperative has requested reconsideration by filing a written appeal with the appropriate Area Manager, pursuant to 905.18.

(2) The surcharge imposed shall increase to 20 percent for the second 12 months and to 30 percent per year thereafter until the deficiency is cured.

(3) After the first 12 months of imposition of the surcharge and in lieu of imposition of any further surcharge, Western may impose a penalty which would reduce the resource delivered under a customer's long-term firm power contract(s) by 10 percent. The resource reduction may be imposed either

(i) When it appears to Western to be more effective to assure customer compliance, or

(ii) When such reduction may be more cost-effective for Western.

(4) The penalty provisions in existing contracts will continue to be in effect and shall be administered and enforced in accordance with such contract provisions.

(e) The surcharge will be assessed on the total charges for all power obtained by a customer from Western and will not be limited to firm power charges. When a customer resolves the deficiencies, the imposed surcharge or power withdrawal will cease, beginning with the first full billing period after compliance is achieved.

(f) In situations involving an IRP submitted by a member-based association on behalf of its members where a single member does not comply, a penalty or withdrawal shall be imposed upon the MBA on a pro rata basis in proportion to that member's share of the total MBA's power received from Western. In situations involving non-compliance by a member of an IRP cooperative, any applicable penalty shall be imposed directly upon that member if it has a firm power contract with Western. If the IRP cooperative member does not have a firm power contract with Western then a penalty or withdrawal shall be imposed upon the member's MBA or parent-type entity on a pro rata basis in proportion to that member's share of the total MBA's power received from Western.

§905.18 Administrative appeal process.

(a) If a customer disagrees with Western's determination of the acceptability of its IRP submittal, its compli-

ance with an approved IRP, or any other compliance issue, the customer may request reconsideration by filing a written appeal with the appropriate Area Manager. Appeals may be submitted any time such disagreements occur and should be specific as to the nature of the issue, the reasons for the disagreement, and any other pertinent facts which the customer believes should be brought to Western's attention. The Area Manager will respond within 45 days of receipt of the appeal. If resolution is not achieved at the Area Office level, a further appeal may then be made to the Administrator who will respond within 30 days of receipt.

(b) Upon request, Western will agree to use mutually agreeable alternative dispute resolution procedures, to the extent allowed by law, to resolve issues or disputes relating to compliance with IRP requirements.

(c) Western shall not impose a penalty while an appeal process is pending. However, if the appeal is unsuccessful for the customer, Western shall impose the penalty retroactively from the date the penalty would have been assessed if an appeal had not been filed.

(d) A written appeal or use of alternative dispute resolution procedures does not suspend other reporting and compliance requirements under these regulations.

§905.19 Periodic review by Western.

(a) Western will periodically review customer actions to determine whether they are consistent with the approved IRP. Small customer plans are not subject to this periodic review.

(b) Beginning 3 years after the effective date of these regulations, Western shall periodically review selected, representative IRPs and the customer's implementation of the applicable IRP. These reviews are in addition to, and separate and apart from, the review of initial IRP submittals and updated IRPs made under §§905.11 and 905.13 of these regulations.

(c) Western will review a representative sample of IRPs from each of its marketing areas. The representative samples will consist of IRPs that reflect the diverse characteristics and circumstances of the customers that purchase power from Western. At a

minimum, Western will review a sample of IRPs from the following:

(1) IRPs indicating a need to acquire resources in the IRP study period;

(2) IRPs prepared by individual customers, IRP cooperatives, and member-based associations; and

(3) IRPs that do not show plans to implement DSM programs in the IRP study period.

(d) Periodic reviews may consist of any combination of review of the customer's annual IRP progress reports, telephone interviews, or on-site visits. Western will document these periodic reviews and shall report on the results of the reviews in Western's annual report.

§ 905.20 Freedom of Information Act.

IRPs and associated data submitted to Western will be made available to the public unless Western has determined, pursuant to 10 CFR Part 1004, that particular information is exempt from public access under the Freedom of Information Act (FOIA). Customers may request confidential treatment of all or part of a submitted document under FOIA's exemption for confidential business information. Materials so designated and which Western determines to meet the exemption criteria in the FOIA will be treated as confidential and will not be disclosed to the public.

§ 905.21 Program review.

Before January 1, 2000, and at appropriate intervals thereafter, Western shall initiate a public process to review these IRP regulations in order to determine whether the criteria for approval of IRPs should be revised to reflect changes in technology, needs, or other developments.

Subpart C—Power Marketing Initiative

§ 905.30 Purpose and applicability.

(a) The Power Marketing Initiative (PMI) provides a framework for marketing Western's long-term firm hydroelectric resources. For covered projects, Western will make a major portion of the resources currently under contract available to existing long-term firm power customers for a

period of time beyond the expiration date of their current contracts.

(b) The Western projects covered by this subpart are the Pick-Sloan Missouri Basin Program—Eastern Division and the Loveland Area Projects (LAP). The PMI applies to covered projects to the extent it is consistent with other contractual and legal rights, and subject to any applicable project-specific environmental requirements.

§ 905.31 Term.

Western will extend resource commitments for 20 years from the date existing contracts expire to existing customers with long-term firm power contracts from projects identified in section 905.30(b).

§ 905.32 Resource extensions and resource pool size.

(a) Western will extend a project-specific percentage of the marketable resource, determined to be available at the time future resource extensions begin, to existing customers with long-term firm power contracts. The remaining unextended power will be used to establish project-specific resource pools. An initial level of 96 percent of the marketable resource will be extended for the Pick-Sloan Missouri Basin Program—Eastern Division and the Loveland Area Projects.

(b) At two 5-year intervals after the effective date of the extension to existing customers, Western shall create a project-specific resource pool increment of up to an additional 1 percent of the long-term marketable resource under contract at the time. The size of the additional resource pool increment shall be determined by Western based on consideration of the actual fair-share needs of eligible new customers and other appropriate purposes.

(c) The initial pool percentages shall be applied to the marketable resource determined to be available at the time future resource extensions begin. Subsequent percentages shall be applied to the resource under contract at the time.

(d) The additional resource pool increments shall be established by pro rata withdrawals, on 2 years' notice,

Department of Energy

§ 905.35

from then-existing customers. Withdrawals could be mitigated or delayed if good water conditions exist.

(e) Once the extensions for existing customers and allocations to new customers from the resource pool have been made, additional power resources may become available for various reasons. Any additional available resources will be used as follows:

(1) If power is reserved for new customers but not allocated, or resources are offered but not placed under contract, this power will be offered on a pro rata basis to customers that contributed to the resource pool through application of the extension formula in §905.33.

(2) If power resources become available as a result of the enhancement of existing generation, project-use load efficiency upgrades, the development of new resources, or resources turned back to Western, Western may elect to use this power to reduce the need to acquire firming resources, retain the power for operational flexibility, sell these resources on a short-term basis, or allocate the power.

(3) If resources become available due to imposition of penalties pursuant to §905.17, Western may make such resources available within the marketing area to existing customers that are in compliance with subpart B, subject to withdrawal.

§905.33 Extension formula.

(a) The amount of power to be extended to an existing customer shall be determined according to this formula:

Customer Contract Rate of Delivery (CROD) today/total project CROD under contract today x project-specific percentage x marketable resource determined to be available at the time future resource extensions begin = CROD extended.

(b) Where contract rates of delivery vary by season, the formula shall be used on a seasonal basis to determine the extended power resource. A similar pro rata approach shall be used for energy extensions.

(c) Determination of the amount of resource available after existing contracts expire, if significantly different from existing resource commitments,

shall take place only after an appropriate public process.

(d) The formula set forth in paragraph (a) of this section also should be used to determine the amounts of firm power subject to withdrawal at 5-year intervals after the effective date of the extension to existing customers, except that the percentage used would be up to 1 percent for each of the two withdrawal opportunities, and the formula would use the customer CROD, project CROD and the resource under contract at the time.

§905.34 Adjustment provisions.

Western reserves the right to adjust marketable resources committed to all customers with long-term firm power contracts only as required to respond to changes in hydrology and river operations, except as otherwise expressly provided in these regulations. Under contracts that extend resources under this PMI, existing customers shall be given at least 5 years' notice before adjustments are made. New customers may receive less notice. The earliest that any notice under this section shall become effective is the date that existing contractual commitments expire. Any adjustment shall only take place after an appropriate public process. Withdrawals to serve project use and other purposes provided for by contract shall continue to take place based on existing contract/marketing criteria principles.

§905.35 New customer eligibility.

(a) Allocations to new customers from the project-specific resource pools established under §905.32 shall be determined through separate public processes in each project's marketing area. New customers receiving an allocation must execute a long-term firm power contract to receive the allocated power and are required to comply with the IRP requirements in this part. Contracts with new customers shall expire on the same date as firm power contracts with all other customers of a project.

(b) To be eligible for an allocation, a potential new customer must be a preference entity, as defined in Reclamation law, within the currently established marketing area for a project.

(c) Entities that desire to purchase power from Western for resale to consumers, including municipalities, cooperatives, public utility districts and public power districts, must have utility status. Native American tribes are not subject to this requirement. Utility status means that the entity has responsibility to meet load growth, has a distribution system, and is ready, willing, and able to purchase power from Western on a wholesale basis for resale to retail consumers. To be eligible to apply for power available from a project's initial resource pool, those entities that desire to purchase Western power for resale to consumers must have attained utility status by December 31, 1996, for the Pick-Sloan Missouri Basin Program—Eastern Division, and by September 30, 2000, for the Loveland Area Projects. To be eligible to apply for power from subsequent resource pool increments, these entities must have attained utility status no later than 3 years prior to availability of the incremental addition to the resource pool. Deadlines for attaining utility status for other projects will be established at a later date.

§ 905.36 Marketing criteria.

Western shall retain applicable provisions of existing marketing criteria for projects where resource commitments are extended beyond the current expiration date of long-term firm power sales contracts. Western must retain important marketing plan provisions such as classes of service, marketing area, and points of delivery, to the extent that these provisions are consistent with the PMI. The PMI, eligibility and allocation criteria for potential new customers, retained or amended provisions of existing marketing criteria, the project-specific resource definition, and the size of a project-specific resource pool shall constitute the future marketing plan for each project.

§ 905.37 Process.

Modified contractual language shall be required to place resource extensions under contract. Resource extensions and allocations to new customers from the initial resource pool will take effect when existing contracts expire. These dates are December 31, 2000, for

the Pick-Sloan Missouri Basin Program—Eastern Division and September 30, 2004, for the Loveland Area Projects. For the Pick-Sloan Missouri Basin Program—Eastern Division, Western will offer contracts to existing customers for resource extensions no sooner than the effective date of the final regulations. For the Loveland Area Projects, existing contracts provide for potential adjustments to marketable resources in 1999. No contracts will be offered to existing customers for post-2004 Loveland Area Projects resources until the analysis of potential resource adjustments in 1999 has been completed and any adjustments are implemented. Existing power sales contracts require that this analysis be completed by 1996.

Subpart D—Energy Services

§ 905.40 Technical assistance.

Western shall establish a program that provides technical assistance to customers to conduct integrated resource planning, implement applicable IRPs and small customer plans, and otherwise comply with the requirements of these regulations.

PART 960—GENERAL GUIDELINES FOR THE RECOMMENDATION OF SITES FOR NUCLEAR WASTE REPOSITORIES

Subpart A—General Provisions

Sec.

960.1 Applicability.

960.2 Definitions.

Subpart B—Implementation Guidelines

960.3 Implementation guidelines.

960.3-1 Siting provisions.

960.3-1-1 Diversity of geohydrologic settings.

960.3-1-2 Diversity of rock types.

960.3-1-3 Regionality.

960.3-1-4 Evidence for siting decisions.

960.3-1-4-1 Site identification as potentially acceptable.

960.3-1-4-2 Site nomination for characterization.

960.3-1-4-3 Site recommendation for characterization.

960.3-1-4-4 Site recommendation for repository development.

960.3-1-5 Basis for site evaluations.

960.3-2 Siting process.

Department of Energy

§ 960.2

- 960.3-2-1 Site screening for potentially acceptable sites.
- 960.3-2-2 Nomination of sites as suitable for characterization.
- 960.3-2-2-1 Evaluation of all potentially acceptable sites.
- 960.3-2-2-2 Selection of sites within geohydrologic settings.
- 960.3-2-2-3 Comparative evaluation of all sites proposed for nomination.
- 960.3-2-2-4 The environmental assessment.
- 960.3-2-2-5 Formal site nomination.
- 960.3-2-3 Recommendation of sites for characterization.
- 960.3-2-4 Recommendation of sites for the development of repositories.
- 960.3-3 Consultation.
- 960.3-4 Environmental impacts.

Subpart C—Postclosure Guidelines

- 960.4 Postclosure guidelines.
- 960.4-1 System guideline.
- 960.4-2 Technical guidelines.
- 960.4-2-1 Geohydrology.
- 960.4-2-2 Geochemistry.
- 960.4-2-3 Rock characteristics.
- 960.4-2-4 Climatic changes.
- 960.4-2-5 Erosion.
- 960.4-2-6 Dissolution.
- 960.4-2-7 Tectonics.
- 960.4-2-8 Human interference.
- 960.4-2-8-1 Natural resources.
- 960.4-2-8-2 Site ownership and control.

Subpart D—Preclosure Guidelines

- 960.5 Preclosure guidelines.
- 960.5-1 System guidelines.
- 960.5-2 Technical guidelines.

PRECLOSURE RADIOLOGICAL SAFETY

- 960.5-2-1 Population density and distribution.
- 960.5-2-2 Site ownership and control.
- 960.5-2-3 Meteorology.
- 960.5-2-4 Offsite installations and operations.

ENVIRONMENT, SOCIOECONOMICS, AND TRANSPORTATION

- 960.5-2-5 Environmental quality.
- 960.5-2-6 Socioeconomic impacts.
- 960.5-2-7 Transportation.

EASE AND COST OF SITING, CONSTRUCTION, OPERATION, AND CLOSURE

- 960.5-2-8 Surface characteristics.
- 960.5-2-9 Rock characteristics.
- 960.5-2-10 Hydrology.
- 960.5-2-11 Tectonics.

APPENDIX I TO PART 960—NRC AND EPA REQUIREMENTS FOR POSTCLOSURE REPOSITORY PERFORMANCE

APPENDIX II TO PART 960—NRC AND EPA REQUIREMENTS FOR PRECLOSURE REPOSITORY PERFORMANCE

APPENDIX III TO PART 960—APPLICATION OF THE SYSTEM AND TECHNICAL GUIDELINES DURING THE SITING PROCESS

APPENDIX IV TO PART 960—TYPES OF INFORMATION FOR THE NOMINATION OF SITES AS SUITABLE FOR CHARACTERIZATION

AUTHORITY: The Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.); Energy Reorganization Act of 1974 (42 U.S.C. 5801 et seq.); Department of Energy Organization Act of 1977 (42 U.S.C. 7101 et seq.); Nuclear Waste Policy Act of 1982 (Pub. L. 97-425, 96 Stat. 2201).

SOURCE: 49 FR 47752, Dec. 6, 1984, unless otherwise noted.

Subpart A—General Provisions

§ 960.1 Applicability.

These guidelines were developed in accordance with the requirements of Section 112(a) of the Nuclear Waste Policy Act of 1982 for use by the Secretary of Energy in evaluating the suitability of sites for the development of repositories. The guidelines will be used for suitability evaluations and determinations made pursuant to Section 112(b) and any preliminary suitability determinations required by Section 114(f). The guidelines set forth in this part are intended to complement the requirements set forth in the Act, 10 CFR part 60, and 40 CFR part 191. The DOE recognizes NRC jurisdiction for the resolution of differences between the guidelines and 10 CFR part 60. The guidelines have received the concurrence of the NRC. The DOE contemplates revising the guidelines from time to time, as permitted by the Act, to take into account revisions made to the above regulations and to otherwise update the guidelines as necessary. The DOE will submit the revisions to the NRC and obtain its concurrence before issuance.

§ 960.2 Definitions.

As used in this part:

Accessible environment means the atmosphere, the land surface, surface water, oceans, and the portion of the lithosphere that is outside the controlled area.

Act means the Nuclear Waste Policy Act of 1982.

Active fault means a fault along which there is recurrent movement, which is usually indicated by small,

periodic displacements or seismic activity.

Affected area means either the area of socioeconomic impact or the area of environmental impact, each of which will vary in size among potential repository sites.

Affected Indian tribe means any Indian tribe (1) within whose reservation boundaries a repository for radioactive waste is proposed to be located or (2) whose federally defined possessory or usage rights to other lands outside the reservation's boundaries arising out of congressionally ratified treaties may be substantially and adversely affected by the locating of such a facility: *Provided*, That the Secretary of the Interior finds, upon the petition of the appropriate governmental officials of the tribe, that such effects are both substantial and adverse to the tribe.

Affected State means any State that (1) has been notified by the DOE in accordance with Section 116(a) of the Act as containing a potentially acceptable site; (2) contains a candidate site for site characterization or repository development; or (3) contains a site selected for repository development.

Application means the act of making a finding of compliance or noncompliance with the qualifying or disqualifying conditions specified in the guidelines of subparts C and D, in accordance with the types of findings specified in appendix III.

Aquifer means a formation, a group of formations, or a part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Barrier means any material or structure that prevents or substantially delays the movement of water or radionuclides.

Candidate site means an area, within a geohydrologic setting, that is recommended by the Secretary of Energy under section 112 of the Act for site characterization, approved by the President under section 112 of the Act for characterization, or undergoing site characterization under section 113 of the Act.

Closure means final backfilling of the remaining open operational areas of the underground facility and boreholes

after the termination of waste emplacement, culminating in the sealing of shafts.

Confining unit means a body of impermeable or distinctly less permeable material stratigraphically adjacent to one or more aquifers.

Containment means the confinement of radioactive waste within a designated boundary.

Controlled area means a surface location, to be marked by suitable monuments, extending horizontally no more than 10 kilometers in any direction from the outer boundary of the underground facility, and the underlying subsurface, which area has been committed to use as a geologic repository and from which incompatible activities would be prohibited before and after permanent closure.

Cumulative releases of radionuclides means the total number of curies of radionuclides entering the accessible environment in any 10,000-year period, normalized on the basis of radiotoxicity in accordance with 40 CFR part 191. The peak cumulative release of radionuclides refers to the 10,000-year period during which any such release attains its maximum predicted value.

Decommissioning means the permanent removal from service of surface facilities and components necessary for preclosure operations only, after repository closure, in accordance with regulatory requirements and environmental policies.

Determination means a decision by the Secretary that a site is suitable for site characterization for the selection of a repository site or that a site is suitable for the development of a repository, consistent with applications of the guidelines of subparts C and D in accordance with the provisions set forth in subpart B.

Disposal means the emplacement in a repository of high-level radioactive waste, spent nuclear fuel, or other highly radioactive material with no foreseeable intent of recovery, whether or not such emplacement permits the recovery of such waste, and the isolation of such waste from the accessible environment.

Disqualifying condition means a condition that, if present at a site, would

eliminate that site from further consideration.

Disturbed zone means that portion of the controlled area, excluding shafts, whose physical or chemical properties are predicted to change as a result of underground facility construction or heat generated by the emplaced radioactive waste such that the resultant change of properties could have a significant effect on the performance of the geologic repository.

DOE means the U.S. Department of Energy or its duly authorized representatives.

Effective porosity means the amount of interconnected pore space and fracture openings available for the transmission of fluids, expressed as the ratio of the volume of interconnected pores and openings to the volume of rock.

Engineered-barrier system means the manmade components of a disposal system designed to prevent the release of radionuclides from the underground facility or into the geohydrologic setting. Such term includes the radioactive-waste form, radioactive-waste canisters, materials placed over and around such canisters, any other components of the waste package, and barriers used to seal penetrations in and into the underground facility.

Environmental assessment means the document required by section 112(b)(1)(E) of the Nuclear Waste Policy Act of 1982.

Environmental impact statement means the document required by section 102(2)(C) of the National Environmental Policy Act of 1969. Sections 114(a) and 114(f) of the Nuclear Waste Policy Act of 1982 include certain limitations on the National Environmental Policy Act requirements as they apply to the preparation of an environmental impact statement for the development of a repository at a characterized site.

EPA means the U.S. Environmental Protection Agency or its duly authorized representatives.

Evaluation means the act of carefully examining the characteristics of a site in relation to the requirements of the qualifying or disqualifying conditions specified in the guidelines of subparts C and D. Evaluation includes the consideration of favorable and potentially adverse conditions.

Excepted means assumed to be probable or certain on the basis of existing evidence and in the absence of significant evidence to the contrary.

Expected repository performance means the manner in which the repository is predicted to function, consideration those conditions, processes, and events that are likely to prevail or may occur during the time period of interest.

Facility means any structure, system, or system component, including engineered barriers, created by the DOE to meet repository-performance or functional objectives.

Fault means a fracture or a zone of fractures along which there has been displacement of the side relative to one another parallel to the fracture or zone of fractures.

Faulting means the process of fracturing and displacement that produces a fault.

Favorable condition means a condition that, though not necessary to qualify a site, is presumed, if present, to enhance confidence that the qualifying condition of a particular guideline can be met.

Finding means a conclusion that is reached after evaluation.

Geohydrologic setting means the system of geohydrologic units that is located within a given geologic setting.

Geohydrologic system means the geohydrologic units within a geologic setting, including any recharge, discharge, interconnections between units, and any natural or man-induced processes or events that could affect ground-water flow within or among those units.

Geohydrologic unit means an aquifer, a confining unit, or a combination of aquifers and confining units comprising a framework for a reasonably distinct geohydrologic system.

Geologic repository means a system, requiring licensing by the NRC, that is intended to be used, or may be used, for the disposal of radioactive waste in excavated geologic media. A geologic repository includes (1) the geologic repository operations area and (2) the portion of the geologic setting that provides isolation of the radioactive waste and is located within the controlled area.

Geologic-repository operations area means a radioactive-waste facility that is part of the geologic repository, including both surface and subsurface areas and facilities where waste-handling activities are conducted.

Geologic setting means the geologic, hydrologic, and geochemical systems of the region in which a geologic-repository operations area is or may be located.

Geomorphic processes means geologic processes that are responsible for the general configuration of the Earth's surface, including the development of present landforms and their relationships to underlying structures, and are responsible for the geologic changes recorded by these surface features.

Ground water means all subsurface water as distinct from surface water.

Ground-water flux means the rate of ground-water flow per unit area of porous or fractured media measured perpendicular to the direction of flow.

Ground-water sources means aquifers that have been or could be economically and technologically developed as sources of water in the foreseeable future.

Ground-water travel time means the time required for a unit volume of ground water to travel between two locations. The travel time is the length of the flow path divided by the velocity, where velocity is the average ground-water flux passing through the cross-sectional area of the geologic medium through which flow occurs, perpendicular to the flow direction, divided by the effective porosity along the flow path. If discrete segments of the flow path have different hydrologic properties, the total travel time will be the sum of the travel times for each discrete segment.

Guideline means a statement of policy or procedure that may include, when appropriate, qualifying, disqualifying, favorable, or potentially adverse conditions as specified in the "guidelines."

Guidelines means part 960 of title 10 of the Code of Federal Regulations—General Guidelines for the Recommendation of Sites for Nuclear Waste Repositories.

High-level radioactive waste means (1) the highly radioactive material result-

ing from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations and (2) other highly radioactive material that the NRC, consistent with existing law, determines by rule requires permanent isolation.

Highly populated area means any incorporated place (recognized by the decennial reports of the U.S. Bureau of the Census) of 2,500 or more persons, or any census designated place (as defined and delineated by the Bureau) of 2,500 or more persons, unless it can be demonstrated that any such place has a lower population density than the mean value for the continental United States. Counties or county equivalents, whether incorporated or not, are specifically excluded from the definition of "place" as used herein.

Host rock means the geologic medium in which the waste is emplaced, specifically the geologic materials that directly encompass and are in close proximity to the underground facility.

Hydraulic conductivity means the volume of water that will move through a medium in a unit of time under a unit hydraulic gradient through a unit area measured perpendicular to the direction of flow.

Hydraulic gradient means a change in the static pressure of ground water, expressed in terms of the height of water above a datum, per unit of distance in a given direction.

Hydrologic process means any hydrologic phenomenon that exhibits a continuous change in time, whether slow or rapid.

Hydrologic properties means those properties of a rock that govern the entrance of water and the capacity to hold, transmit, and deliver water, such as porosity, effective porosity, specific retention, permeability, and the directions of maximum and minimum permeabilities.

Igneous activity means the emplacement (intrusion) of molten rock material (magma) into material in the Earth's crust or the expulsion (extrusion) of such material onto the Earth's surface or into its atmosphere or surface water.

Isolation means inhibiting the transport of radioactive material so that the amounts and concentrations of this material entering the accessible environment will be kept within prescribed limits.

Likely means processing or displaying the qualities, characteristics, or attributes that provide a reasonable basis for confidence that what is expected indeed exists or will occur.

Lithosphere means the solid part of the Earth, including any ground water contained within it.

Member of the public means any individual who is not engaged in operations involving the management, storage, and disposal of radioactive waste. A worker so engaged is a member of the public except when on duty at the geologic-repository operations area.

Mitigation means: (1) Avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or (5) compensating for the impact by replacing or providing substitute resources or environments.

Model means a conceptual description and the associated mathematical representation of a system, subsystem, component, or condition that is used to predict changes from a baseline state as a function of internal and/or external stimuli and as a function of time and space.

NRC means the U.S. Nuclear Regulatory Commission or its duly authorized representatives.

Perched ground water means unconfined ground water separated from an underlying body of ground water by an unsaturated zone. Its water table is a perched water table. Perched ground water is held up by a perching bed whose permeability is so low that water percolating downward through it is not able to bring water in the underlying unsaturated zone above atmospheric pressure.

Performance assessment means any analysis that predicts the behavior of a

system or system component under a given set of constant and/or transient conditions. Performance assessments will include estimates of the effects of uncertainties in data and modeling.

Permanent closure is synonymous with "closure."

Postclosure means the period of time after the closure of the geologic repository.

Potentially acceptable site means any site at which, after geologic studies and field mapping but before detailed geologic data gathering, the DOE undertakes preliminary drilling and geophysical testing for the definition of site location.

Potentially adverse condition means a condition that is presumed to detract from expected system performance, but further evaluation, additional data, or the identification of compensating or mitigating factors may indicate that its effect on the expected system performance is acceptable.

Preclosure means the period of time before and during the closure of the geologic repository.

Pre-waste-emplacement means before the authorization of repository construction by the NRC.

Qualifying condition means a condition that must be satisfied for a site to be considered acceptable with respect to a specific guideline.

Quaternary Period means the second period of the Cenozoic Era, following the Tertiary, beginning 2 to 3 million years ago and extending to the present.

Radioactive waste or "waste" means high-level radioactive waste and other radioactive materials, including spent nuclear fuel, that are received for emplacement in a geologic repository.

Radioactive-waste facility means a facility subject to the licensing and related regulatory authority of the NRC pursuant to Sections 202(3) and 202(4) of the Energy Reorganization Act of 1974 (88 Stat. 1244).

Radionuclide retardation means the process or processes that cause the time required for a given radionuclide to move between two locations to be greater than the ground-water travel time, because of physical and chemical interactions between the radionuclide and the geohydrologic unit through which the radionuclide travels.

Reasonably available technology means technology which exists and has been demonstrated or for which the results of any requisite development, demonstration, or confirmatory testing efforts before application will be available within the required time period.

Repository is synonymous with “geologic repository.”

Repository closure is synonymous with “closure.”

Repository construction means all excavation and mining activities associated with the construction of shafts, shaft stations, rooms, and necessary openings in the underground facility, preparatory to radioactive-waste emplacement, as well as the construction of necessary surface facilities, but excluding site-characterization activities.

Repository operation means all of the functions at the site leading to and involving radioactive-waste emplacement in the underground facility, including receiving, transportation, handling, emplacement, and, if necessary, retrieval.

Repository support facilities means all permanent facilities constructed in support of site-characterization activities and repository construction, operation, and closure activities, including surface structures, utility lines, roads, railroads, and similar facilities, but excluding the underground facility.

Restricted area means any area access to which is controlled by the DOE for purposes of protecting individuals from exposure to radiation and radioactive materials before repository closure, but not including any areas used as residential quarters, although a separate room or rooms in a residential building may be set apart as a restricted area.

Retrieval means the act of intentionally removing radioactive waste before repository closure from the underground location at which the waste had been previously emplaced for disposal.

Saturated zone means that part of the Earth’s crust beneath the water table in which all voids, large and small, are ideally filled with water under pressure greater than atmospheric.

Secretary means the Secretary of Energy.

Site means a potentially acceptable site or a candidate site, as appropriate, until such time as the controlled area has been established, at which time the site and the controlled area are the same.

Site characterization means activities, whether in the laboratory or in the field, undertaken to establish the geologic conditions and the ranges of the parameters of a candidate site relevant to the location of a repository, including borings, surface excavations, excavations of exploratory shafts, limited subsurface lateral excavations and borings, and in situ testing needed to evaluate the suitability of a candidate site for the location of a repository, but not including preliminary borings and geophysical testing needed to assess whether site characterization should be undertaken.

Siting means the collection of exploration, testing, evaluation, and decision-making activities associated with the process of site screening, site nomination, site recommendation, and site approval for characterization or repository development.

Source term means the kinds and amounts of radionuclides that make up the source of a potential release of radioactivity.

Spent nuclear fuel means fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing.

Surface facilities means repository support facilities within the restricted area.

Surface water means any waters on the surface of the Earth, including fresh and salt water, ice, and snow.

System means the geologic setting at the site, the waste package, and the repository, all acting together to contain and isolate the waste.

System performance means the complete behavior of a repository system in response to the conditions, processes, and events that may affect it.

Tectonic means of, or pertaining to, the forces involved in, or the resulting structures or features of, *tectonics*.

Tectonics means the branch of geology dealing with the broad architecture of the outer part of the Earth, that is, the regional assembling of

structural or deformational features and the study of their mutual relations, origin, and historical evolution.

To the extent practicable means the degree to which an intended course of action is capable of being effected in a manner that is reasonable and feasible within a framework of constraints.

Underground facility means the underground structure and the rock required for support, including mined openings and backfill materials, but excluding shafts, boreholes, and their seals.

Unsaturated zone means the zone between the land surface and the water table. Generally, water in this zone is under less than atmospheric pressure, and some of the voids may contain air or other gases at atmospheric pressure. Beneath flooded areas or in perched water bodies, the water pressure locally may be greater than atmospheric.

Waste form means the radioactive waste materials and any encapsulating or stabilizing matrix.

Waste package means the waste form and any containers, shielding, packing, and other sorbent materials immediately surrounding an individual waste container.

Water table means that surface in a body of ground water at which the water pressure is atmospheric.

Subpart B—Implementation Guidelines

§ 960.3 Implementation guidelines.

The guidelines of this subpart establish the procedure and basis for applying the postclosure and the preclosure guidelines of subparts C and D, respectively, to evaluations of the suitability of sites for the development of repositories. As may be appropriate during the siting process, this procedure requires consideration of a variety of geohydrologic settings and rock types, regionality, and environmental impacts and consultation with affected States, affected Indian tribes, and Federal agencies.

§ 960.3-1 Siting provisions.

The siting provisions establish the framework for the implementation of the siting process specified in § 960.3-2. Sections 960.3-1-1 and 960.3-1-2 require that consideration be given to sites sit-

uated in different geohydrologic settings and different types of host rock, respectively. These diversity guidelines are intended to balance the process of site selection by requiring consideration of a variety of geologic conditions and media, and thereby enhance confidence in the technical suitability of sites selected for the development of repositories. As required by the Act, § 960.3-1-3 specifies consideration of a regional distribution of repositories after recommendation of a site for development of the first repository. Section 960.3-1-4 describes the evidence that is required to support siting decisions. Section 960.3-1-5 establishes the basis for site evaluations against the postclosure and the preclosure guidelines of subparts C and D during the various phases of the siting process.

§ 960.3-1-1 Diversity of geohydrologic settings.

Consideration shall be given to a variety of geohydrologic settings in which sites for the development of repositories may be located. To the extent practicable, sites recommended as candidate sites for characterization shall be located in different geohydrologic settings.

§ 960.3-1-2 Diversity of rock types.

Consideration shall be given to a variety of geologic media in which sites for the development of repositories may be located. To the extent practicable, and with due consideration of candidate sites characterized previously or approved for such characterization if the circumstances apply, sites recommended as candidate sites for characterization shall have different types of host rock.

§ 960.3-1-3 Regionality.

In making site recommendations for repository development after the site for the first repository has been recommended, the Secretary shall give due consideration to the need for, and the advantages of, a regional distribution in the siting of subsequent repositories. Such consideration shall take into account the proximity of sites to locations at which waste is generated or temporarily stored and at which

other repositories have been or are being developed.

§ 960.3-1-4 Evidence for siting decisions.

The siting process involves a sequence of four decisions: The identification of potentially acceptable sites; the nomination of sites as suitable for characterization; the recommendation of sites as candidate sites for site characterization; and after the completion of site characterization and nongeologic data gathering, the recommendation of a candidate site for the development of a repository. Each of these decisions will be supported by the evidence specified below.

§ 960.3-1-4-1 Site identification as potentially acceptable.

The evidence for the identification of a potentially acceptable site shall be the types of information specified in appendix IV of this part. Such evidence will be relatively general and less detailed than that required for the nomination of a site as suitable for characterization. Because the gathering of detailed geologic data will not take place until after the recommendation of a site for characterization, the levels of information may be relatively greater for the evaluation of those guidelines in subparts C and D that pertain to surface-identifiable factors for such site. The sources of information shall include the literature in the public domain and the private sector, when available, and will be supplemented in some instances by surface investigations and conceptual engineering design studies conducted by the DOE. Geologic surface investigations may include the mapping of identifiable rock masses, fracture and joint characteristics, and fault zones. Other surface investigations will consider the aquatic and terrestrial ecology; water rights and uses; topography; potential offsite hazards; natural resource concentrations; national or State protected resources; existing transportation systems; meteorology and climatology; population densities, centers, and distributions; and general socioeconomic characteristics.

§ 960.3-1-4-2 Site nomination for characterization.

The evidence required to support the nomination of a site as suitable for characterization shall include the types of information specified in appendix IV of this part and shall be contained or referenced in the environmental assessments to be prepared in accordance with the requirements of the Act. The source of this information shall include the literature and related studies in the public domain and the private sector, when available, and various meteorological, environmental, socioeconomic, and transportation studies conducted by the DOE in the affected area; exploratory boreholes in the region of such site, including lithologic logging and hydrologic and geophysical testing of such boreholes, laboratory testing of core samples for the evaluation of geochemical and engineering rock properties, and chemical analyses of water samples from such boreholes; surface investigations, including geologic mapping and geophysical surveys, and compilations of satellite imagery data; in situ or laboratory testing of similar rock types under expected repository conditions; evaluations of natural and man-made analogs of the repository and its subsystems, such as geothermally active areas, underground excavations, and case histories of socioeconomic cycles in areas that have experienced intermittent large-scale construction and industrial activities; and extrapolations of regional data to estimate site-specific characteristics and conditions. The exact types and amounts of information to be collected within the above categories, including such details as the specific types of hydrologic tests, combinations of geophysical tests, or number of exploratory boreholes, are dependent on the site-specific needs for the application of the guidelines of subparts C and D, in accordance with the provisions of this subpart and the application requirements set forth in appendix III of this part. The evidence shall also include those technical evaluations that use the information specified above and that provide additional bases for evaluating the ability of a site to meet the qualifying conditions of the guidelines

of subparts C and D. In developing the above-mentioned bases for evaluation, as may be necessary, assumptions that approximate the characteristics or conditions considered to exist at a site, or expected to exist or occur in the future, may be used. These assumptions will be realistic but conservative enough to underestimate the potential for a site to meet the qualifying condition of a guideline; that is, the use of such assumptions should not lead to an exaggeration of the ability of a site to meet the qualifying condition.

§ 960.3-1-4-3 Site recommendation for characterization.

The evidence required to support the recommendation of a site as a candidate site for characterization shall consist of the evaluations and data contained or referenced in the environmental assessment for such site, unless the Secretary certifies that such information, in the absence of additional preliminary borings or excavations, will not be adequate to satisfy applicable requirements of the Act.

§ 960.3-1-4-4 Site recommendation for repository development.

The evidence required to support the recommendation of a candidate site for the development of a repository, after the completion of characterization activities at such site, shall consist of the information specified in section 114(a) of the Act for the comprehensive statement of the basis for such recommendation and section 114(f) of the Act for the environmental impact statement. This evidence shall be obtained by the characterization of such site, according to the requirements specified in section 113(b) of the Act and in 10 CFR 60.11, and by nongeologic data gathering.

§ 960.3-1-5 Basis for site evaluations.

Evaluations of individual sites and comparisons between and among sites shall be based on the postclosure and preclosure guidelines specified in subparts C and D, respectively. Except for screening for potentially acceptable sites as specified in § 960.3-2-1, such evaluations shall place *primary significance* on the postclosure guidelines and *secondary significance* on the preclosure

guidelines, with each set of guidelines considered collectively for such purposes. Both the postclosure and the preclosure guidelines consist of a system guideline or guidelines and corresponding groups of technical guidelines. The postclosure guidelines of subpart C contain eight technical guidelines in one group. The preclosure guidelines of subpart D contain eleven technical guidelines separated into three groups that represent, *in decreasing order of importance*, preclosure radiological safety; environment, socioeconomics, and transportation; and ease and cost of siting, construction, operation, and closure. The relative significance of any technical guideline to its corresponding system guideline is site specific. Therefore, for each technical guideline, an evaluation of compliance with the qualifying condition shall be made in the context of the collection of system elements and the evidence related to that guideline, considering on balance the favorable conditions and the potentially adverse conditions identified at a site. Similarly, for each system guideline, such evaluation shall be made in the context of the group of technical guidelines and the evidence related to that system guideline. For purposes of recommending sites for development as repositories, such evidence shall include analyses of expected repository performance to assess the likelihood of demonstrating compliance with 40 CFR part 191 and 10 CFR part 60, in accordance with § 960.4-1. A site shall be disqualified at any time during the siting process if the evidence supports a finding by the DOE that a disqualifying condition exists or the qualifying condition of any system or technical guideline cannot be met. Comparisons between and among sites shall be based on the system guidelines, to the extent practicable and in accordance with the levels of relative significance specified above for the postclosure and the preclosure guidelines. Such comparisons are intended to allow comparative evaluations of sites in terms of the capabilities of the natural barriers for waste isolation and to identify innate deficiencies that could jeopardize compliance with such requirements. If the evidence for the sites is not adequate

to substantiate such comparisons, then the comparisons shall be based on the groups of technical guidelines under the postclosure and the preclosure guidelines, considering the levels of relative significance appropriate to the postclosure and the preclosure guidelines and the order of importance appropriate to the subordinate groups within the preclosure guidelines. Comparative site evaluations shall place primary importance on the natural barriers of the site. In such evaluations for the postclosure guidelines of subpart C, engineered barriers shall be considered only to the extent necessary to obtain realistic source terms for comparative site evaluations based on the sensitivity of the natural barriers to such realistic engineered barriers. For a better understanding of the potential effects of engineered barriers on the overall performance of the repository system, these comparative evaluations shall consider a range of levels in the performance of the engineered barriers. That range of performance levels shall vary by at least a factor of 10 above and below the engineered-barrier performance requirements set forth in 10 CFR 60.113, and the range considered shall be identical for all sites compared. The comparisons shall assume equivalent engineered-barrier performance for all sites compared and shall be structured so that engineered barriers are not relied upon to compensate for deficiencies in the geologic media. Furthermore, engineered barriers shall not be used to compensate for an inadequate site; mask the innate deficiencies of a site; disguise the strengths and weaknesses of a site and the overall system; and mask differences between sites when they are compared. Site comparisons performed to support the recommendation of sites for the development of repositories in § 960.3-2-4 shall evaluate predicted releases of radionuclides to the accessible environment. For the purposes of such comparison, the accessible environment shall consist of the atmosphere, the land surface, any nearby surface water, and those portions of the lithosphere that are situated more than 10 kilometers in a horizontal direction from the outer boundary of the original location of the waste emplace-

ment in the geologic repository. Releases of different radionuclides shall be combined by the methods specified in appendix A of 40 CFR part 191. The comparisons specified above shall consist of two comparative evaluations that predict radionuclide releases for 100,000 years after repository closure and shall be conducted as follows. First, the sites shall be compared by means of evaluations that emphasize the performance of the natural barriers at the site. Second, the sites shall be compared by means of evaluations that emphasize the performance of the total repository system. These second evaluations shall consider the expected performance of the repository system; be based on the expected performance of waste packages and waste forms, in compliance with the requirements of 10 CFR 60.113, and on the expected hydrologic and geochemical conditions at each site; and take credit for the expected performance of all other engineered components of the repository system. The comparison of isolation capability shall be one of the significant considerations in the recommendation of sites for the development of repositories. The first of the two comparative evaluations specified in the preceding paragraph shall take precedence unless the second comparative evaluation would lead to substantially different recommendations. In the latter case, the two comparative evaluations shall receive comparable consideration. Sites with predicted isolation capabilities that differ by less than a factor of 10, with similar uncertainties, may be assumed to provide equivalent isolation.

§ 960.3-2 Siting process.

The siting process begins with site screening for the identification of potentially acceptable sites. This process was completed for purposes of the first repository before the enactment of the Act, and the identification of such sites was made after enactment in accordance with the provisions of section 116(a) of the Act. The screening process for the identification of potentially acceptable sites for the second and subsequent repositories shall be conducted in accordance with the requirements specified in § 960.3-2-1 of this subpart.

The nomination of any site as suitable for characterization shall follow the process specified in § 960.3-2-2, and such nomination shall be accompanied by an environmental assessment as specified in section 112(b)(1)(E) of the Act. The recommendation of sites as candidate sites for characterization and the recommendation of a characterized site for the development of a repository shall be accomplished in accordance with the requirements specified in §§ 960.3-2-3 and 960.3-2-4, respectively.

§ 960.3-2-1 Site screening for potentially acceptable sites.

To identify potentially acceptable sites for the development of other than the first repository, the process shall begin with site-screening activities that consider large land masses that contain rock formations of suitable depth, thickness, and lateral extent and have structural, hydrologic, and tectonic features favorable for waste containment and isolation. Within those large land masses, subsequent site-screening activities shall focus on successively smaller and increasingly more suitable land units. This process shall be developed in consultation with the States that contain land units under consideration. It shall be implemented in a sequence of steps that first applies the applicable disqualifying conditions to eliminate land units on the basis of the evidence specified in § 960.3-1-4-1 and in accordance with the application requirements set forth in appendix III of this part. After the disqualifying conditions have been applied, the favorable and potentially adverse conditions, as identified for each remaining land unit, shall be evaluated. The presence of favorable conditions shall favor a given land unit, while the presence of potentially adverse conditions shall penalize that land unit. Recognizing that favorable conditions and potentially adverse conditions for different technical guidelines can exist in the same land unit, the DOE shall seek to evaluate the composite favorability of each land unit. Land units that, in the aggregate, exhibit potentially adverse conditions shall be deferred in favor of land units that exhibit favorable conditions. The siting provisions that re-

quire diversity of geohydrologic settings and rock types and consideration of regionality, as specified in §§ 960.3-1-1, 960.3-1-2, and 960.3-1-3, respectively, may be used to discriminate between land units and to establish the range of options in site screening. To identify a site as potentially acceptable, the evidence shall support a finding that the site is not disqualified in accordance with the application requirements set forth in appendix III of this part and shall support the decision by the DOE to proceed the continued investigation of the site on the basis of the favorable and potentially adverse conditions identified to date. In continuation of the screening process after such identification and before site nomination, the DOE may defer from further consideration land units or potentially acceptable sites or portions thereof on the basis of additional information or by the application of the siting provisions for diversity of geohydrologic settings, diversity of rock types, and regionality (§§ 960.3-1-1, 960.3-1-2, and 960.3-1-3, respectively). The deferral of potentially acceptable sites will be described in the environmental assessments that accompany the nomination of at least five sites as suitable for characterization. In order to identify potentially acceptable sites for the second and subsequent repositories, the Secretary shall *first* identify the State within which the site is located in a decision-basis document that describes the process and the considerations that led to the identification of such site and that has been issued previously in draft for review and comment by such State. *Second*, when such document is final, the Secretary shall notify the Governor and the legislature of that State and the tribal council of any affected Indian tribe of the potentially acceptable site.

§ 960.3-2-2 Nomination of sites as suitable for characterization.

From the sites identified as potentially acceptable, the Secretary shall nominate at least five sites determined suitable for site characterization for the selection of each repository site. For the second repository, at least three of the sites shall not have been

nominated previously. Any site nominated as suitable for characterization for the first repository, but not recommended as a candidate site for characterization, may not be nominated as suitable for characterization for the second repository. The nomination of a site as suitable for characterization shall be accompanied by an environmental assessment as specified in section 112(b)(1)(E) of the Act. Such nomination shall be based on evaluations in accordance with the guidelines of this part, and the bases and relevant details of those evaluations and of the decision processes involved therein shall be contained in the environmental assessment for the site in the manner specified in this subpart. The evidence required to support such evaluations and siting decisions is specified in § 960.3-1-4-2.

§ 960.3-2-2-1 Evaluation of all potentially acceptable sites.

First, in considering sites for nomination, each of the potentially acceptable sites shall be evaluated on the basis of the disqualifying conditions specified in the technical guidelines of subparts C and D, in accordance with the application requirements set forth in appendix III of this part. This evaluation shall support a finding by the DOE that such sites is not disqualified.

§ 960.3-2-2-2 Selection of sites within geohydrologic settings.

Second, the siting provision requiring diversity of geohydrologic settings, as specified in § 960.3-1-1, shall be applied to group all potentially acceptable sites according to their geohydrologic settings. *Third*, for those geohydrologic settings that contain more than one potentially acceptable site, the preferred site shall be selected on the basis of a comparative evaluation of all potentially acceptable sites in that setting. This evaluation shall consider the distinguishing characteristics displayed by the potentially acceptable sites within the setting and the related guidelines from subparts C and D. That is, the appropriate guidelines shall be selected primarily on the basis of the kinds of evidence among sites for which distinguishing characteristics can be identified. Such comparative

evaluation shall be made on the basis of the qualifying conditions for those guidelines, considering, on balance, the favorable conditions and potentially adverse conditions identified at each site. Due consideration shall also be given to the siting provisions specifying the basis for site evaluations in § 960.3-1-5, to the extent practicable, and diversity of rock types in § 960.3-1-2, if the circumstances so apply. If less than five geohydrologic settings are available for consideration, the above process shall be used to select two or more preferred sites from those settings that contain more than one potentially acceptable site, as required to obtain the number of sites to be nominated as suitable for characterization. For purposes of the second and subsequent repositories, due consideration shall also be given to the siting provision for regionality as specified in § 960.3-1-3. *Fourth*, each preferred site within a geohydrologic setting shall be evaluated as to whether such site is suitable for the development of a repository under the qualifying condition of each guideline specified in subparts C and D that does not require site characterization as a prerequisite for the application of such guideline. The guidelines considered appropriate to this evaluation have been selected on the basis of their exclusion under the definition of site characterization as specified in § 960.2. Although the final application of these guidelines, in accordance with the provisions set forth in appendix III of this part, does not require geologic data from site-characterization activities, such application will require additional data beyond those specified in appendix IV of this part, which will be obtained concurrently with site characterization. Such guidelines include those specified in § 960.4-2-8-2 (Site Ownership and Control) of subpart C; §§ 960.5-1(a)(1) and 960.5-1(a)(2) of subpart D (preclosure system guidelines for radiological safety and environmental quality, socioeconomic, and transportation); and §§ 960.5-2-1 through 960.5-2-7 of subpart D (Population Density and Distribution, Site Ownership and Control, Meteorology, Offsite Installations and Operations, Environmental Quality,

Socioeconomic Impacts, and Transportation). This evaluation shall consider on balance those favorable conditions and potentially adverse conditions identified as such at a preferred site in relation to the qualifying condition of each such guideline. For each such guideline, this evaluation shall focus on the suitability of the site for the development of a repository by considering the activities from the start of site characterization through decommissioning and shall support a finding by the DOE in accordance with the application requirements set forth in appendix III of this part. *Fifth*, each preferred site within a geohydrologic setting shall be evaluated as to whether such site is suitable for site characterization under the qualifying conditions of those guidelines specified in subparts C and D that require characterization (i.e., subsurface geologic, hydrologic, and geochemical data gathering). Such guidelines include those specified in § 960.4-1(a) (postclosure system guideline); §§ 960.4-2-1 through 960.4-2-8-1 of subpart C (Geohydrology, Geochemistry, Rock Characteristics, Climatic Changes, Erosion, Dissolution, Tectonics, Human Interference, and Natural Resources); § 960.5-1(a)(3) (preclosure system guideline for ease and cost of siting, construction, operation, and closure); and § 960.5-2-8 through 960.5-2-11 of subpart D (Surface Characteristics, Rock Characteristics, Hydrology, and Tectonics). This evaluation shall consider on balance the favorable conditions and potentially adverse conditions identified as such at a preferred site in relation to the qualifying condition of each such guideline. For each such guideline, this evaluation shall focus on the suitability of the site for characterization and shall support a finding by the DOE in accordance with the application requirements set forth in appendix III of this part.

§ 960.3-2-2-3 Comparative evaluation of all sites proposed for nomination.

Sixth, for those potentially acceptable sites to be proposed for nomination, as determined by the process specified in § 960.3-2-2-2, a reasonable comparative evaluation of each such site with all other such sites shall be

made. For each site and for each guideline specified in subparts C and D, the DOE shall summarize the evaluations and findings specified under § 960.3-2-2-1 and under the fourth and fifth provisions of § 960.3-2-2-2. Each such summary shall allow comparisons to be made among sites on this basis of each guideline.

§ 960.3-2-2-4 The environmental assessment.

To document the process specified above, and in compliance with section 112(b)(1)(E) of the Act, an environmental assessment shall be prepared for each site proposed for nomination as suitable for characterization. Each such environmental assessment shall describe the decision process by which such site was proposed for nomination as described in the preceding six steps and shall contain or reference the evidence that supports such process according to the requirements of § 960.3-1-4-2 and appendix IV of this part. As specified in the Act, each environmental assessment shall include an evaluation of the effects of the site-characterization activities at the site on public health and safety and the environment; a discussion of alternative activities related to site characterization that may be taken to avoid such impact; and an assessment of the regional and local impacts of locating a repository at the site. The draft environmental assessment for each site proposed for nomination as suitable for characterization shall be made available by the DOE for public comment after the Secretary has notified the Governor and legislature of the State in which the site is located, and the governing body of the affected Indian tribe where such site is located, of such impending availability.

§ 960.3-2-2-5 Formal site nomination.

After the final environmental assessments have been prepared, the Secretary shall nominate at least five sites that he determines suitable for site characterization for the selection of a repository site, and, in so doing, he shall cause to have published in the FEDERAL REGISTER a notice specifying the sites so nominated and announcing

the availability of the final environmental assessments for such sites. This determination by the Secretary shall be based on the final environmental assessments for such sites, including, in particular, consideration of the available evidence, evaluations, and the resultant findings for the guidelines of subparts C and D so specified under the fourth and fifth provisions of § 960.3-2-2. Before nominating a site, the Secretary shall notify the Governor and legislature of the State in which the site is located, and the governing body of the affected Indian tribe where such site is located, of such nomination and the basis for such nomination.

§ 960.3-2-3 Recommendation of sites for characterization.

After the nomination of at least five sites as suitable for site characterization for the selection of the first repository, the Secretary shall recommend in writing to the President not less than three candidate sites for such characterization. The recommendation decision shall be based on the available geophysical, geologic, geochemical, and hydrologic data; other information; associated evaluations and findings reported in the environmental assessments accompanying the nominations; and the considerations specified below, unless the Secretary certifies that such available data will not be adequate to satisfy applicable requirements of the Act in the absence of further preliminary borings or excavations. On the basis of the evidence and in accordance with the siting provision specifying the basis for site evaluations in § 960.3-1-5, the sites nominated as suitable for characterization shall be considered as to their order of preference as candidate sites for characterization. Subsequently, the siting provisions specifying diversity of geohydrologic settings, diversity of rock types, and, after the first repository, consideration of regionality in §§ 960.3-1-1, 960.3-1-2, and 960.3-1-3, respectively, shall be considered to determine a final order of preference for the characterization of such sites. Considering this order of preference together with the available siting alternatives specified in the Act, the sites recommended as candidate sites for char-

acterization shall offer, on balance, the most advantageous combination of characteristics and conditions for the successful development of repositories at such sites. The process for the recommendation of sites as candidate sites for characterization for the selection of any subsequent repository shall be the same as that specified above for the first repository.

§ 960.3-2-4 Recommendation of sites for the development of repositories.

After completion of site characterization and nongeologic data gathering activities at the candidate sites for the development of the first repository, or from all of the characterized sites for the development of subsequent repositories, the candidate sites shall be compared with each other on the basis of the guidelines specified in subparts C and D according to the siting provision specifying the basis for site evaluations in § 960.3-1-5. This comparison shall lead to a recommendation by the Secretary to the President of a site for the development of a repository. Together with any recommendation to the President to approve a site for the development of a repository, the Secretary shall make available to the public, and submit to the President, a comprehensive statement of the basis of such recommendation pursuant to the requirements specified in section 114(a)(1) of the Act, including an environmental impact statement prepared in accordance with the provisions of sections 114(a)(1)(D) and 114(f) of the Act. The environmental impact statement shall include the results of the comparative evaluation specified above and a description of the decision process that resulted in the selection of the candidate site recommended for the development of such repository.

§ 960.3-3 Consultation.

The DOE shall provide to designated officials of the affected States and to the governing bodies of any affected Indian tribe timely and complete information regarding determinations or plans made with respect to the siting, site characterization, design, development, construction, operation, closure, decommissioning, licensing, or regulation of a repository. Written responses

to written requests for information from the designated officials of affected States or affected Indian tribes will be provided within 30 days after receipt of the written requests. In performing any study of an area for the purpose of determining the suitability of such area for the development of a repository, the DOE shall consult and cooperate with the Governor and the legislature of an affected State and the governing body of an affected Indian tribe in an effort to resolve concerns regarding public health and safety, environmental impacts, socioeconomic impacts, and technical aspects of the siting process. After notifying affected States and affected Indian tribes that potentially acceptable sites have been identified, or that a site has been approved for characterization, the DOE shall seek to enter into binding written agreements with such affected States or affected Indian tribes in accordance with the requirements of the Act. The DOE shall also consult, as appropriate, with other Federal agencies.

§ 960.3-4 Environmental impacts.

Environmental impacts shall be considered by the DOE throughout the site characterization, site selection, and repository development process. The DOE shall mitigate significant adverse environmental impacts, to the extent practicable, during site characterization and repository construction, operation, closure, and decommissioning.

Subpart C—Postclosure Guidelines

§ 960.4 Postclosure guidelines.

The guidelines in this subpart specify the factors to be considered in evaluating and comparing sites on the basis of expected repository performance after closure. The postclosure guidelines are separated into a system guideline and eight technical guidelines. The system guideline establishes waste containment and isolation requirements that are based on NRC and EPA regulations. These requirements must be met by the repository system, which contains natural barriers and engineered barriers. The engineered barriers will be designed to complement the natural barriers, which provide the primary means for waste isolation.

§ 960.4-1 System guideline.

(a) *Qualifying Condition.* The geologic setting at the site shall allow for the physical separation of radioactive waste from the accessible environment after closure in accordance with the requirements of 40 CFR part 191, subpart B, as implemented by the provisions of 10 CFR part 60. The geologic setting at the site will allow for the use of engineered barriers to ensure compliance with the requirements of 40 CFR part 191 and 10 CFR part 60 (see appendix I of this part).

§ 960.4-2 Technical guidelines.

The technical guidelines in this subpart set forth qualifying, favorable, potentially adverse, and, in five guidelines, disqualifying conditions on the characteristics, processes, and events that may influence the performance of a repository system after closure. The favorable conditions and the potentially adverse conditions under each guideline are *not* listed in any assumed order of importance. Potentially adverse conditions will be considered if they affect waste isolation within the controlled area even though such conditions may occur outside the controlled area. The technical guidelines that follow establish conditions that shall be considered in determining compliance with the qualifying condition of the postclosure system guideline. For each technical guideline, an evaluation of qualification or disqualification shall be made in accordance with the requirements specified in subpart B.

§ 960.4-2-1 Geohydrology.

(a) *Qualifying condition.* The present and expected geohydrologic setting of a site shall be compatible with waste containment and isolation. The geohydrologic setting, considering the characteristics of and the processes operating within the geologic setting, shall permit compliance with (1) the requirements specified in § 960.4-1 for radionuclide releases to the accessible environment and (2) the requirements specified in 10 CFR 60.113 for radionuclide releases from the engineered-barrier system using reasonably available technology.

(b) *Favorable conditions.* (1) Site conditions such that the pre-waste-emplacment ground-water travel time along any path of likely radionuclide travel from the disturbed zone to the accessible environment would be more than 10,000 years.

(2) The nature and rates of hydrologic processes operating within the geologic setting during the Quaternary Period would, if continued into the future, not affect or would favorably affect the ability of the geologic repository to isolate the waste during the next 100,000 years.

(3) Sites that have stratigraphic, structural, and hydrologic features such that the geohydrologic system can be readily characterized and modeled with reasonable certainty.

(4) For disposal in the saturated zone, at least one of the following pre-waste-emplacment conditions exists:

(i) A host rock and immediately surrounding geohydrologic units with low hydraulic conductivities.

(ii) A downward or predominantly horizontal hydraulic gradient in the host rock and in the immediately surrounding geohydrologic units.

(iii) A low hydraulic gradient in and between the host rock and the immediately surrounding geohydrologic units.

(iv) High effective porosity together with low hydraulic conductivity in rock units along paths of likely radionuclide travel between the host rock and the accessible environment.

(5) For disposal in the unsaturated zone, at least one of the following pre-waste-emplacment conditions exists:

(i) A low and nearly constant degree of saturation in the host rock and in the immediately surrounding geohydrologic units.

(ii) A water table sufficiently below the underground facility such that the fully saturated voids continuous with the water table do not encounter the host rock.

(iii) A geohydrologic unit above the host rock that would divert the downward infiltration of water beyond the limits of the emplaced waste.

(iv) A host rock that provides for free drainage.

(v) A climatic regime in which the average annual historical precipitation

is a small fraction of the average annual potential evapotranspiration.

NOTE: The DOE will, in accordance with the general principles set forth in §960.1 of these regulations, revise the guidelines as necessary, to ensure consistency with the final NRC regulations on the unsaturated zone, which were published as a proposed rule on February 16, 1984, in 49 FR 5934.

(c) *Potentially adverse conditions.* (1) Expected changes in geohydrologic conditions—such as changes in the hydraulic gradient, the hydraulic conductivity, the effective porosity, and the ground-water flux through the host rock and the surrounding geohydrologic units—sufficient to significantly increase the transport of radionuclides to the accessible environment as compared with pre-waste-emplacment conditions.

(2) The presence of ground-water sources, suitable for crop irrigation or human consumption without treatment, along ground-water flow paths from the host rock to the accessible environment.

(3) The presence in the geologic setting of stratigraphic or structural features—such as dikes, sills, faults, shear zones, folds, dissolution effects, or brine pockets—if their presence could significantly contribute to the difficulty of characterizing or modeling the geohydrologic system.

(d) *Disqualifying condition.* A site shall be disqualified if the pre-waste-emplacment ground-water travel time from the disturbed zone to the accessible environment is expected to be less than 1,000 years along any pathway of likely and significant radionuclide travel.

§960.4-2-2 Geochemistry.

(a) *Qualifying condition.* The present and expected geochemical characteristics of a site shall be compatible with waste containment and isolation. Considering the likely chemical interactions among radionuclides, the host rock, and the ground water, the characteristics of and the processes operating within the geologic setting shall permit compliance with (1) the requirements specified in §960.4-1 for radionuclide releases to the accessible environment and (2) the requirements specified in 10 CFR 60.113 for radionuclide

releases from the engineered-barrier system using reasonably available technology.

(b) *Favorable conditions.* (1) The nature and rates of the geochemical processes operating within the geologic setting during the Quaternary Period would, if continued into the future, not affect or would favorably affect the ability of the geologic repository to isolate the waste during the next 100,000 years.

(2) Geochemical conditions that promote the precipitation, diffusion into the rock matrix, or sorption of radionuclides; inhibit the formation of particulates, colloids, inorganic complexes, or organic complexes that increase the mobility of radionuclides; or inhibit the transport of radionuclides by particulates, colloids, or complexes.

(3) Mineral assemblages that, when subjected to expected repository conditions, would remain unaltered or would alter to mineral assemblages with equal or increased capability to retard radionuclide transport.

(4) A combination of expected geochemical conditions and a volumetric flow rate of water in the host rock that would allow less than 0.001 percent per year of the total radionuclide inventory in the repository at 1,000 years to be dissolved.

(5) Any combination of geochemical and physical retardation processes that would decrease the predicted peak cumulative releases of radionuclides to the accessible environment by a factor of 10 as compared to those predicted on the basis of ground-water travel time without such retardation.

(c) *Potentially adverse conditions.* (1) Ground-water conditions in the host rock that could affect the solubility or the chemical reactivity of the engineered-barrier system to the extent that the expected repository performance could be compromised.

(2) Geochemical processes or conditions that could reduce the sorption of radionuclides or degrade the rock strength.

(3) Pre-waste-emplacement ground-water conditions in the host rock that are chemically oxidizing.

§ 960.4-2-3 Rock characteristics.

(a) *Qualifying condition.* The present and expected characteristics of the host rock and surrounding units shall be capable of accommodating the thermal, chemical, mechanical, and radiation stresses expected to be induced by repository construction, operation, and closure and by expected interactions among the waste, host rock, ground water, and engineered components. The characteristics of and the processes operating within the geologic setting shall permit compliance with (1) the requirements specified in § 960.4-1 for radionuclide releases to the accessible environment and (2) the requirements set forth in 10 CFR 60.113 for radionuclide releases from the engineered-barrier system using reasonably available technology.

(b) *Favorable Conditions.* (1) A host rock that is sufficiently thick and laterally extensive to allow significant flexibility in selecting the depth, configuration, and location of the underground facility to ensure isolation.

(2) A host rock with a high thermal conductivity, a low coefficient of thermal expansion, or sufficient ductility to seal fractures induced by repository construction, operation, or closure or by interactions among the waste, host rock, ground water, and engineered components.

(c) *Potentially adverse conditions.* (1) Rock conditions that could require engineering measures beyond reasonably available technology for the construction, operation, and closure of the repository, if such measures are necessary to ensure waste containment or isolation.

(2) Potential for such phenomena as thermally induced fractures, the hydration or dehydration of mineral components, brine migration, or other physical, chemical, or radiation-related phenomena that could be expected to affect waste containment or isolation.

(3) A combination of geologic structure, geochemical and thermal properties, and hydrologic conditions in the host rock and surrounding units such that the heat generated by the waste

could significantly decrease the isolation provided by the host rock as compared with pre-waste-emplacment conditions.

§ 960.4-2-4 Climatic changes.

(a) *Qualifying condition.* The site shall be located where future climatic conditions will not be likely to lead to radionuclide releases greater than those allowable under the requirements specified in § 960.4-1. In predicting the likely future climatic conditions at a site, the DOE will consider the global, regional, and site climatic patterns during the Quaternary Period, considering the geomorphic evidence of the climatic conditions in the geologic setting.

(b) *Favorable conditions.* (1) A surface-water system such that expected climatic cycles over the next 100,000 years would not adversely affect waste isolation.

(2) A geologic setting in which climatic changes have had little effect on the hydrologic system throughout the Quaternary Period.

(c) *Potentially adverse conditions.* (1) Evidence that the water table could rise sufficiently over the next 10,000 years to saturate the underground facility in a previously unsaturated host rock.

(2) Evidence that climatic changes over the next 10,000 years could cause perturbations in the hydraulic gradient, the hydraulic conductivity, the effective porosity, or the ground-water flux through the host rock and the surrounding geohydrologic units, sufficient to significantly increase the transport of radionuclides to the accessible environment.

§ 960.4-2-5 Erosion.

(a) *Qualifying condition.* The site shall allow the underground facility to be placed at a depth such that erosional processes acting upon the surface will not be likely to lead to radionuclide releases greater than those allowable under the requirements specified in § 960.4-1. In predicting the likelihood of potentially disruptive erosional processes, the DOE will consider the climatic, tectonic, and geomorphic evidence of rates and patterns of erosion in the geologic setting during the Quaternary Period.

(b) *Favorable conditions.* (1) Site conditions that permit the emplacement of waste at a depth of at least 300 meters below the directly overlying ground surface.

(2) A geologic setting where the nature and rates of the erosional processes that have been operating during the Quaternary Period are predicted to have less than one chance in 10,000 over the next 10,000 years of leading to releases of radionuclides to the accessible environment.

(3) Site conditions such that waste exhumation would not be expected to occur during the first one million years after repository closure.

(c) *Potentially adverse conditions.* (1) A geologic setting that shows evidence of extreme erosion during the Quaternary Period.

(2) A geologic setting where the nature and rates of geomorphic processes that have been operating during the Quaternary Period could, during the first 10,000 years after closure, adversely affect the ability of the geologic repository to isolate the waste.

(d) *Disqualifying condition.* The site shall be *disqualified* if site conditions do not allow all portions of the underground facility to be situated at least 200 meters below the directly overlying ground surface.

§ 960.4-2-6 Dissolution.

(a) *Qualifying condition.* The site shall be located such that any subsurface rock dissolution will not be likely to lead to radionuclide releases greater than those allowable under the requirements specified in § 960.4-1. In predicting the likelihood of dissolution within the geologic setting at a site, the DOE will consider the evidence of dissolution within that setting during the Quaternary Period, including the locations and characteristics of dissolution fronts or other dissolution features, if identified.

(b) *Favorable condition.* No evidence that the host rock within the site was subject to significant dissolution during the Quaternary Period.

(c) *Potentially adverse condition.* Evidence of dissolution within the geologic setting—such as breccia pipes, dissolution cavities, significant volumetric reduction of the host rock or

surrounding strata, or any structural collapse—such that a hydraulic interconnection leading to a loss of waste isolation could occur.

(d) *Disqualifying condition.* The site shall be *disqualified* if it is likely that, during the first 10,000 years after closure, active dissolution, as predicted on the basis of the geologic record, would result in a loss of waste isolation.

§ 960.4-2-7 Tectonics.

(a) *Qualifying condition.* The site shall be located in a geologic setting where future tectonic processes or events will not be likely to lead to radionuclide releases greater than those allowable under the requirements specified in § 960.4-1. In predicting the likelihood of potentially disruptive tectonic processes or events, the DOE will consider the structural, stratigraphic, geophysical, and seismic evidence for the nature and rates of tectonic processes and events in the geologic setting during the Quaternary Period.

(b) *Favorable condition.* The nature and rates of igneous activity and tectonic processes (such as uplift, subsidence, faulting, or folding), if any, operating within the geologic setting during the Quaternary Period would, if continued into the future, have less than one chance in 10,000 over the first 10,000 years after closure of leading to releases of radionuclides to the accessible environment.

(c) *Potentially adverse conditions.* (1) Evidence of active folding, faulting, diapirism, uplift, subsidence, or other tectonic processes or igneous activity within the geologic setting during the Quaternary Period.

(2) Historical earthquakes within the geologic setting of such magnitude and intensity that, if they recurred, could affect waste containment or isolation.

(3) Indications, based on correlations of earthquakes with tectonic processes and features, that either the frequency of occurrence or the magnitude of earthquakes within the geologic setting may increase.

(4) More-frequent occurrences of earthquakes or earthquakes of higher magnitude than are representative of the region in which the geologic setting is located.

(5) Potential for natural phenomena such as landslides, subsidence, or volcanic activity of such magnitudes that they could create large-scale surface-water impoundments that could change the regional ground-water flow system.

(6) Potential for tectonic deformations—such as uplift, subsidence, folding, or faulting—that could adversely affect the regional ground-water flow system.

(d) *Disqualifying condition.* A site shall be disqualified if, based on the geologic record during the Quaternary Period, the nature and rates of fault movement or other ground motion are expected to be such that a loss of waste isolation is likely to occur.

§ 960.4-2-8 Human interference.

The site shall be located such that activities by future generations at or near the site will not be likely to affect waste containment and isolation. In assessing the likelihood of such activities, the DOE will consider the estimated effectiveness of the permanent markers and records required by 10 CFR part 60, taking into account site-specific factors, as stated in §§ 960.4-2-8-1 and 960.4-2-8-2, that could compromise their continued effectiveness.

§ 960.4-2-8-1 Natural resources.

(a) *Qualifying condition.* This site shall be located such that—considering permanent markers and records and reasonable projections of value, scarcity, and technology—the natural resources, including ground water suitable for crop irrigation or human consumption without treatment, present at or near the site will not be likely to give rise to interference activities that would lead to radionuclide releases greater than those allowable under the requirements specified in § 960.4-1.

(b) *Favorable conditions.* (1) No known natural resources that have or are projected to have in the foreseeable future a value great enough to be considered a commercially extractable resource.

(2) Ground water with 10,000 parts per million or more of total dissolved solids along any path of likely radionuclide travel from the host rock to the accessible environment.

(c) *Potentially adverse conditions.* (1) Indications that the site contains naturally occurring materials, whether or not actually identified in such form that (i) economic extraction is potentially feasible during the foreseeable future or (ii) such materials have a greater gross value, net value, or commercial potential than the average for other areas of similar size that are representative of, and located in, the geologic setting.

(2) Evidence of subsurface mining or extraction for resources within the site if it could affect waste containment or isolation.

(3) Evidence of drilling within the site for any purpose other than repository-site evaluation to a depth sufficient to affect waste containment and isolation.

(4) Evidence of a significant concentration of any naturally occurring material that is not widely available from other sources.

(5) Potential for foreseeable human activities—such as ground-water withdrawal, extensive irrigation, subsurface injection of fluids, underground pumped storage, military activities, or the construction of large-scale surface-water impoundments—that could adversely change portions of the ground-water flow system important to waste isolation.

(d) *Disqualifying conditions.* A site shall be disqualified if—

(1) Previous exploration, mining, or extraction activities for resources of commercial importance at the site have created significant pathways between the projected underground facility and the accessible environment; or

(2) Ongoing or likely future activities to recover presently valuable natural mineral resources outside the controlled area would be expected to lead to an inadvertent loss of waste isolation.

§960.4-2-8-2 Site ownership and control.

(a) *Qualifying condition.* The site shall be located on land for which the DOE can obtain, in accordance with the requirements of 10 CFR part 60, ownership, surface and subsurface rights, and control of access that are required in order that potential surface and sub-

surface activities as the site will not be likely to lead to radionuclide releases greater than those allowable under the requirements specified in §960.4-1.

(b) *Favorable condition.* Present ownership and control of land and all surface and subsurface rights by the DOE.

(c) *Potentially adverse condition.* Projected land-ownership conflicts that cannot be successfully resolved through voluntary purchase-sell agreements, nondisputed agency-to-agency transfers of title, or Federal condemnation proceedings.

Subpart D—Preclosure Guidelines

§960.5 Preclosure guidelines.

The guidelines in this subpart specify the factors to be considered in evaluating and comparing sites on the basis of expected repository performance before closure. The preclosure guidelines are separated into three system guidelines and eleven technical guidelines.

§960.5-1 System guidelines.

(a) *Qualifying conditions—(1) Preclosure radiological safety.* Any projected radiological exposures of the general public and any projected releases of radioactive materials to restricted and unrestricted areas during repository operation and closure shall meet the applicable safety requirements set forth in 10 CFR part 20, 10 CFR part 60, and 40 CFR 191, subpart A (see appendix II of this part).

(2) *Environment, socioeconomics, and transportation.* During repository siting, construction, operation, closure, and decommissioning the public and the environment shall be adequately protected from the hazards posed by the disposal of radioactive waste.

(3) *Ease and cost of siting, construction, operation, and closure.* Repository siting, construction, operation, and closure shall be demonstrated to be technically feasible on the basis of reasonably available technology, and the associated costs shall be demonstrated to be reasonable relative to other available and comparable siting options.

§ 960.5-2 Technical guidelines.

The technical guidelines in this subpart set forth qualifying, favorable, potentially adverse, and, in seven guidelines, disqualifying conditions for the characteristics, processes, and events that influence the suitability of a site relative to the preclosure system guidelines. These conditions are separated into three main groups: Preclosure radiological safety; environment, socioeconomic, and transportation; and ease and cost of siting, construction, operation, and closure. The first group includes conditions on population density and distribution, site ownership and control, meteorology, and offsite installations and operations. The second group includes conditions related to environmental quality and socioeconomic impacts in areas potentially affected by a repository and to the transportation of waste to a repository site. The third group includes conditions on the surface characteristics of the site, the characteristics of the host rock and surrounding strata, hydrology, and tectonics. The individual technical guidelines within each group, as well as the favorable conditions and the potentially adverse conditions under each guideline, are not listed in any assumed order of importance. The technical guidelines that follow establish conditions that shall be considered in determining compliance with the qualifying conditions of the preclosure system guidelines. For each technical guideline, an evaluation of qualification or disqualification shall be made in accordance with the requirements specified in subpart B.

PRECLOSURE RADIOLOGICAL SAFETY

§ 960.5-2-1 Population density and distribution.

(a) *Qualifying condition.* The site shall be located such that, during repository operation and closure, (1) the expected average radiation dose to members of the public within any highly populated area will not be likely to exceed a small fraction of the limits allowable under the requirements specified in § 960.5-1(a)(1), and (2) the expected radiation dose to any member of the public in an unrestricted area will not be likely to exceed the limit allowable under

the requirements specified in § 960.5-1(a)(1).

(b) *Favorable conditions.* (1) A low population density in the general region of the site.

(2) Remoteness of site from highly populated areas.

(c) *Potentially adverse conditions.* (1) High residential, seasonal, or daytime population density within the projected site boundaries.

(2) Proximity of the site to highly populated areas, or to areas having at least 1,000 individuals in an area 1 mile by 1 mile as defined by the most recent decennial count of the U.S. census.

(d) *Disqualifying conditions.* A site shall be *disqualified* if—

(1) Any surface facility of a repository would be located in a highly populated area; or

(2) Any surface facility of a repository would be located adjacent to an area 1 mile by 1 mile having a population of not less than 1,000 individuals as enumerated by the most recent U.S. census; or

(3) The DOE could not develop an emergency preparedness program which meets the requirements specified in DOE Order 5500.3 (Reactor and Non-Reactor Facility Emergency Planning, Preparedness, and Response Program for Department of Energy Operations) and related guides or, when issued by the NRC, in 10 CFR part 60, subpart I, "Emergency Planning Criteria."

§ 960.5-2-2 Site ownership and control.

(a) *Qualifying condition.* The site shall be located on land for which the DOE can obtain, in accordance with the requirements of 10 CFR 60.121, ownership, surface and subsurface rights, and control of access that are required in order that surface and subsurface activities during repository operation and closure will not be likely to lead to radionuclide releases to an unrestricted area greater than those allowable under the requirements specified in § 960.5-1(a)(1).

(b) *Favorable condition.* Present ownership and control of land and all surface and subsurface mineral and water rights by the DOE.

(c) *Potentially adverse condition.* Projected land-ownership conflicts that cannot be successfully resolved

through voluntary purchase-sell agreements, nondisputed agency-to-agency transfers of title, or Federal condemnation proceedings.

§ 960.5-2-3 Meteorology.

(a) *Qualifying condition.* The site shall be located such that expected meteorological conditions during repository operation and closure will not be likely to lead to radionuclide releases to an unrestricted area greater than those allowable under the requirements specified in § 960.5-1(a)(1).

(b) *Favorable condition.* Prevailing meteorological conditions such that any radioactive releases to the atmosphere during repository operation and closure would be effectively dispersed, thereby reducing significantly the likelihood of unacceptable exposure to any member of the public in the vicinity of the repository.

(c) *Potentially adverse conditions.* (1) Prevailing meteorological conditions such that radioactive emissions from repository operation or closure could be preferentially transported toward localities in the vicinity of the repository with higher population densities than are the average for the region.

(2) History of extreme weather phenomena—such as hurricanes, tornadoes, severe floods, or severe and frequent winter storms—that could significantly affect repository operation or closure.

§ 960.5-2-4 Offsite installations and operations.

(a) *Qualifying condition.* The site shall be located such that present projected effects from nearby industrial, transportation, and military installations and operations, including atomic energy defense activities, (1) will not significantly affect repository siting, construction, operation, closure, or decommissioning or can be accommodated by engineering measures and (2), when considered together with emissions from repository operation and closure, will not be likely to lead to radionuclide releases to an unrestricted area greater than those allowable under the requirements specified in § 960.5-1(a)(1).

(b) *Favorable condition.* Absence of contributing radioactive releases from other nuclear installations and oper-

ations that must be considered under the requirements of 40 CFR 191, subpart A.

(c) *Potentially adverse conditions.* (1) The presence of nearby potentially hazardous installations or operations that could adversely affect repository operation or closure.

(2) Presence of other nuclear installations and operations, subject to the requirements of 40 CFR part 190 or 40 CFR part 191, subpart A, with actual or projected releases near the maximum value permissible under those standards.

(d) *Disqualifying condition.* A site shall be disqualified if atomic energy defense activities in proximity to the site are expected to conflict irreconcilably with repository siting, construction, operation, closure, or decommissioning.

ENVIRONMENT, SOCIOECONOMICS, AND
TRANSPORTATION

§ 960.5-2-5 Environmental quality.

(a) *Qualifying condition.* The site shall be located such that (1) the quality of the environment in the affected area during this and future generations will be adequately protected during repository siting, construction, operation, closure, and decommissioning, and projected environmental impacts in the affected area can be mitigated to an acceptable degree, taking into account programmatic, technical, social, economic, and environmental factors; and (2) the requirements specified in § 960.5-1(a)(2) can be met.

(b) *Favorable conditions.* (1) Projected ability to meet, within time constraints, all Federal, State, and local procedural and substantive environmental requirements applicable to the site and the activities proposed to take place thereon.

(2) Potential significant adverse environmental impacts to present and future generations can be mitigated to an insignificant level through the application of reasonable measures, taking into account programmatic, technical, social, economic, and environmental factors.

(c) *Potentially adverse conditions.* (1) Projected major conflict with applicable Federal, State, or local environmental requirements.

(2) Projected significant adverse environmental impacts that cannot be avoided or mitigated.

(3) Proximity to, or projected significant adverse environmental impacts of the repository or its support facilities on, a component of the National Park System, the National Wildlife Refuge System, the National Wild and Scenic Rivers System, the National Wilderness Preservation System, or National Forest Land.

(4) Proximity to, and projected significant adverse environmental impacts of the repository or its support facilities on, a significant State or regional protected resource area, such as a State park, a wildlife area, or a historical area.

(5) Proximity to, and projected significant adverse environmental impacts of the repository and its support facilities on, a significant Native American resource, such as a major Indian religious site, or other sites of unique cultural interest.

(6) Presence of critical habitats for threatened or endangered species that may be compromised by the repository or its support facilities.

(d) *Disqualifying conditions.* Any of the following conditions shall *disqualify* a site:

(1) During repository siting, construction, operation, closure, or decommissioning the quality of the environment in the affected area could not be adequately protected or projected environmental impacts in the affected area could not be mitigated to an acceptable degree, taking into account programmatic, technical, social, economic, and environmental factors.

(2) Any part of the restricted area or repository support facilities would be located within the boundaries of a component of the National Park System, the National Wildlife Refuge System, the National Wilderness Preservation System, or the National Wild and Scenic Rivers System.

(3) The presence of the restricted area or the repository support facilities would conflict irreconcilably with the previously designated resource-preser-

vation use of a component of the National Park System, the National Wildlife Refuge System, the National Wilderness Preservation System, the National Wild and Scenic Rivers System, or National Forest Lands, or any comparably significant State protected resource that was dedicated to resource preservation at the time of the enactment of the Act.

§ 960.5-2-6 Socioeconomic impacts.

(a) *Qualifying condition.* The site shall be located such that (1) any significant adverse social and/or economic impacts induced in communities and surrounding regions by repository siting, construction, operation, closure, and decommissioning can be offset by reasonable mitigation or compensation, as determined by a process of analysis, planning, and consultation among the DOE, affected State and local government jurisdictions, and affected Indian tribes; and (2) the requirements specified in § 960.5-1(a)(2) can be met.

(b) *Favorable conditions.* (1) Ability of an affected area to absorb the project-related population changes without significant disruptions of community services and without significant impacts on housing supply and demand.

(2) Availability of an adequate labor force in the affected area.

(3) Projected net increases in employment and business sales, improved community services, and increased government revenues in the affected area.

(4) No projected substantial disruption of primary sectors of the economy of the affected area.

(c) *Potentially adverse conditions.* (1) Potential for significant repository-related impacts on community services, housing supply and demand, and the finances of State and local government agencies in the affected area.

(2) Lack of an adequate labor force in the affected area.

(3) Need for repository-related purchase or acquisition of water rights, if such rights could have significant adverse impacts on the present or future development of the affected area.

(4) Potential for major disruptions of primary sectors of the economy of the affected area.

(d) *Disqualifying condition.* A site shall be disqualified if repository construction, operation, or closure would significantly degrade the quality, or significantly reduce the quantity, of water from major sources of offsite supplies presently suitable for human consumption or crop irrigation and such impacts cannot be compensated for, or mitigated by, reasonable measures.

§ 960.5-2-7 Transportation.

(a) *Qualifying condition.* The site shall be located such that (1) the access routes constructed from existing local highways and railroads to the site (i) will not conflict irreconcilably with the previously designated use of any resource listed in § 960.5-2-5(d) (2) and (3); (ii) can be designed and constructed using reasonably available technology; (iii) will not require transportation system components to meet performance standards more stringent than those specified in the applicable DOT and NRC regulations, nor require the development of new packaging containment technology; (iv) will allow transportation operations to be conducted without causing an unacceptable risk to the public or unacceptable environmental impacts, taking into account programmatic, technical, social, economic, and environmental factors; and (2) the requirements of § 960.5-1(a)(2) can be met.

(b) *Favorable conditions.* (1) Availability of access routes from local existing highways and railroads to the site which have any of the following characteristics:

(i) Such routes are relatively short and economical to construct as compared to access routes for other comparable siting options.

(ii) Federal condemnation is not required to acquire rights-of-way for the access routes.

(iii) Cuts, fills, tunnels, or bridges are not required.

(iv) Such routes are free of sharp curves or steep grades and are not likely to be affected by landslides or rock slides.

(v) Such routes bypass local cities and towns.

(2) Proximity to local highways and railroads that provide access to re-

gional highways and railroads and are adequate to serve the repository without significant upgrading or reconstruction.

(3) Proximity to regional highways, mainline railroads, or inland waterways that provide access to the national transportation system.

(4) Availability of a regional railroad system with a minimum number of interchange points at which train crew and equipment changes would be required.

(5) Total projected life-cycle cost and risk for transportation of all wastes designated for the repository site which are significantly lower than those for comparable siting options, considering locations of present and potential sources of waste, interim storage facilities, and other repositories.

(6) Availability of regional and local carriers—truck, rail, and water—which have the capability and are willing to handle waste shipments to the repository.

(7) Absence of legal impediment with regard to compliance with Federal regulations for the transportation of waste in or through the affected State and adjoining States.

(8) Plans, procedures, and capabilities for response to radioactive waste transportation accidents in the affected State that are completed or being developed.

(9) A regional meteorological history indicating that significant transportation disruptions would not be routine seasonal occurrences.

(c) *Potentially adverse conditions.* (1) Access routes to existing local highways and railroads that are expensive to construct relative to comparable siting options.

(2) Terrain between the site and existing local highways and railroads such that steep grades, sharp switchbacks, rivers, lakes, landslides, rock slides, or potential sources of hazard to incoming waste shipments will be encountered along access routes to the site.

(3) Existing local highways and railroads that could require significant reconstruction or upgrading to provide adequate routes to the regional and national transportation system.

(4) Any local condition that could cause the transportation-related costs, environmental impacts, or risk to public health and safety from waste transportation operations to be significantly greater than those projected for other comparable siting options.

EASE AND COST OF SITING, CONSTRUCTION, OPERATION, AND CLOSURE

§ 960.5-2-8 Surface characteristics.

(a) *Qualifying condition.* The site shall be located such that, considering the surface characteristics and conditions of the site and surrounding area, including surface-water systems and the terrain, the requirements specified in § 960.5-1(a)(3) can be met during repository siting, construction, operation, and closure.

(b) *Favorable conditions.* (1) Generally flat terrain.

(2) Generally well-drained terrain.

(c) *Potentially adverse condition.* Surface characteristics that could lead to the flooding of surface or underground facilities by the occupancy and modification of flood plains, the failure of existing or planned man-made surface-water impoundments, or the failure of engineered components of the repository.

§ 960.5-2-9 Rock characteristics.

(a) *Qualifying condition.* The site shall be located such that (1) the thickness and lateral extent and the characteristics and composition of the host rock will be suitable for accommodation of the underground facility; (2) repository construction, operation, and closure will not cause undue hazard to personnel; and (3) the requirements specified in § 960.5-1(a)(3) can be met.

(b) *Favorable conditions.* (1) A host rock that is sufficiently thick and laterally extensive to allow significant flexibility in selecting the depth, configuration, and location of the underground facility.

(2) A host rock with characteristics that would require minimal or no artificial support for underground openings to ensure safe repository construction, operation, and closure.

(c) *Potentially adverse conditions.* (1) A host rock that is suitable for repository construction, operation, and clo-

sure, but is so thin or laterally restricted that little flexibility is available for selecting the depth, configuration, or location of an underground facility.

(2) In situ characteristics and conditions that could require engineering measures beyond reasonably available technology in the construction of the shafts and underground facility.

(3) Geomechanical properties that could necessitate extensive maintenance of the underground openings during repository operation and closure.

(4) Potential for such phenomena as thermally induced fracturing, the hydration and dehydration of mineral components, or other physical, chemical, or radiation-related phenomena that could lead to safety hazards or difficulty in retrieval during repository operation.

(5) Existing faults, shear zones, pressurized brine pockets, dissolution effects, or other stratigraphic or structural features that could compromise the safety of repository personnel because of water inflow or construction problems.

(d) *Disqualifying condition.* The site shall be *disqualified* if the rock characteristics are such that the activities associated with repository construction, operation, or closure are predicted to cause significant risk to the health and safety of personnel, taking into account mitigating measures that use reasonably available technology.

§ 960.5-2-10 Hydrology.

(a) *Qualifying condition.* The site shall be located such that the geohydrologic setting of the site will (1) be compatible with the activities required for repository construction, operation, and closure; (2) not compromise the intended functions of the shaft liners and seals; and (3) permit the requirements specified in § 960.5-1(a)(3) to be met.

(b) *Favorable conditions.* (1) Absence of aquifers between the host rock and the land surface.

(2) Absence of surface-water systems that could potentially cause flooding of the repository.

(3) Availability of the water required for repository construction, operation, and closure.

(c) *Potentially adverse condition.* Ground-water conditions that could require complex engineering measures that are beyond reasonably available technology for repository construction, operation, and closure.

(d) *Disqualifying condition.* A site shall be disqualified if, based on expected ground-water conditions, it is likely that engineering measures that are beyond reasonably available technology will be required for exploratory-shaft construction or for repository construction, operation, or closure.

§ 960.5-2-11 Tectonics.

(a) *Qualifying Conditions.* The site shall be located in a geologic setting in which any projected effects of expected tectonic phenomena or igneous activity on repository construction, operation, or closure will be such that the requirements specified in § 960.5-1(a)(3) can be met.

(b) *Favorable Condition.* The nature and rates of faulting, if any, within the geologic setting are such that the magnitude and intensity of the associated seismicity are significantly less than those generally allowable for the construction and operation of nuclear facilities.

(c) *Potentially Adverse Conditions.* (1) Evidence of active faulting within the geologic setting.

(2) Historical earthquakes or past man-induced seismicity that, if either were to recur, could produce ground motion at the site in excess of reasonable design limits.

(3) Evidence, based on correlations of earthquakes with tectonic processes and features, (e.g., faults) within the geologic setting, that the magnitude of earthquakes at the site during repository construction, operation, and closure may be larger than predicted from historical seismicity.

(d) *Disqualifying Condition.* A site shall be disqualified if, based on the expected nature and rates of fault movement or other ground motion, it is likely that engineering measures that are beyond reasonably available technology will be required for exploratory-shaft construction or for repository construction, operation, or closure.

APPENDIX I TO PART 960—NRC AND EPA REQUIREMENTS FOR POSTCLOSURE REPOSITORY PERFORMANCE

Under proposed 40 CFR part 191, subpart B—*Environmental Standards for Disposal*, § 191.13, "Containment Requirements", specifies that for 10,000 years after disposal (a) releases of radioactive materials to the accessible environment that are estimated to have more than one chance in 100 of occurring over a 10,000 year period ("reasonably foreseeable releases") shall be projected to be less than the quantities permitted by Table 2 of that regulation's appendix; and (b) for "very unlikely releases" (i.e., those estimated to have between one chance in 100 and one chance in 10,000 of occurring over a 10,000 year period), the limits specified in Table 2 would be multiplied by 10. The basis for Table 2 is an upper limit on long term risks of 1,000 health effects over 10,000 years for a repository containing wastes generated from 100,000 metric tons of heavy metal of reactor fuel. For releases involving more than one radionuclide, the allowed release for each radionuclide is reduced to the fraction of its limit that insures that the overall limit on harm is not exceeded. Additionally, to provide confidence needed for compliance with the containment requirements specified above, § 191.14, "Assurance Requirements", specifies the disposal of radioactive waste in accordance with seven requirements, relating to prompt disposal of waste; selection and design of disposal systems to keep releases to the accessible environment as small as reasonably achievable; engineered and natural barriers; nonreliance on active institutional controls after closure; passive controls after closure; natural resource areas; and design of disposal systems to allow future recovery of wastes.

The guidelines will be revised as necessary after the adoption of final regulations by the EPA.

The implementation of 40 CFR part 191, subpart B is required by 10 CFR 60.112. 10 CFR 60.113 establishes minimum conditions to be met for engineered components and ground-water flow; specifically: (1) Containment of radioactive waste within the waste packages will be substantially complete for a period to be determined by the NRC taking into account the factors specified in 10 CFR 60.113(b) provided that such period shall be not less than 300 years nor more than 1,000 years after permanent closure of the geologic repository; (2) the release rate of any radionuclide from the engineered barrier system following the containment period shall not exceed one part in 100,000 per year of the inventory of that radionuclide calculated to be present at 1,000 years following permanent closure, or such other fraction of the inventory as may be approved or specified by the NRC, provided that this requirement does

not apply to any radionuclide which is released at a rate less than 0.1% of the calculated total release rate limit. The calculated total release rate limit shall be taken to be one part in 100,000 per year of the inventory of radioactive waste originally emplaced in the underground facility that remains after 1,000 years of radioactive decay; and (3) the geologic repository shall be located so that pre-waste-emplacment ground-water travel time along the fastest path of likely radionuclide travel from the disturbed zone to the accessible environment shall be at least 1,000 years or such other travel time as may be approved or specified by the NRC.

The guidelines will be revised as necessary to ensure consistency with 10 CFR part 60.

APPENDIX II TO PART 960—NRC AND EPA REQUIREMENTS FOR PRECLOSURE REPOSITORY PERFORMANCE

Under proposed 40 CFR part 191, subpart A—*Environmental Standards for Management and Storage*, Section 191.03, “Standards for Normal Operations”, specifies: (1) That operations should be conducted so as to reduce exposure to members of the public to the extent reasonably achievable, taking into account technical, social, and economic considerations; and (2) that, except for variances permitted for unusual operations under Section 191.04 as an upper limit, normal operations shall be conducted in such a manner as to provide reasonable assurance that the combined annual dose equivalent to any member of the public due to: (i) operations covered by 40 CFR part 190, (ii) planned discharges of radioactive material to the general environment from operations covered by this subpart, and (iii) direct radiation from these operations; shall not exceed 25 millirems to the whole body, 75 millirems to the thyroid, or 25 millirems to any other organ.

The guidelines will be revised as necessary after the adoption of final regulations by the EPA.

The implementation of 40 CFR part 191, subpart A and 10 CFR part 20 is required by 10 CFR 60.111. 10 CFR 60.111 also specifies requirements for waste retrieval, if necessary, including considerations of design, back-filling, and schedule. 10 CFR part 20 establishes (a) exposure limits for operating personnel and (b) permissible concentrations of radionuclides in uncontrolled areas for air and water. The latter are generally less restrictive than 40 CFR 191, subpart A, but may be limiting under certain conditions (i.e., if used as a maximum for short durations rather than annual averages).

The guidelines will be revised as necessary to ensure consistency with 10 CFR part 60.

APPENDIX III TO PART 960—APPLICATION OF THE SYSTEM AND TECHNICAL GUIDELINES DURING THE SITING PROCESS

1. This appendix presents a table that specifies how the guidelines of subparts C and D are to be applied at the principal decision points of the siting process. The decision points, as referenced in the table, are defined as follows:

“Potentially acceptable” means the decision point at which a site is identified as potentially acceptable.

“Nomination and recommendation” means the decision point at which a site is nominated as suitable for characterization or recommended as a candidate site for characterization.

“Repository site selection” means the decision point at which a site is recommended for the development of a repository.

2. The findings resulting from the application of a disqualifying condition for any particular guideline at a given decision point are denoted in the table by the numeral 1 or 2. The numerals 1 and 2 signify the types of findings that are required and are defined as follows:

“1” means *either* of the following:

(a) The evidence does *not* support a finding that the site is disqualified.

or

(b) The evidence supports a finding that the site is disqualified.

“2” means *either* of the following:

(a) The evidence supports a finding that the site is *not* disqualified on the basis of that evidence and is *not* likely to be disqualified.

or

(b) The evidence supports a finding that the site is disqualified or is likely to be disqualified.

3. The findings resulting from the application of a qualifying condition for any particular guideline at a given decision point are denoted in the table by the numeral 3 or 4. The numerals 3 and 4 signify the types of findings that are required and are defined as follows:

“3” means *either* of the following:

(a) The evidence does *not* support a finding that the site is *not* likely to meet the qualifying condition.

or

(b) The evidence supports a finding that the site is *not* likely to meet the qualifying condition, and therefore the site is disqualified.

“4” means *either* of the following:

(a) The evidence supports a finding that the site meets the qualifying condition and is likely to continue to meet the qualifying condition.

or
 (b) The evidence supports a finding that the site cannot meet the qualifying condition or is unlikely to be able to meet the qualifying condition, and therefore the site is disqualified.

4. If performance assessments are used to substantiate any of the above findings, those

assessments shall include estimates of the effects of uncertainties in data and modeling.

5. For both the disqualifying and qualifying conditions of any guideline, a higher finding (e.g., a “2” finding rather than “1”) shall be made if there is sufficient evidence to support such a finding.

FINDINGS RESULTING FROM THE APPLICATION OF THE QUALIFYING AND DISQUALIFYING CONDITIONS OF THE TECHNICAL GUIDELINES AT MAJOR SITING DECISIONS

Section 960	Guideline	Condition	Siting decision		
			Potentially acceptable	Nominational and recommendation	Repository site selection
4-1(a)	System	Qualifying		3	4
4-2-1(a)	Geohydrology .....	.....do		3	4
4-2-1(d)	.....do	Disqualifying		1	2
4-2-2(a)	Geochemistry .....	.....do		3	4
4-2-3(a)	Rock Characteristics .....	.....do		3	4
4-2-4(a)	Climatic Changes .....	.....do		3	4
4-2-5(a)	Erosion .....	.....do		3	4
4-2-5(d)	.....do	Disqualifying	1	1	2
4-2-6(a)	Dissolution .....	.....do		3	4
4-2-6(d)	.....do	Disqualifying	1	1	2
4-2-7(a)	Tectonics .....	.....do		3	4
4-2-7(d)	.....do	Disqualifying	1	1	2
4-2-8-1(a)	Natural Resources .....	.....do		3	4
4-2-8-1(d)(1)	.....do	Disqualifying	1	1	2
4-2-8-1(d)(2)	.....do .....	.....do		1	2
4-2-8-2(a)	Site Ownership and Control .....	.....do		3	4
5-1(a)(1)	System .....	.....do		3	4
5-1(a)(2)	.....do .....	.....do		3	4
5-1(a)(3)	.....do .....	.....do		3	4
5-2-1(a)	Population Density and Distribution .....	.....do		3	4
5-2-1(d)(1)	.....do	Disqualifying	1	1	2
5-2-1(d)(2)	.....do .....	.....do	1	1	2
5-2-1(d)(3)	.....do .....	.....do		1	2
5-2-2(a)	Site Ownership and Control .....	.....do		3	4
5-2-3(a)	Meteorology .....	.....do		3	4
5-2-4(a)	Offsite Installations and Operations .....	.....do		3	4
5-2-4(d)	.....do	Disqualifying	1	1	2
5-2-5(a)	Environmental Quality .....	.....do		3	4
5-2-5(d)(1)	.....do	Disqualifying		1	2
5-2-5(d)(2)	.....do .....	.....do	1	1	2
5-2-5(d)(3)	.....do .....	.....do	1	1	2
5-2-6(a)	Socioeconomic Impacts .....	.....do		3	4
5-2-6(d)	.....do	Disqualifying		1	2
5-2-7(a)	Transportation .....	.....do		3	4
5-2-8(a)	Surface Characteristics .....	.....do		3	4
5-2-9(a)	Rock Characteristics .....	.....do		3	4
5-2-9(d)	.....do	Disqualifying		1	2
5-2-10(a)	Hydrology .....	.....do		3	4
5-2-10(d)	.....do	Disqualifying		1	2
5-2-11(a)	Tectonics .....	.....do		3	4
5-2-11(d)	.....do	Disqualifying	1	1	2

APPENDIX IV TO PART 960—TYPES OF INFORMATION FOR THE NOMINATION OF SITES AS SUITABLE FOR CHARACTERIZATION

The types of information specified below are those that the DOE expects will be included in the evidence used for evaluations and applications of the guidelines of subparts

C and D at the time of nomination of a site as suitable for characterization. The types of information listed under each guideline are considered to be the most significant for the evaluation of that guideline. However, the types of information listed under any particular guideline will be used, as necessary, for the evaluation of any other guideline. As

stated in §960.3-1-4-2, the DOE will use technically conservative assumptions or extrapolations of regional data, where necessary, to supplement this information. The information specified below will be supplemented with conceptual models, as appropriate, and analyses of uncertainties in the data.

Before site-characterization studies and related nongeologic data gathering activities, the evidence is not expected to provide precise information, but, rather, to provide a reasonable basis for assessing the merits or shortcomings of the site against the guidelines of subparts C and D. Consequently, the types of information described below should be interpreted so as to accommodate differences among sites and differences in the information acquired before detailed studies.

The specific information required for the guideline applications set forth in appendix III of this part is expected to differ from site to site because of site-specific factors, both with regard to favorable and potentially adverse conditions and with regard to the sources and reliability of the information. The types of information specified in this appendix will be used except where the findings set forth in appendix III of this part can be arrived at by reasonable alternative means or the information is not required for the particular site.

Section 960.4-2-1 Geohydrology.

Description of the geohydrologic setting of the site, in context with its geologic setting, in order to estimate the pre-waste-emplacment ground-water flow conditions. The types of information to support this description should include—

- Location and estimated hydraulic properties of aquifers, confining units, and aquitards.
- Potential areas and modes of recharge and discharge for aquifers.
- Regional potentiometric surfaces of aquifers.
- Likely flow paths from the repository to locations in the expected accessible environment, as based on regional data.
- Preliminary estimates of ground-water travel times along the likely flow paths from the repository to locations in the expected accessible environment.
- Current use of principal aquifers and State or local management plans for such use.

Section 960.4-2-2 Geochemistry.

Description of the geochemical and hydrochemical conditions of the host rock, of the surrounding geohydrologic units, and along likely ground-water paths to locations in the expected accessible environment, in order to estimate the potential for the migration of radionuclides. The types of infor-

mation to support this description should include—

- Petrology of the rocks.
- Mineralogy of the rocks and general characteristics of fracture fillings.
- Geochemical and mechanical stability of the minerals under expected repository conditions.
- General characteristics of the ground-water chemistry (e.g., reducing/oxidizing conditions and the principal ions that may affect the waste package or radionuclide behavior).
- Geochemical properties of minerals as related to radionuclide transport.

Section 960.4-2-3 Rock characteristics.

Description of the geologic and geomechanical characteristics of the site, in context with the geologic setting, in order to estimate the capability of the host rock and surrounding rock units to accommodate the thermal, mechanical, chemical, and radiation stresses expected to be induced by repository construction, operation, and closure and by expected interactions among the waste, host rock, ground-water, and engineered components of the repository system. The types of information to support this description should include—

- Approximate geology and stratigraphy of the site, including the depth, thickness, and lateral extent of the host rock and surrounding rock units.
- Approximate structural framework of the rock units and any major discontinuities identified from core samples.
- Approximate thermal, mechanical, and thermomechanical properties of the rocks, with consideration of the effects of time, stress, temperature, dimensional scale, and any major identified structural discontinuities.
- Estimates of the magnitude and direction of in situ stress and of temperature in the host rock and surrounding rock units.

Section 960.4-2-4 Climatic changes.

Description of the climatic conditions of the site region, in context with global and regional patterns of climatic changes during the Quaternary Period, in order to project likely future changes in climate such that potential impacts on the repository can be estimated. The types of information to support this description should include—

- Expected climatic conditions and cycles, based on extrapolation of climates during the Quaternary Period.
- Geomorphology of the site region and evidence of changes due to climatic changes.
- Estimated effects of expected climatic cycles on the surface-water and the ground-water systems.

Section 960.4-2-5 Erosion.

Description of the structure, stratigraphy, and geomorphology of the site, in context with the geologic setting, in order to estimate the depth of waste emplacement and the likelihood for erosional processes to uncover the waste in less than one million years. The types of information to support this description should include—

- Depth, thickness, and lateral extent of the host rock and the overlying rock units.
- Lithology of the stratigraphic units above the host rock.
- Nature and rates of geomorphic processes during the Quaternary Period.

Section 960.4-2-6 Dissolution.

Description of the stratigraphy, structure, hydrology, and geochemistry of the site, in context with the geologic setting, to delineate the approximate limits of subsurface rock dissolution, if any. This description should include such information as the following:

- The stratigraphy of the site, including rock units largely comprised of water-soluble minerals.
- The approximate extent and configuration of features indicative of dissolution within the geologic setting.

Section 960.4-2-7 Tectonics.

Description of the tectonic setting of the site, in context with its geologic setting, in order to project the tectonic stability of the site over the next 10,000 years and to identify tectonic features and processes that could be reasonably expected to have a potentially adverse effect on the performance of the repository. The types of information to support this description should include—

- The tectonic history and framework of the geologic setting and the site.
- Quaternary faults in the geologic setting, including their length, displacement, and any information regarding the age of latest movement.
- Active tectonic processes, such as uplift, diapirism, tilting, subsidence, faulting, and volcanism.
- Estimate of the geothermal gradient.
- Estimate of the regional in situ stress field.
- The historical seismicity of the geologic setting.

*Section 960.4-2-8 Human interference.**Section 960.4-2-8-1 Natural resources.*

Description of the mineral and energy resources of the site, in order to project whether past or future exploration and recovery could have a potentially adverse effect on the performance of the repository. The types of information to support this description should include—

- Known occurrences of energy and mineral resources, including ground water.
- Estimates of the present and projected value of these resources compared with resources contained in other areas of similar size in the geologic setting.
- Past and present drilling and mining operations in the vicinity of the site.

Section 960.4-2-8-2 Site ownership and control.

Description of the ownership of land for the geologic-repository operations area and the controlled area, in order to evaluate whether the DOE can obtain ownership of, and control access to, the site. The types of information to support this description should include—

- Present land ownership.

Section 960.5-2-1 Population density and distribution.

Description of the population density and distribution of the site region, in order to identify highly populated areas and the nearest 1 mile by 1 mile area having a population greater than 1,000 persons. The types of information to support this description should include—

- The most-recent U.S. census, including population composition, distribution, and density.

Section 960.5-2-2 Site ownership and control.

Description of current ownership of land, including surface and subsurface mineral and water rights, in order to evaluate whether the DOE can obtain control of land within the projected restricted area. The types of information to support this description should include—

- Present land ownership.

Section 960.5-2-3 Meteorology.

The meteorological setting, as determined from the closest recording station, in order to project meteorological conditions during repository operation and closure and their potential effects on the transport of airborne emissions. The types of information to support this description should include—

- Wind and atmospheric-dispersion characteristics.
- Precipitation characteristics.
- Extreme weather phenomena.

Section 960.5-2-4 Offsite installations and operations.

Description of offsite installations and operations in the vicinity of the site in order to estimate their projected effects on repository construction, operation, or closure. The types of information to support this description should include—

- Location and nature of nearby industrial, transportation, and military installations

and operations, including atomic energy defense activities.

Section 960.5-2-5 Environmental quality.

Description of environmental conditions in order to estimate potential impacts on public health and welfare and on environmental quality. The types of information to support this description should include—

- Applicable Federal, State, and local procedural and substantive environmental requirements.
- Existing air quality and trends.
- Existing surface-water and ground-water quality and quantity.
- Existing land resources and uses.
- Existing terrestrial and aquatic vegetation and wildlife.
- Location of any identified critical habitats for threatened or endangered species.
- Existing aesthetic characteristics.
- Location of components of the National Park System, the National Wildlife Refuge System, the National Wild and Scenic Rivers System, the National Wilderness Preservation System, or National Forest Land.
- Location of significant State or regional protected resource areas, such as State parks, wildlife areas, or historical areas.
- Location of significant Native American resources such as major Indian religious sites, or other sites of unique cultural interest.

Section 960.5-2-6 Socioeconomic impacts.

Description of the socioeconomic conditions of the site, including population density and distribution, economics, community services and facilities, social conditions, and fiscal and government structure, in order to estimate the impacts that might result from site characterization and from the development of a repository at that site. The types of information to support this description should include—

- Population composition, density, and distribution.
- Economic base and economic activity, including major sectors of local economy.
- Employment distribution and trends by economic sector.
- Resource usage.
- Community services and infrastructure, including trends in use and current capacity utilization.
- Housing supply and demand.
- Life style and indicators of the quality of life.
- Existing social problems.
- Sources of, and trends in, local government expenditures and revenues.

Section 960.5-2-7 Transportation.

Description of the transportation facilities in the vicinity of the site in order to evaluate existing or required access routes or im-

provements. The types of information to support this description should include—

- Estimates of the overall cost and risk of transporting waste to the site.
- Description of the road and rail network between the site and the nearest Interstate highways and major rail lines; also, description of the waterway system, if any.
- Analyses of the adequacy of the existing regional transportation network to handle waste shipments; the movement of supplies for repository construction, operation, and closure; removal of nonradioactive waste from the site; and the transportation of the labor force.
- Improvements anticipated to be required in the transportation network and their feasibility, cost, and environmental impacts.
- Compatibility of the required transportation network improvements with the local and regional transportation and land-use plans.
- Analysis of weather impacts on transportation.
- Analysis of emergency response requirements and capabilities related to transportation.

Section 960.5-2-8 Surface characteristics.

Description of the surface characteristics of the site, in order to evaluate whether repository construction, operation, and closure are feasible on the basis of site characteristics that influence those activities. The types of information to support this description should include—

- Topography of the site.
- Existing and planned surface bodies of water.
- Definition of areas of landslides and other potentially unstable slopes, poorly drained material, or materials of low bearing strength or of high liquefaction potential.

Section 960.5-2-9 Rock characteristics.

Description of the geologic and geomechanical characteristics of the site, in context with the geologic setting, in order to project the capability of the host rock and the surrounding rock units to provide the space required for the underground facility and safe underground openings during repository construction, operation, and closure. The types of information to support this description should include—

- Depth, thickness, and lateral extent of the host rock.
- Stratigraphic and structural features within the host rock and adjacent rock units.
- Thermal, mechanical, and thermomechanical properties and constructibility characteristics of the rocks, with consideration of the effects of time, stress, temperature, dimensional scale, and

§ 961.1

any major identified structural discontinuities.

- Fluid inclusions and gas content in the host rock.
- Estimates of the magnitude and direction of in situ stress and of temperature in the host rock.

Section 960.5-2-10 Hydrology.

Description of the hydrology of the site, in context with its geologic setting, in order to project compatibility with repository construction, operation, and closure. The types of information to support this description should include—

- Surface-water systems, including recharge and runoff characteristics, and potential for flooding of the repository.
- Nature and location of aquifers, confining units, and aquitards.
- Potentiometric surfaces of aquifers.
- Hydraulic properties of geohydrologic units.

Section 960.5-2-11 Tectonics.

Description of the tectonic setting of the site, in context with the regional setting, in order to estimate any expected effects of tectonic activity on repository construction, operation, or closure. The types of information to support this description should include—

- Quaternary faults.
- Active tectonic processes.
- Preliminary estimates of expected ground motion caused by the maximum potential earthquake within the geologic setting.

PART 961—STANDARD CONTRACT FOR DISPOSAL OF SPENT NUCLEAR FUEL AND/OR HIGH-LEVEL RADIOACTIVE WASTE

Subpart A—General

Sec.

- 961.1 Purpose.
- 961.2 Applicability.
- 961.3 Definitions.
- 961.4 Deviations.
- 961.5 Federal agencies.

Subpart B—Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste

961.11 Text of the contract.

AUTHORITY: Sec. 644, Pub. L. 95-91, 91 Stat. 599 (42 U.S.C. 7254) and sec. 302, Pub. L. 97-425, 96 Stat. 2257 (42 U.S.C. 10222).

SOURCE: 48 FR 16599, Apr. 18, 1983, unless otherwise noted.

Subpart A—General

§ 961.1 Purpose.

This part establishes the contractual terms and conditions under which the Department of Energy (DOE) will make available nuclear waste disposal services to the owners and generators of spent nuclear fuel (SNF) and high-level radioactive waste (HLW) as provided in section 302 of the Nuclear Waste Policy Act of 1982 (Pub. L. 97-425). Under the contract set forth in § 961.11 of this part, DOE will take title to, transport, and dispose of spent nuclear fuel and/or high-level radioactive waste delivered to DOE by those owners or generators of such fuel or waste who execute the contract. In addition, the contract will specify the fees owners and generators of SNF and/or HLW will pay for these services. All receipts, proceeds, and revenues realized by DOE under the contract will be deposited in the Nuclear Waste Fund, an account established by the Act in the U.S. Treasury. This fund will pay for DOE's radioactive waste disposal activities, the full costs of which will be borne by the owners and generators under contract with DOE for disposal services.

§ 961.2 Applicability.

This part applies to the Secretary of Energy or his designee and any person who owns or generates spent nuclear fuel or high-level radioactive waste, of domestic origin, generated in a civilian nuclear power reactor. If executed in a timely manner, the contract contained in this part will commit DOE to accept title to, transport, and dispose of such spent fuel and waste. In exchange for these services, the owners or generators of such fuel or waste shall pay fees specified in the contract which are intended to recover fully the costs of the disposal services to be furnished by DOE. The contract must be signed by June 30, 1983, or by the date on which such owner or generator commences generation of, or takes title to, such spent fuel or waste, whichever occurs later.

§ 961.3 Definitions.

For purposes of this part—

Act means the Nuclear Waste Policy Act of 1982, Public Law 97-425, 96 Stat. 2201 *et seq.*, 42 U.S.C. 10101 *et seq.*

Contract means the agreement set forth in §961.11 of this part and any duly executed amendment or modification thereto.

Generator means any person who is licensed by the Nuclear Regulatory Commission to use a utilization or production facility under the authority of section 103 or 104 of the Atomic Energy Act of 1954 (42 U.S.C. 2133, 2134).

Owner means any person who has title to spent nuclear fuel or high-level radioactive waste.

Purchaser means any person, other than a Federal agency, who is licensed by the Nuclear Regulatory Commission to use a utilization or production facility under the authority of sections 103 or 104 of the Atomic Energy Act of 1954 (42 U.S.C. 2133, 2134) or who has title to spent nuclear fuel or high level radioactive waste and who has executed a contract with DOE.

Secretary means the Secretary of Energy of his designee.

Other definitions relating to the subject matter of this rule are set forth in Article II of the contract which is contained in §961.11, Text of the contract, of this part.

§961.4 Deviations.

Requests for authority to deviate from this part shall be submitted in writing to the Contracting Officer, who shall forward the request for approval to the Senior Procurement Official, Headquarters. Each request for deviation shall contain the following information:

- (a) A statement of the deviation desired, including identification of the specific paragraph number(s) of the contract;
- (b) A description of the intended effect of the deviation;
- (c) The reason why the deviation is considered necessary or would be in the best interests of the Government;
- (d) The name of the owner or generator seeking the deviation and nuclear power reactor(s) affected;
- (e) A statement as to whether the deviation has been requested previously and, if so, circumstances of the previous request;

(f) A statement of the period of time for which the deviation is needed; and

(g) Any pertinent background information will contribute to a full understanding of the desired deviation.

§961.5 Federal agencies.

Federal agencies or departments requiring DOE's disposal services for SNF and/or HLW will be accommodated by a suitable interagency agreement reflecting, as appropriate, the terms and conditions set forth in the contract in §961.11; *Provided, however*, that the fees to be paid by Federal agencies will be equivalent to the fees that would be paid under the contract.

Subpart B—Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste

§961.11 Text of the contract.

The text of the standard contract for disposal of spent nuclear fuel and/or high/level radioactive waste follows:

U.S. DEPARTMENT OF ENERGY CONTRACT NO. _____

Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste

THIS CONTRACT, entered into this — day of _____ 19—, by and between the UNITED STATES OF AMERICA (hereinafter referred to as the "Government"), represented by the UNITED STATES DEPARTMENT OF ENERGY (hereafter referred to as "DOE") and _____, (hereinafter referred to as the "Purchaser"), a corporation organized and existing under the laws of the State of _____ [add as applicable: "acting on behalf of itself and _____."].

Witnesseth that:

Whereas, the DOE has the responsibility for the disposal of spent nuclear fuel and high-level radioactive waste of domestic origin from civilian nuclear power reactors in order to protect the public health and safety, and the environment; and

Whereas, the DOE has the responsibility, following commencement of operation of a repository, to take title to the spent nuclear fuel or high-level radioactive waste involved as expeditiously as practicable upon the request of the generator or owner of such waste or spent nuclear fuel; and

Whereas, all costs associated with the preparation, transportation, and the disposal

of spent nuclear fuel and high-level radioactive waste from civilian nuclear power reactors shall be borne by the owners and generators of such fuel and waste; and

Whereas, the DOE is required to collect a full cost recovery fee from owners and generators delivering to the DOE such spent nuclear fuel and/or high level radioactive waste; and

Whereas, the DOE is authorized to enter into contracts for the permanent disposal of spent nuclear fuel and/or high-level radioactive waste of domestic origin in DOE facilities; and

Whereas, the Purchaser desires to obtain disposal services from DOE; and

Whereas, DOE is obligated and willing to provide such disposal services, under the terms and conditions hereinafter set forth; and

Whereas, this contract is made and entered into under the authority of the DOE Organization Act (Pub. L. 95-91, 42 U.S.C. 7101 *et seq.*) and the Nuclear Waste Policy Act of 1982 (Pub. L. 97-425, 42 U.S.C. 10101 *et seq.*)

Now, therefore, the parties hereto do hereby agree as follows:

ARTICLE I—DEFINITIONS

As used throughout this contract, the following terms shall have the meanings set forth below:

1. The term *assigned three-month period* means the period that each Purchaser will be assigned by DOE, giving due consideration to the Purchaser's assignment preference, for purposes of reporting kilowatt hours generated by the Purchaser's nuclear power reactor and for establishing fees due and payable to DOE.

2. The term *canister* means a container for shipping spent nuclear fuel and/or high-level radioactive waste which meets all applicable regulatory requirements.

3. The term *civilian nuclear power reactor* means a civilian nuclear powerplant required to be licensed under sections 103 or 104(b) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2133, 2134(b)).

4. The term *Commission* means the United States Nuclear Regulatory Commission.

5. The term *contract* means this agreement and any duly executed amendment or modification thereto.

6. The term *Contracting Officer* means the person executing this contract on behalf of the Government, and any other officer or civilian employee who is a properly designated Contracting Officer of the DOE; and the term includes, except as otherwise provided in this contract, the authorized representative of a Contracting Officer acting within the limits of his authority.

7. The term *delivery* means the transfer of custody, f.o.b. carrier, of spent nuclear fuel or high-level radioactive waste from Purchaser to DOE at the Purchaser's civilian

nuclear power reactor or such other domestic site as may be designated by the Purchaser and approved by DOE.

8. The term *disposal* means the emplacement in a repository of high-level radioactive waste, spent nuclear fuel, or other highly radioactive waste with no foreseeable intent of recovery, whether or not such emplacement permits recovery of such waste.

9. The term *DOE* means the United States Department of Energy or any duly authorized representative thereof, including the Contracting Officer.

10. The term *DOE facility* means a facility operated by or on behalf of DOE for the purpose of disposing of spent nuclear fuel and/or high-level radioactive waste, or such other facility(ies) to which spent nuclear fuel and/or high-level radioactive waste may be shipped by DOE prior to its transportation to a disposal facility.

11. The term *full cost recovery*, means the recoupment by DOE, through Purchaser fees and any interest earned, of all direct costs, indirect costs, and all allocable overhead, consistent with generally accepted accounting principles consistently applied, of providing disposal services and conducting activities authorized by the Nuclear Waste Policy Act of 1982 (Pub. L. 97-425). As used herein, the term *cost* includes the application of Nuclear Waste Fund moneys for those uses expressly set forth in section 302 (d) and (e) of the said Act and all other uses specified in the Act.

12. The term *high-level radioactive waste* (HLW) means—

(a) the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and

(b) other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation.

13. The term *electricity (kilowatt hours) generated and sold* means gross electrical output produced by a civilian nuclear power reactor measured at the output terminals of the turbine generator minus the normal onsite nuclear station service loads during the time electricity is being generated multiplied by the total energy adjustment factor. For purposes of this provision, the following definition shall apply:

a. The term *Total Energy Adjustment Factor (TEAF)* means the sum of individual owners' weighted energy adjustment factors.

b. The term *Weighted Energy Adjustment Factor (WEAF)* means the product of an owner's energy adjustment factor times the owner's share of the plant.

c. The term *Owner's Energy Adjustment Factor (OEAF)* means the sum of the individual

owner's adjustment for sales to ultimate consumers and adjustment for sales for resale.

d. The term *Owner's Share of the plant (OS)* means the owner's fraction of metered electricity sales, the owner's fraction of plant ownership, or the sponsor company's fixed entitlement percentage of the plant's output. This definition includes joint owners of generating companies or participants in a generation and transmission cooperative.

e. The term *Adjustment for Sales to ultimate Consumer (ASC)* means the owner's fraction of sales to the ultimate consumer multiplied by the owner's sales to ultimate consumer adjustment factor.

f. The term *Fraction of Sales to ultimate Consumer (FSC)* means the owner's fractional quantity of electricity sold to the ultimate consumer relative to the total of electricity sales (sales to ultimate consumers plus the sales for resale).

g. The term *Sales to ultimate Consumer Adjustment Factor (SCAF)* means one minus the quotient of all electricity lost or otherwise not sold for each owner divided by the total electricity available for disposition to ultimate consumers. Electricity lost or otherwise not sold includes:

- (1) Energy furnished without charge;
- (2) Energy used by the company;
- (3) Transmission losses;
- (4) Distribution losses; and
- (5) Other unaccounted losses as reported to

the Federal Government "Annual Report of Major Electric Utilities, Licensees and Others," Federal Energy Regulatory Commission (FERC) Form No.1; Rural Electrification Administration (REA) Forms 7 and 11 if appropriate; or the "Annual Electric Utility Report," Energy Information Administration (EIA) Form EIA-861.

h. The term *Total Electricity Available for Disposition to Ultimate Consumers* means the reporting year's total of all of a utility's electricity supply which is available for disposition, expressed in kilowatt hours, and is equal to the sum of the energy sources minus the electricity sold for resale by the utility.

i. The term *Adjustment for Sales for Resale (ASR)* means the owner's fraction of sales for resale multiplied by the national average adjustment factor.

j. The term *Fraction of Sales for Resale (FSR)* means the owner's fractional quantity of electricity sold for resale by the utility relative to the total of electricity sales.

k. The term *National Average Adjustment Factor (NAF)* means the ratio of the national total of electricity sold to the national total of electricity available for disposition, based on the most recent 3 years of national data provided to the Federal Government, and will be set by the Contracting Officer. This term will be evaluated annually and revised in increments of .005.

l. Pumped storage losses. If the proportion of nuclear generated electricity consumed by a pumped-storage hydro facility can be measured or estimated and if the electricity losses associated with pumped storage facilities can be documented (e.g. based on routine and uniform records of district power data on contributions from different electricity sources), a prorated nuclear share shall be allowed as an offset to gross electricity generation reported on the annex A of appendix G, NWP-830G form. Specific methodologies for calculating these offsets must be approved by the Contracting Officer in advance.

Instructions to annex A of appendix G, NWP-830G provide the necessary information to calculate the energy adjustment factors.

14. The term *metric tons uranium* means that measure of weight, equivalent to 2,204.6 pounds of uranium and other fissile and fertile material that are loaded into a reactor core as fresh fuel.

15. The term *Purchaser's site* means the location of Purchaser's civilian nuclear power reactor or such other location as the Purchaser may designate.

16. The term *quarterly Treasury rate* means the current value of funds rate as specified by the Treasury Fiscal Requirements Manual, Volume 1, Part 6, section 8020.20. This rate is published quarterly in the FEDERAL REGISTER prior to the beginning of the affected quarter.

17. The term *shipping lot* means a specified quantity of spent nuclear fuel or high-level radioactive waste designated by Purchaser for delivery to DOE beginning on a specified date.

18. The term *spent nuclear fuel (SNF)* means fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing.

19. The term *spent nuclear fuel and high-level radioactive waste of domestic origin* means irradiated fuel material used, and radioactive wastes resulting from such use, in nuclear power reactors located only in the United States.

20. The term *year* means the period which begins on October 1 and ends on September 30.

ARTICLE II—SCOPE

This contract applies to the delivery by Purchaser to DOE of SNF and/or HLW of domestic origin from civilian nuclear power reactors, acceptance of title by DOE to such SNF and/or HLW, subsequent transportation, and disposal of such SNF and/or HLW and, with respect to such material, establishes the fees to be paid by the Purchaser for the services to be rendered hereunder by DOE. The SNF and/or HLW shall be specified in a delivery commitment schedule as provided

in Article V below. The services to be provided by DOE under this contract shall begin, after commencement of facility operations, not later than January 31, 1998 and shall continue until such time as all SNF and/or HLW from the civilian nuclear power reactors specified in appendix A, annexed hereto and made a part hereof, has been disposed of.

ARTICLE III—TERM

The term of this contract shall be from the date of execution until such time as DOE has accepted, transported from the Purchaser's site(s) and disposed of all SNF and/or HLW of domestic origin from the civilian nuclear power reactor(s) specified in appendix A.

ARTICLE IV—RESPONSIBILITIES OF THE PARTIES

A. Purchaser's Responsibilities

1. Discharge Information.

(a) On an annual basis, commencing October 1, 1983, the Purchaser shall provide DOE with information on actual discharges to date and projected discharges for the next ten (10) years in the form and content set forth in appendix B, annexed hereto and made a part hereof. The information to be provided will include estimates and projections and will not be Purchaser's firm commitment with respect to discharges or deliveries.

(b) No later than October 1, 1983, the Purchaser shall provide DOE with specific information on:

(1) Total spent nuclear fuel inventory as of April 7, 1983;

(2) Total number of fuel assemblies removed from the particular reactor core prior to 12:00 a.m. April 7, 1983 for which there are plans for reinsertion in the core, indicating the current planned dates for reinsertion in the core. Estimates of the burned and unburned portion of each individual assembly are to be provided.

(c) In the event that the Purchaser fails to provide the annual forecast in the form and content required by DOE, DOE may, in its sole discretion, require a rescheduling of any delivery commitment schedule then in effect.

2. Preparation for Transportation.

(a) The Purchaser shall arrange for, and provide, all preparation, packaging, required inspections, and loading activities necessary for the transportation of SNF and/or HLW to the DOE facility. The Purchaser shall notify DOE of such activities sixty (60) days prior to the commencement of such activities. The preparatory activities by the Purchaser shall be made in accordance with all applicable laws and regulations relating to the Purchaser's responsibilities hereunder. DOE may designate a representative to observe the preparatory activities conducted by the Pur-

chaser at the Purchaser's site, and the Purchaser shall afford access to such representative.

(b) Except as otherwise agreed to by DOE, the Purchaser shall advise DOE, in writing as specified in appendix F, annexed hereto and made a part hereof, as to the description of the material in each shipping lot sixty (60) days prior to scheduled DOE transportation of that shipping lot.

(c) The Purchaser shall be responsible for incidental maintenance, protection and preservation of any and all shipping casks furnished to the Purchaser by DOE for the performance of this contract. The Purchaser shall be liable for any loss of or damage to such DOE-furnished property, and for expenses incidental to such loss or damage while such casks are in the possession and control of the Purchaser except as otherwise provided for hereunder. Routine cask maintenance, such as scheduled overhauls, shall not be the responsibility of the Purchaser.

B. DOE Responsibilities

1. DOE shall accept title to all SNF and/or HLW, of domestic origin, generated by the civilian nuclear power reactor(s) specified in appendix A, provide subsequent transportation for such material to the DOE facility, and dispose of such material in accordance with the terms of this contract.

2. DOE shall arrange for, and provide, a cask(s) and all necessary transportation of the SNF and/or HLW from the Purchaser's site to the DOE facility. Such cask(s) shall be furnished sufficiently in advance to accommodate scheduled deliveries. Such cask(s) shall be suitable for use at the Purchaser's site, meet applicable regulatory requirements, and be accompanied by pertinent information including, but not limited to, the following:

(a) Written procedures for cask handling and loading, including specifications on Purchaser-furnished canisters for containment of failed fuel;

(b) Training for Purchaser's personnel in cask handling and loading, as may be necessary;

(c) Technical information, special tools, equipment, lifting trunnions, spare parts and consumables needed to use and perform incidental maintenance on the cask(s); and

(d) Sufficient documentation on the equipment supplied by DOE.

3. DOE may fulfill any of its obligations, or take any action, under this contract either directly or through contractors.

4. DOE shall annually provide to the Purchaser pertinent information on the waste disposal program including information on cost projections, project plans and progress reports.

5. (a) Beginning on April 1, 1991, DOE shall issue an annual acceptance priority ranking for receipt of SNF and/or HLW at the DOE

repository. This priority ranking shall be based on the age of SNF and/or HLW as calculated from the date of discharge of such material from the civilian nuclear power reactor. The oldest fuel or waste will have the highest priority for acceptance, except as provided in paragraphs B and D of Article V and paragraph B.3 of Article VI hereof.

(b) Beginning not later than July 1, 1987, DOE shall issue an annual capacity report for planning purposes. This report shall set forth the projected annual receiving capacity for the DOE facility(ies) and the annual acceptance ranking relating to DOE contracts for the disposal of SNF and/or HLW including, to the extent available, capacity information for ten (10) years following the projected commencement of operation of the initial DOE facility.

ARTICLE V—DELIVERY OF SNF AND/OR HLW

A. Description of SNF and HLW

The Purchaser shall deliver to DOE and DOE shall, as provided in this contract, accept the SNF and/or HLW which is described in accordance with Article VI.A. of this contract, for disposal thereof.

B. Delivery Commitment Schedule

1. Delivery commitment schedule(s), in the form set forth in appendix C annexed hereto and made a part hereof, for delivery of SNF and/or HLW shall be furnished to DOE by Purchaser. After DOE has issued its proposed acceptance priority ranking, as described in paragraph B.5 of Article IV hereof, beginning January 1, 1992 the Purchaser shall submit to DOE the delivery commitment schedule(s) which shall identify all SNF and/or HLW the Purchaser wishes to deliver to DOE beginning sixty-three (63) months thereafter. DOE shall approve or disapprove such schedules within three (3) months after receipt. In the event of disapproval, DOE shall advise the Purchaser in writing of the reasons for such disapproval and request a revised schedule from the Purchaser, to be submitted to DOE within thirty (30) days after receipt of DOE's notice of disapproval.

2. DOE shall approve or disapprove such revised schedule(s) within sixty (60) days after receipt. In the event of disapproval, DOE shall advise the Purchaser in writing of the reasons for such disapproval and shall submit its proposed schedule(s). If these are not acceptable to the Purchaser, the parties shall promptly seek to negotiate mutually acceptable schedule(s). Purchaser shall have the right to adjust the quantities of SNF and/or HLW plus or minus (\pm) twenty percent (20%), and the delivery schedule up to two (2) months, until the submission of the final delivery schedule.

C. Final Delivery Schedule

Final delivery schedule(s), in the form set forth in appendix D, annexed hereto and made a part hereof, for delivery of SNF and/or HLW covered by an approved delivery commitment schedule(s) shall be furnished to DOE by Purchaser. The Purchaser shall submit to DOE final delivery schedules not less than twelve (12) months prior to the delivery date specified therein. DOE shall approve or disapprove a final delivery schedule within forty-five (45) days after receipt. In the event of disapproval, DOE shall advise the Purchaser in writing of the reasons for such disapproval and shall request a revised schedule from the Purchaser, to be submitted to DOE within thirty (30) days after receipt of DOE's notice of disapproval. DOE shall approve or disapprove such revised schedule(s) within sixty (60) days after receipt. In the event of disapproval, DOE shall advise the Purchaser in writing of the reasons for such disapproval and shall submit its proposed schedule(s). If these are not acceptable to the Purchaser, the parties shall promptly seek to negotiate mutually acceptable schedule(s).

D. Emergency Deliveries

Emergency deliveries of SNF and/or HLW may be accepted by DOE before the date provided in the delivery commitment schedule upon prior written approval by DOE.

E. Exchanges

Purchaser shall have the right to determine which SNF and/or HLW is delivered to DOE; *provided, however*, that Purchaser shall comply with the requirements of this contract. Purchaser shall have the right to exchange approved delivery commitment schedules with parties to other contracts with DOE for disposal of SNF and/or HLW; *provided, however*, that DOE shall, in advance, have the right to approve or disapprove, in its sole discretion, any such exchanges. Not less than six (6) months prior to the delivery date specified in the Purchaser's approved delivery commitment schedule, the Purchaser shall submit to DOE an exchange request, which states the priority rankings of both the Purchaser hereunder and any other Purchaser with whom the exchange of approved delivery commitment schedules is proposed. DOE shall approve or disapprove the proposed exchange within thirty (30) days after receipt. In the event of disapproval, DOE shall advise the Purchaser in writing of the reasons for such disapproval.

ARTICLE VI—CRITERIA FOR DISPOSAL

A. General Requirements

1. Criteria.

(a) Except as otherwise provided in this contract, DOE shall accept hereunder only

such SNF and/or HLW which meets the General Specifications for such fuel and waste as set forth in appendix E, annexed hereto and made a part hereof.

(b) Purchaser shall accurately classify SNF and/or HLW prior to delivery in accordance with paragraphs B and D of appendix E.

2. Procedures.

(a) Purchaser shall provide to DOE a detailed description of the SNF and/or HLW to be delivered hereunder in the form and content as set forth in appendix F, annexed hereto and made a part hereof. Purchaser shall promptly advise DOE of any changes in said SNF and/or HLW as soon as they become known to the purchaser.

(b) DOE's obligation for disposing of SNF under this contract also extends to other than standard fuel; however, for any SNF which has been designated by the Purchaser as other than standard fuel, as that term is defined in appendix E, the Purchaser shall obtain delivery and procedure confirmation from DOE prior to delivery. DOE shall advise Purchaser within sixty (60) days after receipt of such confirmation request as to the technical feasibility of disposing of such fuel on the currently agreed to schedule and any schedule adjustment for such services.

B. Acceptance Procedures

1. Acceptance Priority Ranking.

Delivery commitment schedules for SNF and/or HLW may require the disposal or more material than the annual capacity of the DOE disposal facility (or facilities) can accommodate. The following acceptance priority ranking will be utilized:

(a) Except as may be provided for in subparagraph (b) below and Article V.D. of this contract, acceptance priority shall be based upon the age of the SNF and/or HLW as calculated from the date of discharge of such material from the civilian nuclear power reactor. DOE will first accept from Purchaser the oldest SNF and/or HLW for disposal in the DOE facility, except as otherwise provided for in paragraphs B and D of Article V.

(b) Notwithstanding the age of the SNF and/or HLW, priority may be accorded any SNF and/or HLW removed from a civilian nuclear power reactor that has reached the end of its useful life or has been shut down permanently for whatever reason.

2. Verification of SNF and/or HLW.

During cask loading and prior to acceptance by DOE for transportation to the DOE facility, the SNF and/or HLW description of the shipping lot shall be subject to verification by DOE. To the extent the SNF and/or HLW is consistent with the description submitted and approved, in accordance with appendices E and F, DOE agrees to accept such SNF and/or HLW for disposal when DOE has verified the SNF and/or HLW description, determined the material is properly loaded, packaged, marked, labeled and ready for

transportation, and has taken custody, as evidenced in writing, of the material at the Purchaser's site, f.o.b. carrier. A properly executed off-site radioactive shipment record describing cask contents must be prepared by the Purchaser along with a signed certification which states: "This is to certify that the above-named materials are properly described, classified, packaged, marked and labeled and are in proper condition for transfer according to the applicable regulations of the U. S. Department of Transportation."

3. Improperly described SNF and/or HLW.

(a) *Prior to Acceptance*— If SNF and/or HLW is determined by DOE to be improperly described prior to acceptance by DOE at the Purchaser's site, DOE shall promptly notify the Purchaser in writing of such determination. DOE reserves the right, in its sole discretion, to refuse to accept such SNF and/or HLW until the SNF and/or HLW has been properly described. The Purchaser shall not transfer such SNF and/or HLW to DOE unless DOE agrees to accept such SNF and/or HLW under such other arrangements as may be agreed to, in writing, by the parties.

(b) *After Acceptance*— If subsequent to its acceptance DOE finds that such SNF and/or HLW is improperly described, DOE shall promptly notify the Purchaser, in writing, of such finding. In the event of such notification, Purchaser shall provide DOE with a proper designation within thirty (30) days. In the event of a failure by the Purchaser to provide such proper designation, DOE may hold in abeyance any and all deliveries scheduled hereunder.

ARTICLE VII—TITLE

Title to all SNF and/or HLW accepted by DOE for disposal shall pass to DOE at the Purchaser's site as provided for in Article VI hereof. DOE shall be solely responsible for control of all material upon passage of title. DOE shall have the right to dispose as it sees fit of any SNF and/or HLW to which it has taken title. The Purchaser shall have no claim against DOE or the Government with respect to such SNF or HLW nor shall DOE or the Government be obligated to compensate the Purchaser for such material.

ARTICLE VIII—FEES AND TERMS OF PAYMENT

A. Fees

1. Effective April 7, 1983, Purchaser shall be charged a fee in the amount of 1.0 mill per kilowatt hour (IM/kWh) electricity generated and sold.

2. For SNF, or solidified high-level radioactive waste derived from SNF, which fuel was used to generate electricity in a civilian nuclear power reactor prior to April 7, 1983, a one-time fee will be assessed by applying industry-wide average dollar per kilogram charges to four (4) distinct ranges of fuel burnup so that the integrated cost across all

discharged (i.e. spent) fuel is equivalent to an industry-wide average charge of 1.0 mill per kilowatt-hour. For purposes of this contract, discharged nuclear fuel is that fuel removed from the reactor core with no plans for reinsertion. In the event that any such fuel withdrawn with plans for reinsertion is not reinserted, then the applicable fee for such fuel shall be calculated as set forth in this paragraph 2. The categories of spent nuclear fuel burnup and the fee schedule are listed below:

[In 1982 dollars]

Nuclear spent fuel burnup range	Dollars per kilogram
0 to 5,000 MWDT/MTU	\$80.00
5,000 to 10,000 MWDT/MTU	142.00
10,000 to 20,000 MWDT/MTU	162.00
Over 20,000 MWDT/MTU	184.00

This fee shall not be subject to adjustment, and the payment thereof by the Purchaser shall be made to DOE as specified in paragraph B of this Article VIII.

3. For in-core fuel as of April 7, 1983, that portion of the fuel burned through April 6, 1983 shall be subject to the one-time fee as calculated in accordance with the following methodology: [a] determine the total weight in kilograms of uranium loaded initially in the particular core; [b] determine the total megawatt-days (thermal) which have been generated by all of the fuel assemblies in the said core as of 12:00 A.M. April 7, 1983; [c] divide the megawatt-days (thermal) generated in the said core by the total metric tons of initially loaded uranium in that core and multiply the quotient by the conversion factor 0.0078 to obtain a value in dollars per kilogram; and [d] multiply the dollars per kilogram value by the kilograms determined in [a] above to derive the dollar charge for the one-time fee to be paid for the specified in-core fuel as of 12:00 A.M. April 7, 1983. For purposes of this contract, in-core fuel is that fuel in the reactor core as of the date specified, plus any fuel removed from the reactor with plans for reinsertion. That portion of such fuel unburned as of 12:00 A.M. April 7, 1983 shall be subject to the 1.0 mill per kilowatt-hour charge.

4. DOE will annually review the adequacy of the fees and adjust the 1M/KWH fee, if necessary, in order to assure full cost recovery by the Government. Any proposed adjustment to the said fee will be transmitted to Congress and shall be effective after a period of ninety (90) days of continuous session has elapsed following receipt of such transmittal unless either House of Congress adopts a resolution disapproving the proposed adjustment. Any adjustment to the 1M/KWH fee under paragraph A.1. of this Article VIII shall be prospective.

B. Payment

1. For electricity generated and sold by the Purchaser's civilian nuclear power reactor(s) on or after April 7, 1983, fees shall be paid quarterly by the Purchaser and must be received by DOE not later than the close of the last business day of the month following the end of each assigned 3-month period. The first payment shall be due on July 31, 1983, for the period April 7, 1983, to June 30, 1983. (Add as applicable: A one-time adjustment period payment shall be due on _____, for the period _____ to _____.) The assigned 3-month period, for purposes of payment and reporting of electricity generated and sold shall begin _____.

2. For SNF discharged prior to April 7, 1983, and for in-core burned fuel as of 12:00 A.M. April 7, 1983, the Purchaser shall, within two (2) years of contract execution, select one of the following fee payment options:

(a) *Option 1*— The Purchaser's financial obligation for said fuel shall be prorated evenly over forty (40) quarters and will consist of the fee plus interest on the outstanding fee balance. The interest from April 7, 1983, to date of the first payment is to be calculated based upon the 13-week Treasury bill rate, as reported on the first such issuance following April 7, 1983, and compounded quarterly thereafter by the 13-week Treasury bill rates as reported on the first such issuance of each succeeding assigned three-month period. Beginning with the first payment, interest is to be calculated on Purchaser's financial obligation plus accrued interest, at the ten-year Treasury note rate in effect on the date of the first payment. In no event shall the end of the forty (40) quarters extend beyond the first scheduled delivery date as reflected in the DOE-approved delivery commitment schedule. All payments shall be made concurrently with the assigned three month period payments. At any time prior to the end of the forty (40) quarters, Purchaser may, without penalty, make a full or partial lump sum payment at any of the assigned three month period payment dates. Subsequent quarterly payments will be appropriately reduced to reflect the reduction in the remaining balance in the fee due and payable. The remaining financial obligation, if any, will be subject to interest at the same ten-year Treasury note rate over the remainder of the ten year period.

(b) *Option 2*— The Purchaser's financial obligation shall be paid in the form of a single payment anytime prior to the first delivery, as reflected in the DOE approved delivery commitment schedule, and shall consist of the fee plus interest on the outstanding fee balance. Interest is to be calculated from April 7, 1983, to the date of the payment based upon the 13-week Treasury bill rate, as reported on the first such issuance following April 7, 1983, and compounded quarterly

thereafter by the 13-week Treasury bill rates as reported on the first such issuance of each succeeding assigned three-month period until payment.

(c) *Option 3*—The Purchaser's financial obligation shall be paid prior to June 30, 1985, or prior to two (2) years after contract execution, whichever comes later, in the form of a single payment and shall consist of all outstanding fees for SNF and in-core fuel burned prior to April 7, 1983. Under this option, no interest shall be due to DOE from April 7, 1983, to the date of full payment on the outstanding fee balance.

3. *Method of Payment:*

(a) Payments shall be made by wire transfer, in accordance with instructions specified by DOE in appendix G, annexed hereto and made a part hereof, and must be received within the time periods specified in paragraph B.1. of this Article VIII.

(b) The Purchaser will complete a Standard Remittance Advice, as set forth in appendix G, for each assigned three month period payment, and mail it postmarked no later than the last business day of the month following each assigned three month period to Department of Energy, Office of Controller, Cash Management Division, Box 500, Room D-208, Germantown, Maryland 20874.

4. Any fees not paid on a timely basis or underpaid because of miscalculation will be subject to interest as specified in paragraph C of this Article VIII.

C. Interest on Late Fees

1. DOE will notify the Purchaser of amounts due only when unpaid or underpaid by the dates specified in paragraph B above. Interest will be levied according to the following formula:

Interest=Unpaid balance due to DOE for assigned three month period × Quarterly Treasury rate plus six percent (6%) × Number of months late including month of payment (fractions rounded up to whole months) ÷ 12

2. Interest is payable at any time prior to the due date for the subsequent assigned three month period fee payment. Non-payment by the end of the subsequent assigned three month period will result in compounding of interest due. Purchaser shall complete a Standard Remittance Advice of interest payments.

3. Following the assessment of a late fee by DOE, payments will be applied against accrued interest first and the principal thereafter.

D. Effect of Payment

Upon payment of all applicable fees, interest and penalties on unpaid or underpaid amounts, the Purchaser shall have no further financial obligation to DOE for the disposal of the accepted SNF and/or HLW.

E. Audit

1. The DOE or its representative shall have the right to perform any audits or inspections necessary to determine whether Purchaser is paying the correct amount under the fee schedule and interest provisions set forth in paragraphs A, B and C above.

2. Nothing in this contract shall be deemed to preclude an audit by the General Accounting Office of any transaction under this contract.

3. The Purchaser shall furnish DOE with such records, reports and data as may be necessary for the determination of quantities delivered hereunder and for final settlement of amounts due under this contract and shall retain and make available to DOE and its authorized representative examination at all reasonable times such records, reports and data for a period of three (3) years from the completion of delivery of all material under this contract.

ARTICLE IX—DELAYS

A. Unavoidable Delays by Purchaser or DOE

Neither the Government nor the Purchaser shall be liable under this contract for damages caused by failure to perform its obligations hereunder, if such failure arises out of causes beyond the control and without the fault or negligence of the party failing to perform. In the event circumstances beyond the reasonable control of the Purchaser or DOE—such as acts of God, or of the public enemy, acts of Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes and unusually severe weather—cause delay in scheduled delivery, acceptance or transport of SNF and/or HLW, the party experiencing the delay will notify the other party as soon as possible after such delay is ascertained and the parties will re-adjust their schedules, as appropriate, to accommodate such delay.

B. Avoidable Delays by Purchaser or DOE

In the event of any delay in the delivery, acceptance or transport of SNF and/or HLW to or by DOE caused by circumstances within the reasonable control of either the Purchaser or DOE or their respective contractors or suppliers, the charges and schedules specified by this contract will be equitably adjusted to reflect any estimated additional costs incurred by the party not responsible for or contributing to the delay.

ARTICLE X—SUSPENSION

A. In addition to any other rights DOE may have hereunder, DOE reserves the right, at no cost to the Government, to suspend this contract or any portion thereof upon

Department of Energy

§ 961.11

written notice to the Purchaser within ninety (90) days of the Purchaser's failure to perform its obligations hereunder, and the Purchaser's failure to take corrective action within thirty (30) days after written notice of such failure to perform as provided above, unless such failure shall arise from causes beyond the control and without the fault or negligence of the Purchaser, its contractors or agents. However, the Purchaser's obligation to pay fees required hereunder shall continue unaffected by any suspension. Any such suspension shall be rescinded if and when DOE determines that Purchaser has completed corrective action.

B. The DOE reserves the right to suspend any scheduled deliveries in the event that a national emergency requires that priority be given to Government programs to the exclusion of the work under this contract. In the event of such a suspension by the Government, the DOE shall refund that portion of payments representing services not delivered as determined by the Contracting Officer to be an equitable adjustment. Any disagreement arising from the refund payment, if any, shall be resolved as provided in the clause of this contract, entitled "DISPUTES."

ARTICLE XI—REMEDIES

Nothing in this contract shall be construed to preclude either party from asserting its rights and remedies under the contract or at law.

ARTICLE XII—NOTICES

All notices and communications between the parties under this contract (except notices published in the FEDERAL REGISTER) shall be in writing and shall be sent to the following addressees:

To DOE: _____

To the Purchaser: _____

However, the parties may change the addresses or addressees for such notices or communications without formal modification to this contract; *provided, however*, that notice of such changes shall be given by registered mail.

ARTICLE XIII—REPRESENTATION CONCERNING NUCLEAR HAZARDS INDEMNITY

A. DOE represents that it will include in its contract(s) for the operation of any DOE facility an indemnity agreement based upon Section 170(d) of the Atomic Energy Act of 1954, as amended, a copy of which agreement shall be furnished to the Purchaser; that under said agreement, DOE shall have agreed to indemnify the contractor and other persons indemnified against claims for public li-

ability (as defined in said Act) arising out of or in connection with contractual activities; that the indemnity shall apply to covered nuclear incidents which (1) take place at a contract location; or (2) arise out of or in the course of transportation of source, special nuclear or by-product material to or from a contract location. The obligation of DOE to indemnify shall be subject to the conditions stated in the indemnity agreement.

B. The provisions of this Article XIII shall continue beyond the term of this contract.

ARTICLE XIV—ASSIGNMENT

The rights and duties of the Purchaser may be assignable with transfer of title to the SNF and/or HLW involved; *provided, however*, that notice of any such transfer shall be made to DOE within ninety (90) days of transfer.

ARTICLE XV—AMENDMENTS

The provisions of this contract have been developed in the light of uncertainties necessarily attendant upon long-term contracts. Accordingly, at the request of either DOE or Purchaser, the parties will negotiate and, to the extent mutually agreed, amend this contract as the parties may deem to be necessary or proper to reflect their respective interests; *provided, however*, that any such amendment shall be consistent with the DOE final rule published in the FEDERAL REGISTER on April 18, 1983 entitled, "Standard Contract for Disposal of SNF and/or HLW", as the same may be amended from time to time.

ARTICLE XVI—DISPUTES

A. Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Purchaser. The decision of the Contracting Officer shall be final and conclusive unless within ninety (90) days from the date of receipt of such copy, the Purchaser mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the DOE Board of Contract Appeals (Board). The decision of the Board shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith or not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Purchaser shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

B. For Purchaser claims of more than \$50,000, the Purchaser shall submit with the

claim a certification that the claim is made in good faith; the supporting data are accurate and complete to the best of the Purchaser's knowledge and belief; and the amount requested accurately reflects the contract adjustment for which the Purchaser believes the Government is liable. The certification shall be executed by the Purchaser if an individual. When the Purchaser is not an individual, the certification shall be executed by a senior company official in charge at the Purchaser's plant or location involved, or by an officer or general partner of the Purchaser having overall responsibility for the conduct of the Purchaser's affairs.

C. For Purchaser claims of \$50,000 or less, the Contracting Officer must render a decision within sixty (60) days. For Purchaser claims in excess of \$50,000, the Contracting Officer must decide the claim within sixty (60) days or notify the Purchaser of the date when the decision will be made.

D. This "Disputes" clause does not preclude consideration of law questions in connection with decisions provided for in paragraph A above; *provided, however*, that nothing in this contract shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

ARTICLE XVII—OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE XVIII—COVENANT AGAINST CONTINGENT FEES

The Purchaser warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Purchaser for the purpose of securing business. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or in its discretion to increase the contract price or consideration, or otherwise recover, the full amount of such commission, brokerage, or contingent fee.

ARTICLE XIX—EXAMINATION OF RECORDS

The Purchaser agrees that the Comptroller General of the United States or any of his duly authorized representatives shall have access to and the right to examine any directly pertinent books, documents, papers and records of the Purchaser involving transactions related to this contract until the ex-

piration of three years after final payment under this contract.

ARTICLE XX—PERMITS

The Government and the Purchaser shall procure all necessary permits or licenses (including any special nuclear material licenses) and comply with all applicable laws and regulations of the United States, States and municipalities necessary to execute their respective responsibilities and obligations under this contract.

ARTICLE XXI—RIGHTS IN TECHNICAL DATA

A. Definitions.

1. *Technical data* means recorded information regardless of form or characteristic, of a specific or technical nature. It may, for example, document research, experimental, developmental, or demonstration, or engineering work, or be usable or used to define a design or process, or to procure, produce, support, maintain or operate material. The data may be graphic or pictorial delineations in media such as drawings or photographs, text in specifications or related performance or design-type documents or computer software (including computer programs, computer software data bases, and computer software documentation). Examples of technical data include research and engineering data, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identification, and related information. Technical data as used herein do not include financial reports, cost analyses, and other information incidental to contract administration.

2. *Proprietary data* means technical data which embody trade secrets developed at private expense, such as design procedures or techniques, chemical composition of materials, or manufacturing methods, processes, or treatments, including minor modifications thereof, provided that such data:

(a) Are not generally known or available from other sources without obligation concerning their confidentiality;

(b) Have not been made available by the owner to others without obligation concerning its confidentiality; and

(c) Are not already available to the Government without obligation concerning their confidentiality.

3. *Contract data* means technical data first produced in the performance of the contract, technical data which are specified to be delivered under the contract, or technical data actually delivered in connection with the contract.

4. *Unlimited rights* means rights to use, duplicate, or disclose technical data, in whole or in part, in any manner and for any purpose whatsoever, and to permit others to do so.

Department of Energy

§ 961.11

B. Allocation of Rights.

1. The Government shall have:

(a) Unlimited rights in contract data except as otherwise provided below with respect to proprietary data properly marked as authorized by this clause;

(b) The right to remove, cancel, correct or ignore any marking not authorized by the terms of this contract on any technical data furnished hereunder, if in response to a written inquiry by DOE concerning the proprietary nature of the markings, the Purchaser fails to respond thereto within 60 days or fails to substantiate the proprietary nature of the markings. In either case, DOE will notify the Purchaser of the action taken;

(c) No rights under this contract in any technical data which are not contract data.

2. Subject to the foregoing provisions of this rights in technical data clause, the Purchaser shall have the right to mark proprietary data it furnishes under the contract with the following legend and no other, the terms of which shall be binding on the Government:

LIMITED RIGHTS LEGEND

This "proprietary data," furnished under "Contract No. ____" with the U.S. Department of Energy may be duplicated and used by the Government with the express limitations that the "proprietary data" may not be disclosed outside the Government or be used for purposes of manufacture without prior permission of the Purchaser, except that further disclosure or use may be made solely for the following purposes:

(a) This "proprietary data" may be disclosed for evaluation purposes under the restriction that the "proprietary data" be retained in confidence and not be further disclosed;

(b) This "proprietary data" may be disclosed to contractors participating in the Government's program of which this contract is a part, for information or use in connection with the work performed under their contracts and under the restriction that the "proprietary data" be retained in confidence and not be further disclosed; or

(c) This "proprietary data" may be used by the Government or others on its behalf for emergency work under the restriction that the "proprietary data" be retained in confidence and not be further disclosed. This legend shall be marked on any reproduction of this data in whole or in part.

3. In the event that proprietary data of a third party, with respect to which the Purchaser is subject to restrictions on use or disclosure, is furnished with the Limited Rights Legend above, Purchaser shall secure the agreement of such third party to the rights of the Government as set forth in the Limited Rights Legend. DOE shall upon re-

quest furnish the names of those contractors to which proprietary data has been disclosed.

ARTICLE XXII—ENTIRE CONTRACT

A. This contract, which consists of Articles I through XXII and appendices A through G, annexed hereto and made a part hereof, contains the entire agreement between the parties with respect to the subject matter hereof. Any representation, promise, or condition not incorporated in this contract shall not be binding on either party. No course of dealing or usage of trade or course of performance shall be relevant to explain or supplement any provision contained in this contract.

B. Nothing in this contract is intended to affect in any way the contractual obligation of any other persons with whom the Purchaser may have contracted with respect to assuming some or all disposal costs or to accept title to SNF and/or HLW.

C. Appendices

- A. Nuclear Power Reactor(s) or Other Facilities Covered
B. Discharge Information (Ten Year; Annual)
C. Delivery Commitment Schedule
D. Final Delivery Schedule
E. General Specifications
F. Detailed Description of Purchaser's Fuel
G. Standard Remittance Advice For Payment of Fees

In witness whereof, the parties hereto have executed this contract as of the day and year first above written.

United States of America
United States Department of Energy
By: _____
(Contracting Officer)

Witnesses as to Execution on Behalf of Purchaser
(Name) _____
(Address) _____
(Name) _____
(Address) _____
(Purchaser's Company Name)

By: _____
Title: _____

I, (Name), certify that I am the (Title) of the corporation named as Purchaser herein; that (Name) who signed this document on behalf of the Purchaser was then (Title) of said corporation; that said document was duly signed for and on behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

In Witness Whereof, I have hereunto affixed my hand and the seal of said corporation this ____ day of ____, 1983
(Corporate Seal)
(Signature) _____

APPENDIX A

Nuclear Power Reactor(s) or Other Facilities Covered

Purchaser
Contract Number/Date
Reactor/Facility Name
Location:
Street
City
County/State
Zip Code
Capacity (MWE)—Gross
Reactor Type:
BWR
PWR
Other (Identify)
Facility Description
Date of Commencement of Operation
NRC License #:
By Purchaser:

Signature
Title
Date

APPENDIX B

Ten Year Discharge Forecast

To be used for DOE planning purposes only and does not represent a firm commitment by Purchaser.
Purchaser
Contract Number/Date
Reactor/Facility Name
Location:
Street
City
County/State
Zip Code
Type: BWR
PWR
Other (Identify)

Table with 11 columns (1-10, 10 yr total) and 4 rows (Discharge date, Metric tons, Number of assemblies discharged, etc.)

By Purchaser:
Signature
Title
Date

APPENDIX C

Delivery Commitment Schedule

This delivery commitment schedule shall be submitted by Purchaser to DOE as specified in Article V.B. of this contract.
Purchaser
Contract Number/Date
Reactor/Facility Name
Location:
Street
City
County/State
Zip Code
Type Cask Required:
Shipping Lot Number
Proposed Shipping Mode:
Truck
Rail
Barge
DOE Assigned Delivery Commitment Date
Range of Discharge Date(s)
Metric Tons Uranium:
Number of Assemblies:
BWR
PWR

APPENDIX B (Enclosure 1)

Actual Discharges

Purchaser
Contract Number/Date
Reactor/Facility Name
Location:
Street
City
County/State
Zip Code
Type:
BWR
PWR
Other (Identify)
Refueling Shutdown Date
Metric Tons Uranium (Initial/Discharged);
Initial Discharged
Number of Assemblies Discharged:
Any false, fictitious or fraudulent statement may be punishable by fine or imprisonment (U.S. Code, Title 18, Section 1001).
By Purchaser:
Signature
Title
Date

Department of Energy

§ 961.11

Other _____
 Unless otherwise agreed to in writing by DOE, the Purchaser shall furnish herewith to DOE suitable proof of ownership of the SNF and/or HLW to be delivered hereunder. The Purchaser shall notify DOE in writing at the earliest practicable date of any change in said ownership.

Any false, fictitious or fraudulent statement may be punishable by fine or imprisonment (U.S. Code, Title 18, Section 1001).
 By Purchaser:
 Signature _____
 Title _____
 Date _____
 Approved by DOE:
 Technical Representative _____
 Title _____
 Date _____
 Contracting Officer _____
 Date _____

APPENDIX D

Final Delivery Schedule

(To be submitted to DOE by Purchaser for each designated Purchaser Delivery site not later than twelve (12) months prior to estimated date of first delivery)
 Purchaser: _____
 Contract Number/Date _____
 Reactor/Facility Name _____
 Location:
 Street _____
 City _____
 County/State _____
 Zip Code _____
 Type(s) cask(s) required: _____
 No. Assemblies per cask _____
 Shipping Lot Number _____
 Shipping Mode:
 (Assigned by DOE)
 Truck _____
 Rail _____
 Barge _____
 Metric Tons Uranium:
 (Initial) _____
 (Discharged) _____
 Range of Discharge Date(s) (Earliest to Latest)
 (From approved commitment schedule)
 Mo— Day— Yr— to Mo— Day— Yr—
 Number of Assemblies:
 BWR _____
 PWR _____
 Other _____
 Purchaser's Delivery First Estimate
 Mo— Day— Yr— last Mo— Day— Mo—

Unless otherwise agreed to in writing by DOE, the Purchaser shall furnish herewith to DOE suitable proof of ownership of the SNF and/or HLW to be delivered hereunder. The Purchaser shall notify DOE in writing at the earliest practicable date of any change in said ownership.

To confirm acceptability of delivery date(s):
 Purchaser Contact _____
 Phone _____
 Title _____
 DOE Contact _____
 Phone _____
 Title _____

Any false, fictitious or fraudulent statement may be punishable by fine or imprisonment (U.S. Code, Title 18, Section 1001).
 By Purchaser:
 Signature _____
 Title _____
 Date _____
 Approved by DOE:
 Technical Representative _____
 Title _____
 Date _____
 Contracting Officer _____
 Date _____

APPENDIX E

General Specifications

A. Fuel Category Identification

1. Categories—Purchaser shall use reasonable efforts, utilizing technology equivalent to and consistent with the commercial practice, to properly classify Spent Nuclear Fuel (SNF) prior to delivery to DOE, as follows:
 - a. *Standard Fuel* means SNF that meets all the General Specifications therefor set forth in paragraph B below.
 - b. *Nonstandard Fuel* means SNF that does not meet one or more of the General Specifications set forth in subparagraphs 1 through 5 of paragraph B below, and which is classified as Nonstandard Fuel Classes NS-1 through NS-5, pursuant to paragraph B below.
 - c. *Failed Fuel* means SNF that meets the specifications set forth in subparagraphs 1 through 3 of paragraph B below, and which is classified as Failed Fuel Class F-1 through F-3 pursuant to subparagraph 6 of paragraph B below.
 - d. Fuel may have "Failed Fuel" and/or several "Nonstandard Fuel" classifications

*B. Fuel Description and Subclassification—
 General Specifications*

1. Maximum Nominal Physical Dimensions.

	Boiling water reactor (BWR)	Pressurized water reactor (PWR)
Overall Length	14 feet, 11 inches	14 feet, 10 inches.
Active Fuel Length	12 feet, 6 inches ..	12 feet, 0 inches.
Cross Section ¹	6 inches × 6 inches.	9 inches × 9 inches.

¹The cross section of the fuel assembly shall not include the channel.
 NOTE: Fuel that does not meet these specifications shall be classified as Nonstandard Fuel—Class NS-1.

2. *Nonfuel Components.* Nonfuel components including, but not limited to, control spiders, burnable poison rod assemblies, control rod elements, thimble plugs, fission chambers, and primary and secondary neutron sources, that are contained within the fuel assembly, or BWR channels that are an integral part of the fuel assembly, which do not require special handling, may be included as part of the spent nuclear fuel delivered for disposal pursuant to this contract.

NOTE: Fuel that does not meet these specifications shall be classified as Nonstandard Fuel—Class NS-2.

3. *Cooling.* The minimum cooling time for fuel is five (5) years.

NOTE: Fuel that does not meet this specification shall be classified as Nonstandard Fuel—Class NS-3.

4. *Non-LWR Fuel.* Fuel from other than LWR power facilities shall be classified as Nonstandard Fuel—Class NS-4. Such fuel may be unique and require special handling, storage, and disposal facilities.

5. *Consolidated Fuel Rods.* Fuel which has been disassembled and stored with the fuel rods in a consolidated manner shall be classified as Nonstandard Fuel Class NS-5.

6. *Failed Fuel.*

a. *Visual Inspection.*

Assemblies shall be visually inspected for evidence of structural deformity or damage to cladding or spacers which may require special handling. Assemblies which [i] are structurally deformed or have damaged cladding to the extent that special handling may be required or [ii] for any reason cannot be handled with normal fuel handling equipment shall be classified as Failed Fuel—Class F-1.

b. *Previously Encapsulated Assemblies.*

Assemblies encapsulated by Purchaser prior to classification hereunder shall be classified as Failed Fuel—Class F-3. Purchaser shall advise DOE of the reason for the prior encapsulation of assemblies in sufficient detail so that DOE may plan for appropriate subsequent handling.

c. *Regulatory Requirements.*

Spent fuel assemblies shall be packaged and placed in casks so that all applicable regulatory requirements are met.

C. Summary of Fuel Classifications

1. *Standard Fuel:*

- a. Class S-1: PWR
- b. Class S-2: BWR

2. *Nonstandard Fuel:*

- a. Class NS-1: Physical Dimensions
- b. Class NS-2: Non Fuel Components
- c. Class NS-3: Short Cooled
- d. Class NS-4: Non-LWR
- e. Class NS-5: Consolidated Fuel Rods.

3. *Failed Fuel:*

- a. Class F-1: Visual Failure or Damage

- b. Class F-2: Radioactive “Leakage”
- c. Class F-3: Encapsulated

D. High-Level Radioactive Waste

The DOE shall accept high-level radioactive waste. Detailed acceptance criteria and general specifications for such waste will be issued by the DOE no later than the date on which DOE submits its license application to the Nuclear Regulatory Commission for the first disposal facility.

APPENDIX F

Detailed Description of Purchaser’s Fuel

This information shall be provided by Purchaser for each distinct fuel type within a Shipping Lot not later than sixty (60) days prior to the schedule transportation date.

Purchaser _____
 Contract Number/Date ____/_____
 Reactor/Facility Name _____

I. Drawings included in generic dossier: _____

- 1. Fuel Assembly DWG# _____
- 2. Upper & Lower end fittings DWG# _____
 Dossier Number: _____
 DOE Shipping Lot #: _____
 # Assemblies Described:
 _____BWR
 _____PWR
 _____Other

II. *Design Material Descriptions.*

Fuel Element:

- 1. Element type _____ (rod, plate, etc.)
- 2. Total length _____/(in.)
- 3. Active length _____ (in.)
- 4. Cladding material _____ (Zr, s.s., etc.)

Assembly Description:

- 1. Number of Elements _____
- 2. Overall dimensions (length _____ (cross section) _____ (in.)
- 3. Overall weight _____

III. Describe any distortions, cladding damage or other damage to the spent fuel, or nonfuel components within this Shipping Lot which will require special handling procedures. (Attach additional pages if needed.)

IV. Assembly Number _____
 Shipping Lot # _____

	Irradiation history cycle No.				
	1	2	3	4	5
1. Startup date (mo/day/yr)
2. Shutdown date (mo/day/yr)
3. Cumulative fuel exposure (mwd/mtu)
4. Avg. reactor power (mwt)

Department of Energy

§ 961.11

	Irradiation history cycle No.				
	1	2	3	4	5

Signature _____
Title _____
Date _____

5. Total heat output/assembly in watts, using an approved calculational method: _____ as of Date _____

Any false, fictitious or fraudulent statement may be punishable by fine or imprisonment (U.S. Code, Title 18, Section 1001).
By Purchaser:

NWPA-830G

U.S. DEPARTMENT OF ENERGY
 Germantown, MD 20875

OMB No.: 1901-0260
 Expires: 11/30/93

Appendix G - Standard Remittance Advice for Payment of Fees

This information is being collected under mandatory authorities vested in the U.S. Department of Energy under Public Law 97-425. Late filing, failure to file or to otherwise comply with the instructions provided may result in interest penalties as provided by Article VIII C of the Standard Contract for Disposal of Spent Nuclear Fuel and/or High Level Radioactive Waste. For information concerning confidentiality of information see Item 6 of the instructions. Public reporting burden for this collection of information is estimated to average 40 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Office of Statistical Standards, E1-73, Mail Station 2H-087, 1000 Independence Ave., S.W., Washington, D.C. 20545; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

1.0 IDENTIFICATION INFORMATION

1.1 Purchaser Information

(a) Name _____
 (b) Address _____
 (c) City, State & Zip Code _____
1.2 Contact Person
 (a) Name _____
 (b) Telephone (Include Area Code) _____

1.3 Standard Contract Identification Number: _____

1.4 Period Covered by this Remittance Advice

(a) From _____ to _____
 (Month/Day/Year) (Month/Day/Year)
 (b) Date of this Payment _____
 (Month/Day/Year)

2.0 SPENT NUCLEAR FUEL (SNF) FEE

2.1 Number of Reactors Covered _____

2.2 Total Purchaser Obligation as of April 7, 1983 \$ _____

2.3 Date of First Payment:

Month	Day	Year

2.4 10-Year Treasury Note Rate as of the Date of First Payment ----- %

2.5 Unpaid Balance Prior to this Payment \$ _____

2.6 Option Chosen _____

2.7 Fee Date

(a) Principal _____
 (b) Interest _____
 (c) Total Spent Nuclear Fuel Fee Transmitted with this Payment \$ _____

3.0 FEE FOR ELECTRICITY GENERATED AND SOLD (MILLS PER KILOWATT HOUR, M/kWh)

3.1 Number of Reactors Covered _____

3.2 Total Electricity Generated and Sold (Megawatt hours)
 (Sum of Line 4.2 from all Annex A's) _____

3.3 Current Fee Rate _____ (M/kWh)

3.4 Total Fee for Electricity Generated and Sold

(M/kWh) Transmitted with this Payment \$ _____

4.0 UNDERPAYMENT/LATE PAYMENT (As notified by DOE)

Type of Payment (a)	Date of Notification (Month/Day/Year) (b)	DOE Invoice Number (c)	Date of Payment Transmitted (Month/Day/Year) (d)	Interest Paid (e)	Amount Transmitted (f)
4.1 SNF Underpayment					
4.2 Electricity Generation Late Payment					
4.3 TOTAL UNDERPAYMENT					
4.4 SNF Late Payment					
4.5 Electricity Generation Late Payment					
4.6 TOTAL LATE PAYMENT					

5.0 OTHER CREDITS CLAIMED (Attach Explanation)

Enter the Total Amount Claimed for All Credits \$ _____

6.0 TOTAL REMITTANCE

6.1 Total Spent Nuclear Fuel Fee Transmitted (from 2.7(c)) \$ _____
 6.2 Total Fee for Electricity Generated and Sold (from 3.4) \$ _____
 6.3 Total Underpayment (from 4.3(f)) \$ _____
 6.4 Total Late Payment (from 4.6(f)) \$ _____
 6.5 Total Credits (from 5.0) \$ _____
 6.6 TOTAL REMITTANCE (Sum of 6.1 through 6.4 minus 6.5) \$ _____

7.0 CERTIFICATION

I certify that the Total Remittance is true and accurate to the best of my knowledge.

Name _____ Date _____ Signature _____
 TITLE 18 USC 1001 makes it a crime for any person to knowingly and willfully make to any department or agency of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.
 Copy Distribution White, DOE-Controller; Canary, DOE-OCRWM; Peck, DOE-EIA; Goldenrod, Utility Copy - GPO: 193-122

DEPARTMENT OF ENERGY
Germantown, MD 20875

APPENDIX G - STANDARD REMITTANCE ADVICE FOR PAYMENT OF FEES

General Information

1. **Purpose**
Standard Remittance Advice (RA) form is designed to serve as the source document for entries into the Department's accounting records to transmit data from Purchasers concerning payment of their contribution to the Nuclear Waste Fund.
2. **Who Shall Submit**
The RA must be submitted by Purchasers who signed the Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste. Submit Copy 1, 2, and 3 to DOE, Office of the Controller, Special Accounts and Payroll Division and retain Copy 4.
3. **Where to Submit**
Purchasers shall forward completed RA to:
 U.S. Department of Energy
 Office of the Controller
 Special Accounts and Payroll Division (C-216 GTN)
 Box 500
 Germantown, MD 20875-0500
 Request for further information, additional forms, and instructions may be directed in writing to the address above or by telephone to (301) 353-4014.
4. **When to Submit**
For electricity generated on or after 4-7-83 fees shall be paid quarterly by the Purchaser and must be received by DOE not later than the close of the last business day of the month following the end of each assigned three month period. Payment is by electronic wire transfer only.
5. **Sanctions**
The timely submission of RA by a Purchaser is mandatory. Failure to file may result in late penalty fees as provided by Article VIII.C of the Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste.
6. **Provisions Regarding the Confidentiality of Information**
The information contained in these forms may be (i) information which is exempt from disclosure to the public under the exemption for trade secrets and confidential commercial information specified in the Freedom of Information Act of 5 USC 552(b)(4)(FOIA) or (ii) prohibited from public release by 18 USC 1905. However, before a determination can be made that particular information is within the coverage of either of these statutory provisions, the person submitting the information must make a showing satisfactory to the Department concerning its confidential nature.
 Therefore, respondents should state briefly and specifically (on an element-by-element basis if possible), in a letter accompanying submission of the form why they consider the information concerned to be a trade secret or other proprietary information, whether such information is customarily treated as confidential information by their companies and the industry, and the type of competitive hardship that would result from disclosure of the information. In accordance with the provisions of 10 CFR 1004.11 of DOE's FOIA regulations, DOE will determine whether any information submitted should be withheld from public disclosure.
 If DOE receives a response and does not receive a request, with substantive justification, that the information submitted should not be released to the public, DOE may assume that the respondent does not object to disclosure to the public of any information submitted on the form.
 A new written justification need not be submitted each time the NWPA-830G is submitted if:
 a. views concerning information items identified as privileged or confidential have not changed and
 b. a written justification setting forth respondent's views in this regard was previously submitted.
 In accordance with the cited statutes and other applicable authority, the information must be made available upon request, to the Congress or any committee of Congress, the General Accounting Office, and other Federal agencies authorized by law to receive such information.

**INSTRUCTIONS FOR COMPLETING STANDARD REMITTANCE
 ADVICE FOR PAYMENT OF FEES**

- Section 1.0 **Identification Information**
 - 1.1 Name of Purchaser as it appears on the Standard Contract, the mailing address, state, and zip code.
 - 1.2 Name and telephone number of person responsible for the completion of this form.
 - 1.3 Standard Contract identification number as assigned by DOE.
 - 1.4 Period covered by this advice and date of this payment. Any period different from the assigned three month period should be explained on a separate attachment.
- Section 2.0 **Spent Nuclear Fuel (SNF) Fee**
 - 2.1 Enter the number of reactors for which the Purchaser had irradiated fuel as of midnight between 6/7 April 1983 (equal to the number of Annex B Forms attached).
 - 2.2 Total amount owed to the Nuclear Waste Fund for spent fuel used to generate electricity prior to April 7, 1983 (See Annex B for calculation).
 - 2.3 Self explanatory.
 - 2.4 Ten year Treasury Note rate on the date the payment is made, to be used if payments are being made using the 40 quarter option or if lump sum payment is made after June 30, 1985.
 - 2.5 Unpaid balance before this payment is made.
 - 2.6 Enter the payment option (1, 2, or 3) chosen. The selection of payment option must be made within two years of Standard Contract execution.
 - 2.7 Total payment of fee which this advice represents. Show principal, interest, and total.
- Section 3.0 **Fee for Electricity Generated and Sold (MkWh)**
 - 3.1 Enter the number of reactors the Purchaser is reporting on during this reporting period.
 - 3.2 Enter total electricity generated and sold during the reporting period from all reactors being reported. This is the sum of Station Total figures of line 4.2 from all Annex A forms attached, expressed in megawatt hours.
 - 3.3 Current Fee Rate as provided by DOE (initially 1.0 MkWh which is equal to 1.0 \$/MWh).
 - 3.4 Total Fee for Electricity Generated and Sold (MkWh) represented by this advice.
- Section 4.0 **Underpayment/Late payment (as notified by DOE)**
 - 4.1 - 4.6 Self Explanatory.
- Section 5.0 **Other Credits Claimed**
Represents all items for which a Purchaser may receive credit, as specified in the Standard Contract.
- Section 6.0 **Total Remittance**
 - 6.1 - 6.6 This section is a summary of the payments made in the previously mentioned categories with this remittance.
- Section 7.0 **Certification**
Enter the name and title of the individual your company has designated to certify the accuracy of the data. Sign the "Certification" block and enter the current date.

U.S. Department of Energy Energy Information Administration Form NWP-830G	ANNEX A TO APPENDIX G Standard Remittance Advice for Payment of Fees	OMB No. 1901-0260 (Expires 11/30/93)																																																																																																												
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1.1 Purchaser Information: 1.11 Name: _____ 1.12 Address: _____ 1.13 Attention: _____ 1.14 City: _____ 1.15 State: _____ 1.16 Zip: _____ 1.17 Utility ID Number: ____ ____ 1.2 Contact Person: 1.21 Name: _____ 1.22 Title: _____ 1.23 Phone No.:() () Ext.: _____	1.3 Station Name: _____ 1.4 Standard Contract Identification Number: _____ 1.5 Period Covered (MM/DD/YY): 1.51 From: ____/____/____ To: ____/____/____ 1.52 Date of This Submission: ____/____/____																																																																																																													
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U.S. Department of Energy
 Energy Information Administration
 Form NWEPA-830G

Annex A to Appendix G
Standard Remittance Advice for Payment of Fees

OMB No. 1901-0260
 (Expires 11/30/93)

Annex A Instructions

0. General Information
0.1 Purpose: To report the calculations of fees due the Department of Energy's Nuclear Waste Fund.
0.2 Please read all instructions before completing this form.
0.3 Complete a separate Annex A for each nuclear station. For a nuclear station that has different ownership arrangements for more than one reactor, a separate Annex A will be required for each reactor.
0.4 Submit Annex A Quarterly with Appendix G.
0.5 Where to submit:

 U.S. DOE, Office of the Controller
 Special Accounts & Payroll Division
 (C-216 GTN), Box 500
 Germantown, MD 20875-0500

Section 1. Identification Information: (Self explanatory)
Section 2. Net Electricity Generated Calculation
2.1 Unit ID Code: Enter the Reactor Unit Identification (ID) Code as assigned by DOE, for each reactor in the station.
2.2 Gross Thermal Energy Generated (MWh): Utility shall report the thermal output of the nuclear steam supply system during the gross hours of the reporting period.
2.3 Gross Electricity Generated (MWh): Utility shall report this amount for each unit in the appropriate column, and the total in the column labeled "Station Total." This amount is measured at the output terminals of the generator during the reporting period.
2.4 Nuclear Station Use While At Least One Nuclear Unit is in Service (MWh): Utility shall report this amount for each unit in the appropriate column, and the total in the column called "Station Total." The utility is to report consumption of electricity by the nuclear portion of the station during days in which at least one of the station's nuclear units was on-line and producing electricity. A utility unable to meter an individual unit shall report the estimated unit use, and shall explain in item 2.7 how the unit data were estimated. **Note that:**
 A. During days in which nuclear station use exceeds nuclear station generation, the utility shall treat all resulting negative values as zero for fee calculation purposes.
 B. A utility that has multiple nuclear units at one station:
 • when at least 1 nuclear unit is operating and when generation from that unit exceeds the nuclear station's use, the utility may assume that the operating unit is supplying electricity for nuclear station use whether or not the electricity has been metered separately or the units terminate to a common electrical busbar; and
 • shall report under item 2.5 any electricity use by the nuclear portion of the station during the days in which all nuclear units at the station were out of service simultaneously.
 C. A utility that has a metered transmission line connecting an off-station nuclear reactor with another nuclear station may treat the off-station plant as part of this station for fee calculation purposes if it is not double counted.
 D. Utility may deduct small quantities of unmetered non-nuclear electricity generation included in "Gross Electricity Generated," provided that it is identified and explained in item 2.7.
 E. A utility may deduct nuclear electricity generation which is not sold and does not pass the busbar, provided they identify and explain the deduction in item 2.7 and that the deduction is not double counted.
2.5 Nuclear Station Use While All Nuclear Units Are Out Of Service (MWh): Utility shall report the consumption of electricity by the nuclear portion of the station during days in which total nuclear unit use exceeds nuclear generation (e.g., a day in which all nuclear units at the station were out of service at once). Note that a utility unable to meter individual unit use will report estimated unit use, and shall explain in item 2.7 how the unit data were estimated.

2.6 Net Electricity Generated (MWh): The utility shall report this amount for each unit in the appropriate column, and the total in the "Station Total" column. This amount is the result of subtracting items 2.4 from items 2.3.
2.7 Footnote (If any): Utilities that are unable to meter individual unit use shall explain here how the unit data were estimated.
Section 3. Total Energy Adjustment Factor Calculation:
 The reporting utility shall obtain necessary data from all owners to calculate the Total Energy Adjustment Factor and maintain consistent, accurate, and complete records to support these submissions. The values provided in this section must be accurate to 4 significant digits. If there are more than 12 owners, use a continuation sheet. For a nuclear station with more than one reactor and different ownerships for each reactor, a separate Annex A will be required for each reactor.
3.1 Weighted Energy Adjustment Factor Calculation:
Name of Nuclear Station Owner(s): provide the name(s) in items 1. thru 12, of 3.1. If more than 12 names, use a continuation sheet.
Adjustment for Sales to ultimate Consumer (ASC): is the product of Fraction of Sales to ultimate Consumer (FSC) and the Sales to ultimate Consumer Adjustment Factor (SCAF).
Fraction of Sales to ultimate Consumer (FSC): is determined by dividing the owner's previous year's annual sales to the ultimate consumer by the sum of the owner's previous year's annual sales to the ultimate consumer plus the owner's previous year's annual sales for resale. These figures can be found on the Energy Information Administration (EIA) Form EIA-861 or the Federal Energy Regulatory Commission (FERC) Form No. 1.
Sales to ultimate Consumer Adjustment Factor (SCAF): is equal to one minus the quotient of all electricity lost or otherwise not sold for each owner, divided by the total electricity available for disposition to ultimate consumers. The total electricity available is the reporting year total of all of an owner's electricity supply which is available for disposition, expressed in kilowatt hours. Electricity lost or otherwise not sold includes: (a) energy furnished without charge; (b) energy used by the company; (c) transmission losses; (d) distribution losses; (e) other unaccounted losses as reported on the Form EIA-861 or the FERC Form No. 1.
Adjustment for Sales for Resale (ASR): is the product of Fraction of Sales for Resale (FSR) and National average Adjustment Factor (NAF).
Fraction of Sales for Resale (FSR): is determined by dividing the owner's previous year's annual sales for resale by the sum of the owner's previous year's annual sales to the ultimate consumer plus the owner's previous year's annual sales for resale. These figures can be found on the Form EIA-861 or the FERC Form No. 1.
National average Adjustment Factor (NAF): is the quotient of the national total of electricity sold divided by the national total of electricity available for disposition.
Owner's Energy Adjustment Factor (OEAF): is the Owner's fraction of metered electricity
Weighted Energy Adjustment Factor (WEAF): is the product of an Owner's Energy Adjustment Factor (OEAF) times the Owner's Share (OS).
3.2 Total Energy Adjustment Factor (TEAF): is the sum of individual owner's Weighted Energy Adjustment Factors (WEAF).
Section 4. Fee Calculation for Electricity Generated and Sold:
4.1 Total Energy Adjustment Factor: Enter the value from item 3.2 as appropriate.
4.2 Electricity Generated and Sold: Multiply the values in item 4.1 by the "Unit" values in item 2.6. Sum these values and enter in "Station Total".
4.3 Current Fee Due (Dollars): Multiply the values in item 4.2 by one (1) dollar/megawatt hour (or 1.0 mill/kWh), which is the current fee. Add this station fee to the current fee due for all other reactors operated by the Purchaser, and then enter the sum on line 3.4 of the Appendix G, Remittance Advice.

ANNEX B TO APPENDIX G

Standard Remittance of Advice (RA) for
Payment of Fees

This Annex should be completed only for SNF burned before midnight between April 6/7, 1983.

I. Identification

A. Purchaser: _____

1. Burnup ¹ (MWDT/MTU)	0–	5,000–	10,000	20,000
			10,000	20,000
				up
2. Initial loading (KgU) (with indicated burnup)				
3. Fee rate (\$/KgU)	80.00	142.00	162.00	184.00
4. Fee (\$)				
5. Total fee (4)				

B. Unit identification (Only one unit may be covered in each report.)

1. Reactor/Facility Name: _____
2. Location: _____
3. Type: _____
4. Capacity: _____
5. Date of Commencement of Operations: _____
6. NRC License No.: _____

II. Fee Calculation

A. Discharged nuclear fuel

B. Nuclear fuel in the reactor core as of midnight of 6/7 April 1983.

Assembly identification	Initial loading (KgU)	Burnup ¹ as of midnight 6/7 April 1983 (MWDT/MTU)	Fee
1.
2.
3.
4.
5.
6.
7.
8.
9.
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11.
12.
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15.
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21.
22.
23.
24.
25.

¹Please provide (as an attachment) a clear reference to the methodology used to derive the burnup figures (computer codes, etc.) and a clear reference to all data used in the derivation of those figures.

C. Total fee.

(Approved by the Office of Management and Budget under control number 1091-0260)

[48 FR 16599, Apr. 18, 1983; 48 FR 23160, May 24, 1983, as amended at 52 FR 35359, Sept. 18, 1987; 56 FR 67659, Dec. 31, 1991]

PART 962—BYPRODUCT MATERIAL

Sec.

962.1 Scope.

962.2 Purpose.

962.3 Byproduct material.

AUTHORITY: The Atomic Energy Act of 1954 (42 U.S.C. 2011 *et seq.*); Energy Reorganization Act of 1974 (42 U.S.C. 5801 *et seq.*); Department of Energy Organization Act (42 U.S.C. 7101 *et seq.*); Nuclear Waste Policy Act (Pub. L. 97-425, 96 Stat. 2201).

SOURCE: 52 FR 15940, May 1, 1987, unless otherwise noted.

§962.1 Scope.

This part applies only to radioactive waste substances which are owned or produced by the Department of Energy at facilities owned or operated by or for the Department of Energy under the Atomic Energy Act of 1954 (42 U.S.C. 2011 *et seq.*). This part does not apply to substances which are not owned or produced by the Department of Energy.

§962.2 Purpose.

The purpose of this part is to clarify the meaning of the term “byproduct material” under section 11e(1) of the Atomic Energy Act of 1954 (42 U.S.C. 2014(e)(1)) for use only in determining the Department of Energy’s obligations under the Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*) with regard to radioactive waste substances owned or produced by the Department of Energy pursuant to the exercise of its responsibilities under the Atomic Energy Act of 1954. This part does not affect materials defined as byproduct material under section 11e(2) of the Atomic Energy Act of 1954 (42 U.S.C. 2014(e)(2)).

Department of Energy

§ 962.3

§ 962.3 Byproduct material.

(a) For purposes of this part, the term *byproduct material* means any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material.

(b) For purposes of determining the applicability of the Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*) to any radioactive waste substance owned or produced by the De-

partment of Energy pursuant to the exercise of its atomic energy research, development, testing and production responsibilities under the Atomic Energy Act of 1954 (42 U.S.C. 2011 *et seq.*), the words "any radioactive material," as used in paragraph (a) of this section, refer only to the actual radionuclides dispersed or suspended in the waste substance. The nonradioactive hazardous component of the waste substance will be subject to regulation under the Resource Conservation and Recovery Act.