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TABLE A–3—GENERAL VALUES FOR A_1 AND A_2—Continued

Contents	A_1		A_2		Activity concentration for exempt material (Bq/g)	Activity concentration for exempt material (Ci/g)	Activity limits for exempt consignments (Bq)	Activity limits for exempt consignments (Ci)
	(TBq)	(Ci)	(TBq)	(Ci)				
Alpha emitting nuclides, but no neutron emitters, are known to be present (a).	2×10^{-1}	5.4×10^{0}	9×10^{-5}	2.4×10^{-3}	1×10^{-1}	2.7×10^{-12}	1×10^{3}	2.7×10^{-8}
Neutron emitting nuclides are known to be present or no relevant data are available.	1×10^{-3}	2.7×10^{-2}	9×10^{-5}	2.4×10^{-3}	1×10^{-1}	2.7×10^{-12}	1×10^{3}	2.7×10^{-8}

[a] If beta or gamma emitting nuclides are known to be present, the A_1 value of 0.1 TBq (2.7 Ci) should be used.

TABLE A–4—ACTIVITY-MASS RELATIONSHIPS FOR URANIUM

Uranium Enrichment [1] wt % U–235 present	Specific Activity	
	TBq/g	Ci/g
0.45	1.8×10^{-8}	5.0×10^{-7}
0.72	2.6×10^{-8}	7.1×10^{-7}
1	2.8×10^{-8}	7.6×10^{-7}
1.5	3.7×10^{-8}	1.0×10^{-6}
5	1.0×10^{-7}	2.7×10^{-6}
10	1.8×10^{-7}	4.8×10^{-6}
20	3.7×10^{-7}	1.0×10^{-5}
35	7.4×10^{-7}	2.0×10^{-5}
50	9.3×10^{-7}	2.5×10^{-5}
90	2.2×10^{-6}	5.8×10^{-5}
93	2.6×10^{-6}	7.0×10^{-5}
95	3.4×10^{-6}	9.1×10^{-5}

[1] The figures for uranium include representative values for the activity of the uranium-234 that is concentrated during the enrichment process.

[69 FR 3800, Jan. 26, 2004; 69 FR 58039, Sept. 29, 2004, as amended at 77 FR 39908, July 6, 2012; 80 FR 34014, June 12, 2015; 85 FR 65663, Oct. 16, 2020]

PART 72—LICENSING REQUIREMENTS FOR THE INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL, HIGH-LEVEL RADIOACTIVE WASTE, AND REACTOR-RELATED GREATER THAN CLASS C WASTE

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AUTHORITY: Atomic Energy Act of 1954, secs. 51, 53, 57, 62, 63, 65, 69, 81, 161, 182, 183, 184, 186, 187, 189, 223, 234, 274 (42 U.S.C. 2071, 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2201, 2210e, 2232, 2233, 2234, 2236, 2237, 2238, 2273, 2282, 2021); Energy Reorganization Act of 1974, secs. 201, 202, 206, 211 (42 U.S.C. 5841, 5842, 5846, 5851); National Environmental Policy Act of 1969 (42 U.S.C. 4332); Nuclear Waste Policy Act of 1982, secs. 117(a), 132, 133, 134, 135, 137, 141, 145(g), 148, 218(a) (42 U.S.C. 10137(a), 10152, 10153, 10154, 10155, 10157, 10161, 10165(g), 10168, 10198(a)); 44 U.S.C. 3504 note.

SOURCE: 53 FR 31658, Aug. 19, 1988, unless otherwise noted.

EDITORIAL NOTE: Nomenclature changes to part 72 appear at 80 FR 74981, Dec. 1, 2015, and at 81 FR 86910, Dec. 2, 2016.

Subpart A—General Provisions

§ 72.1 Purpose.

The regulations in this part establish requirements, procedures, and criteria for the issuance of licenses to receive, transfer, and possess power reactor spent fuel, power reactor-related Greater than Class C (GTCC) waste, and other radioactive materials associated with spent fuel storage in an independent spent fuel storage installation (ISFSI) and the terms and conditions under which the Commission will issue these licenses. The regulations in this part also establish requirements, procedures, and criteria for the issuance of licenses to the Department of Energy (DOE) to receive, transfer, package, and possess power reactor spent fuel, high-level radioactive waste, power reactor-related GTCC waste, and other radioactive materials associated with the storage of these materials in a monitored retrievable storage installation (MRS). The term Monitored Retrievable Storage Installation or MRS, as defined in § 72.3, is derived from the Nuclear Waste Policy Act (NWPA) and includes any installation that meets this definition. The regulations in this part also establish requirements, procedures, and criteria for the issuance of Certificates of Compliance approving spent fuel storage cask designs.

[66 FR 51838, Oct. 11, 2001]

§ 72.2 Scope.

(a) Except as provided in § 72.6(b), licenses issued under this part are limited to the receipt, transfer, packaging, and possession of:

(1) Power reactor spent fuel to be stored in a complex that is designed and constructed specifically for storage of power reactor spent fuel aged for at least one year, other radioactive materials associated with spent fuel storage, and power reactor-related GTCC waste in a solid form in an independent spent fuel storage installation (ISFSI); or

(2) Power reactor spent fuel to be stored in a monitored retrievable storage installation (MRS) owned by DOE that is designed and constructed specifically for the storage of spent fuel aged for at least one year, high-level radioactive waste that is in a solid form, other radioactive materials associated with storage of these materials, and power reactor-related GTCC waste that is in a solid form.

(b) The regulations in this part pertaining to an independent spent fuel storage installation (ISFSI) and a spent fuel storage cask apply to all persons in the United States, including persons in Agreement States. The regulations in this part pertaining to a monitored retrievable storage installation (MRS) apply only to DOE.

(c) The requirements of this regulation are applicable, as appropriate, to both wet and dry modes of storage of—

(1) Spent fuel and solid reactor-related GTCC waste in an independent spent fuel storage installation (ISFSI); and

(2) Spent fuel, solid high-level radioactive waste, and solid reactor-related GTCC waste in a monitored retrievable storage installation (MRS).

(d) Licenses covering the storage of spent fuel in an existing spent fuel storage installation shall be issued in accordance with the requirements of this part as stated in § 72.40, as applicable.

(e) This part also gives notice to all persons who knowingly provide to any licensee, certificate holder, applicant for a license or certificate, contractor, or subcontractor, components, equipment, materials, or other goods or services, that relate to a licensee's, certificate holder's, or applicant's activities subject to this part, that they may be individually subject to NRC enforcement action for violation of § 72.12.

(f) Certificates of Compliance approving spent fuel storage cask designs shall be issued in accordance with the requirements of subpart L of this part.

[53 FR 31658, Aug. 19, 1988, as amended at 56 FR 40692, Aug. 15, 1991; 63 FR 1900, Jan. 13, 1998; 64 FR 33183, June 22, 1999; 64 FR 56121, Oct. 15, 1999; 66 FR 51838, Oct. 11, 2001]

§ 72.3 Definitions.

As used in this part:

Act means the Atomic Energy Act of 1954 (68 Stat. 919) including any amendments thereto.

Affected Indian Tribe means any Indian Tribe—

(1) Within whose reservation boundaries a monitored retrievable storage facility is proposed to be located;

(2) Whose federally defined possessory or usage rights to other lands outside of 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 unit of local government means any unit of local government with jurisdiction over the site where an MRS is proposed to be located.

AMP, for the purposes of this part, means a program for addressing aging effects that may include prevention, mitigation, condition monitoring, and performance monitoring.

As low as is reasonably achievable (ALARA) means as low as is reasonably achievable taking into account the state of technology, and the economics of improvement in relation to—

(1) Benefits to the public health and safety,

(2) Other societal and socioeconomic considerations, and

(3) The utilization of atomic energy in the public interest.

Atomic energy means all forms of energy released in the course of nuclear fission or nuclear transformation.

Byproduct material means—

(1) Any radioactive material (except special nuclear material) yielded in, or made radioactive by, exposure to the radiation incident to the process of producing or using special nuclear material;

(2)(i) Any discrete source of radium-226 that is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; or

(ii) Any material that—

(A) Has been made radioactive by use of a particle accelerator; and

(B) Is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; and

(3) Any discrete source of naturally occurring radioactive material, other than source material, that—

(i) The Commission, in consultation with the Administrator of the Environmental Protection Agency, the Secretary of Energy, the Secretary of Homeland Security, and the head of any other appropriate Federal agency, determines would pose a threat similar to the threat posed by a discrete source of radium-226 to the public health and safety or the common defense and security; and

(ii) Before, on, or after August 8, 2005, is extracted or converted after extraction for use in a commercial, medical, or research activity.

Certificate holder means a person who has been issued a Certificate of Compliance by the Commission for a spent fuel storage cask design.

Certificate of Compliance or *CoC* means the certificate issued by the Commission that approves the design of a spent

fuel storage cask in accordance with the provisions of subpart L of this part.

Commencement of construction means any clearing of land, excavation, or other substantial action that would adversely affect the natural environment of a site, but does not mean:

(1) Changes desirable for the temporary use of the land for public recreational uses, necessary borings or excavations to determine subsurface materials and foundation conditions, or other preconstruction monitoring to establish background information related to the suitability of the site or to the protection of environmental values;

(2) Construction of environmental monitoring facilities;

(3) Procurement or manufacture of components of the installation; or

(4) Construction of means of access to the site as may be necessary to accomplish the objectives of paragraphs (1) and (2) of this definition.

Commission means the Nuclear Regulatory Commission or its duly authorized representatives.

Confinement systems means those systems, including ventilation, that act as barriers between areas containing radioactive substances and the environment.

Controlled area means that area immediately surrounding an ISFSI or MRS for which the licensee exercises authority over its use and within which ISFSI or MRS operations are performed.

Decommission means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits—

(1) Release of the property for unrestricted use and termination of the license; or

(2) Release of the property under restricted conditions and termination of the license.

Design bases means that information that identifies the specific functions to be performed by a structure, system, or component of a facility or of a spent fuel storage cask and the specific values or ranges of values chosen for controlling parameters as reference bounds for design. These values may be restraints derived from generally accepted state-of-the-art practices for achieving functional goals or requirements derived from analysis (based on calculation or experiments) of the effects of a postulated event under which a structure, system, or component must meet its functional goals. The values for controlling parameters for external events include—

(1) Estimates of severe natural events to be used for deriving design bases that will be based on consideration of historical data on the associated parameters, physical data, or analysis of upper limits of the physical processes involved; and

(2) Estimates of severe external man-induced events to be used for deriving design bases that will be based on analysis of human activity in the region, taking into account the site characteristics and the risks associated with the event.

Design capacity means the quantity of spent fuel, high-level radioactive waste, or reactor-related GTCC waste, the maximum burn up of the spent fuel in MWD/MTU, the terabequerel (curie) content of the waste, and the total heat generation in Watts (btu/hour) that the storage installation is designed to accommodate.

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

Floodplain means the lowland and relatively flat areas adjoining inland and coastal waters including floodprone areas of offshore islands. Areas subject to a one percent or greater chance of flooding in any given year are included.

Greater than Class C waste or GTCC waste means low-level radioactive waste that exceeds the concentration limits of radionuclides established for Class C waste in §61.55 of this chapter.

High-level radioactive waste or *HLW* means—

(1) 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

(2) other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation.

Historical data means a compilation of the available published and unpublished information concerning a particular type of event.

Independent spent fuel storage installation or *ISFSI* means a complex designed and constructed for the interim storage of spent nuclear fuel, solid reactor-related GTCC waste, and other radioactive materials associated with spent fuel and reactor-related GTCC waste storage. An ISFSI which is located on the site of another facility licensed under this part or a facility licensed under part 50 of this chapter and which shares common utilities and services with that facility or is physically connected with that other facility may still be considered independent.

Indian Tribe means an Indian Tribe as defined in the Indian Self Determination and Education Assistance Act (Pub. L. 93–638).

Monitored Retrievable Storage Installation or MRS means a complex designed, constructed, and operated by DOE for the receipt, transfer, handling, packaging, possession, safeguarding, and storage of spent nuclear fuel aged for at least one year, solidified high-level radioactive waste resulting from civilian nuclear activities, and solid reactor-related GTCC waste, pending shipment to a HLW repository or other disposal.

NEPA means the National Environmental Policy Act of 1969 including any amendments thereto.

NWPA means the Nuclear Waste Policy Act of 1982 including any amendments thereto.

Person means—

(1) Any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission or the Department of Energy (DOE), except that the DOE shall be considered a person within the meaning of the regulations in this part to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974, as amended (88 Stat. 1244), and Sections 131, 132, 133, 135, 137, and 141 of the Nuclear Waste Policy Act of 1982 (96 Stat. 2229, 2230, 2232, 2241);

(2) Any State, any political subdivision of a State, or any political entity within a State;

(3) Any foreign government or nation, or any political subdivision of any such government or nation, or other entity; and

(4) Any legal successor, representative, agent, or agency of the foregoing.

Population means the people that may be affected by the change in environmental conditions due to the construction, operation, or decommissioning of an ISFSI or MRS.

Principal activities, as used in this part, means activities authorized by the license which are essential to achieving the purpose(s) for which the license was issued or amended, excluding activities incidental to decontamination or decommissioning.

Reconciliation means the process of evaluating and comparing licensee reports required under this part to the projected material balances generated by the Nuclear Materials Management and Safeguards System. This process is considered complete when the licensee resolves any differences between the reported and projected balances, including those listed for foreign obligated materials.

Region means the geographical area surrounding and including the site, which is large enough to contain all the features related to a phenomenon or to a particular event that could potentially impact the safe or environmentally sound construction, operation, or decommissioning of an independent spent fuel storage or monitored retrievable storage installation.

Reservation means—

(1) Any Indian reservation or dependent Indian community referred to in clause (a) or (b) of section 1151 of title 18, United States Code; or

(2) Any land selected by an Alaska Native village or regional corporation under the provisions of the Alaska Native Claims Settlement Act (43 U.S.C. 1601 *et seq.*).

Site means the real property on which the ISFSI or MRS is located.

Source material means—

(1) Uranium or thorium, or any combination thereof, in any physical or chemical form or

(2) Ores that contain by weight one-twentieth of one percent (0.05%) or more of:

(i) Uranium,

(ii) Thorium, or

(iii) Any combination thereof.

Source material does not include special nuclear material.

Special nuclear material means—

(1) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material, but does not include source material; or

(2) Any material artificially enriched by any of the foregoing but does not include source material.

Spent fuel storage cask or *cask* means all the components and systems associated with the container in which spent fuel or other radioactive materials associated with spent fuel are stored in an ISFSI.

Spent nuclear fuel or *Spent fuel* means fuel that has been withdrawn from a nuclear reactor following irradiation, has undergone at least one year's decay since being used as a source of energy in a power reactor, and has not been chemically separated into its constituent elements by reprocessing. Spent fuel includes the special nuclear material, byproduct material, source material, and other radioactive materials associated with fuel assemblies.

Structures, systems, and components important to safety means those features of the ISFSI, MRS, and spent fuel storage cask whose functions are—

(1) To maintain the conditions required to store spent fuel, high-level radioactive waste, or reactor-related GTCC waste safely;

(2) To prevent damage to the spent fuel, the high-level radioactive waste, or reactor-related GTCC waste container during handling and storage; or

(3) To provide reasonable assurance that spent fuel, high-level radioactive waste, or reactor-related GTCC waste can be received, handled, packaged, stored, and retrieved without undue risk to the health and safety of the public.

Term certified by the cask's Certificate of Compliance, for the purposes of this part, means, for an initial CoC, the period of time commencing with the CoC effective date and ending with the CoC expiration date, and for a renewed CoC, the period of time commencing with the most recent CoC renewal date and ending with the CoC expiration date.

TLAAs, for the purposes of this part, means those licensee or certificate holder calculations and analyses that:

(1) Involve structures, systems, and components important to safety within the scope of the license renewal, as delineated in subpart F of this part, or within the scope of the spent fuel storage certificate renewal, as delineated in subpart L of this part, respectively;

(2) Consider the effects of aging;

(3) Involve time-limited assumptions defined by the current operating term, for example, 40 years;

(4) Were determined to be relevant by the licensee or certificate holder in making a safety determination;

(5) Involve conclusions or provide the basis for conclusions related to the capability of structures, systems, and components to perform their intended safety functions; and

(6) Are contained or incorporated by reference in the design bases.

[53 FR 31658, Aug. 19, 1988, as amended at 59 FR 36038, July 15, 1994; 62 FR 39092, July 21, 1997; 64 FR 53614, Oct. 4, 1999; 64 FR 56121, Oct. 15, 1999; 66 FR 51839, Oct. 11, 2001; 72 FR 55933, Oct. 1, 2007; 73 FR 32462, June 9, 2008; 76 FR 8889, Feb. 16, 2011; 88 FR 57879, Aug. 24, 2023]

§ 72.4 Communications.

Except where otherwise specified, all communications and reports concerning the regulations in this part and applications filed under them should be sent by mail addressed: ATTN: Document Control Desk, Director, Division of Fuel Management, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001; by hand delivery to the NRC's offices at One White Flint North, 11555 Rockville Pike, Rockville, Maryland between 7:30 a.m. and 4:15 p.m. eastern time; or, where practicable, by electronic submission, for example, via Electronic Information Exchange, or CD-ROM. Electronic submissions must be made in a

manner that enables the NRC to receive, read, authenticate, distribute, and archive the submission, and process and retrieve it a single page at a time. Detailed guidance on making electronic submissions can be obtained by visiting the NRC's Web site at *http://www.nrc.gov/site-help/e-submittals.html;* by e-mail to *MSHD.Resource@nrc.gov;* or by writing the Office of the Chief Information Officer, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001. The guidance discusses, among other topics, the formats the NRC can accept, the use of electronic signatures, and the treatment of nonpublic information. If the submission deadline date falls on a Saturday, or Sunday, or a Federal holiday, the next Federal working day becomes the official due date.

[68 FR 58818, Oct. 10, 2003, as amended at 74 FR 62684, Dec. 1, 2009; 75 FR 73945, Nov. 30, 2010; 79 FR 75741, Dec. 19, 2014; 80 FR 74981, Dec. 1, 2015; 84 FR 65646, Nov. 29, 2019]

§ 72.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by an officer or employee of the Commission, other than a written interpretation by the General Counsel, will be recognized to be binding upon the Commission.

EFFECTIVE DATE NOTE: At 90 FR 55632, Dec. 3, 2025, § 72.5 was amended, effective January 8, 2026.

§ 72.6 License required; types of licenses.

(a) Licenses for the receipt, handling, storage, and transfer of spent fuel or high-level radioactive waste are of two types: general and specific. Licenses for the receipt, handling, storage, and transfer of reactor-related GTCC are specific licenses. Any general license provided in this part is effective without the filing of an application with the Commission or the issuance of a licensing document to a particular person. A specific license is issued to a named person upon application filed pursuant to regulations in this part.

(b) A general license is hereby issued to receive title to and own spent fuel, high-level radioactive waste, or reactor-related GTCC waste without regard to quantity. Notwithstanding any other provision of this chapter, a general licensee under this paragraph is not authorized to acquire, deliver, receive, possess, use, or transfer spent fuel, high-level radioactive waste, or reactor-related GTCC waste except as authorized in a specific license.

(c) Except as authorized in a specific license and in a general license under subpart K of this part issued by the Commission in accordance with the regulations in this part, no person may acquire, receive, or possess—

(1) Spent fuel for the purpose of storage in an ISFSI; or

(2) Spent fuel, high-level radioactive waste, or radioactive material associated with high-level radioactive waste for the purpose of storage in an MRS.

[66 FR 51839, Oct. 11, 2001]

§ 72.7 Specific exemptions.

The Commission may, upon application by any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest.

§ 72.8 Denial of licensing by Agreement States.

Agreement States may not issue licenses covering the storage of spent fuel and reactor-related GTCC waste in an ISFSI or the storage of spent fuel, high-level radioactive waste, and reactor-related GTCC waste in an MRS.

[66 FR 51839, Oct. 11, 2001]

§ 72.9 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). OMB has approved the information collection requirements contained in this part under control number 3150–0132.

(b) The approved information collection requirements contained in this part appear in §§ 72.7, 72.11, 72.16, 72.22

through 72.34, 72.42, 72.44, 72.48 through 72.56, 72.62, 72.70, through 72.80, 72.90, 72.92, 72.94, 72.98, 72.100, 72.102, 72.103, 72.104, 72.108, 72.120, 72.126, 72.140 through 72.176, 72.180 through 72.186, 72.192, 72.206, 72.212, 72.218, 72.230, 72.232, 72.234, 72.236, 72.240, 72.242, 72.244, 72.248.

(c) In §72.79, Form N–71 and associated forms are approved under control number 3150–0056, and DOC/IAEA Design Information Questionnaire forms, NRC Forms AP–1, AP–A, and associated forms are approved under control number 0694–0135.

[64 FR 56122, Oct. 15, 1999, as amended at 67 FR 67101, Nov. 4, 2002; 68 FR 54149, Sept. 16, 2003; 73 FR 78607, Dec. 23, 2008; 77 FR 39909, July 6, 2012; 85 FR 65663, Oct. 16, 2020]

§ 72.10 Employee protection.

(a) Discrimination by a Commission licensee, certificate holder, an applicant for a Commission license or a CoC, or a contractor or subcontractor of any of these, against an employee for engaging in certain protected activities, is prohibited. Discrimination includes discharge and other actions that relate to compensation, terms, conditions, or privileges of employment. The protected activities are established in section 211 of the Energy Reorganization Act of 1974, as amended, and in general are related to the administration or enforcement of a requirement imposed under the Atomic Energy Act or the Energy Reorganization Act.

(1) The protected activities include but are not limited to:

(i) Providing the Commission or his or her employer information about alleged violations of either of the statutes named in paragraph (a) introductory text of this section or possible violations of requirements imposed under either of those statutes;

(ii) Refusing to engage in any practice made unlawful under either of the statutes named in paragraph (a) introductory text or under these requirements if the employee has identified the alleged illegality to the employer;

(iii) Requesting the Commission to institute action against his or her employer for the administration or enforcement of these requirements;

(iv) Testifying in any Commission proceeding, or before Congress, or at any Federal or State proceeding regarding any provision (or proposed provision) of either of the statutes named in paragraph (a) introductory text.

(v) Assisting or participating in, or is about to assist or participate in, these activities.

(2) These activities are protected even if no formal proceeding is actually initiated as a result of the employee assistance or participation.

(3) This section has no application to any employee alleging discrimination prohibited by this section who, acting without direction from his or her employer (or the employer's agent), deliberately causes a violation of any requirement of the Energy Reorganization Act of 1974, as amended, or the Atomic Energy Act of 1954, as amended.

(b) Any employee who believes that he or she has been discharged or otherwise discriminated against by any person for engaging in protected activities specified in paragraph (a)(1) of this section may seek a remedy for the discharge or discrimination through an administrative proceeding in the Department of Labor. The administrative proceeding must be initiated within 180 days after an alleged violation occurs. The employee may do this by filing a complaint alleging the violation with the Department of Labor, Employment Standards Administration, Wage and Hour Division. The Department of Labor may order reinstatement, back pay, and compensatory damages.

(c) A violation of paragraph (a), (e), or (f) of this section by a Commission licensee, certificate holder, applicant for a Commission license or a CoC, or a contractor or subcontractor of any of these may be grounds for:

(1) Denial, revocation, or suspension of the license or the CoC.

(2) Imposition of a civil penalty on the licensee, applicant, or a contractor or subcontractor of the licensee or applicant.

(3) Other enforcement action.

(d) Actions taken by an employer, or others, which adversely affect an employee may be predicated upon nondiscriminatory grounds. The prohibition applies when the adverse action

occurs because the employee has engaged in protected activities. An employee's engagement in protected activities does not automatically render him or her immune from discharge or discipline for legitimate reasons or from adverse action dictated by nonprohibited considerations.

(e)(1) Each licensee, certificate holder, and applicant for a license or CoC must prominently post the revision of NRC Form 3, ''Notice to Employees,'' referenced in 10 CFR 19.11(c). This form must be posted at locations sufficient to permit employees protected by this section to observe a copy on the way to or from their place of work. The premises must be posted not later than 30 days after an application is docketed and remain posted while the application is pending before the Commission, during the term of the license or CoC, and for 30 days following license or CoC termination.

(2) Copies of NRC Form 3 may be obtained by writing to the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in Appendix D to Part 20 of this chapter, via email to *Forms.Resource@nrc.gov,* or by visiting the NRC's online library at *http://www.nrc.gov/reading-rm/doc-collections/forms/*.

(f) No agreement affecting the compensation, terms, conditions, or privileges of employment, including an agreement to settle a complaint filed by an employee with the Department of Labor pursuant to section 211 of the Energy Reorganization Act of 1974, as amended, may contain any provision which would prohibit, restrict, or otherwise discourage an employee from participating in protected activity as defined in paragraph (a)(1) of this section including, but not limited to, providing information to the NRC or to his or her employer on potential violations or other matters within NRC's regulatory responsibilities.

[58 FR 52414, Oct. 8, 1993, as amended at 60 FR 24552, May 9, 1995; 61 FR 6766, Feb. 22, 1996; 64 FR 56122, Oct. 15, 1999; 68 FR 58819, Oct. 10, 2003; 72 FR 63975, Nov. 14, 2007; 73 FR 30460, May 28, 2008; 79 FR 66606, Nov. 10, 2014]

§ 72.11 Completeness and accuracy of information.

(a) Information provided to the Commission by a licensee, certificate holder, or an applicant for a license or CoC; or information required by statute or by the Commission's regulations, orders, license or CoC conditions, to be maintained by the licensee or certificate holder, must be complete and accurate in all material respects.

(b) Each licensee, certificate holder, or applicant for a license or CoC must notify the Commission of information identified by the licensee, certificate holder, or applicant for a license or CoC as having, for the regulated activity, a significant implication for public health and safety or common defense and security. A licensee, certificate holder, or an applicant for a license or CoC violates this paragraph only if the licensee, certificate holder, or applicant for a license or CoC fails to notify the Commission of information that the licensee, certificate holder, or applicant for a license or CoC has identified as having a significant implication for public health and safety or common defense and security. Notification must be provided to the Administrator of the appropriate Regional Office within two working days of identifying the information. This requirement is not applicable to information which is already required to be provided to the Commission by other reporting or updating requirements.

[64 FR 56122, Oct. 15, 1999]

§ 72.12 Deliberate misconduct.

(a) Any licensee, certificate holder, applicant for a license or certificate, employee of a licensee, certificate holder, or applicant for a license or certificate; or any contractor (including a supplier or consultant) or subcontractor, employee of a contractor or subcontractor of any licensee, certificate holder, or applicant for a license or certificate who knowingly provides to any licensee, certificate holder, applicant for a license or certificate, contractor, or subcontractor, any components, materials, or other goods or services that relate to a licensee's, certificate holder's, or applicant's activities subject to this part, may not:

(1) Engage in deliberate misconduct that causes or would have caused, if not detected, a licensee, certificate holder or applicant to be in violation of any rule, regulation, or order; or any term, condition, or limitation of any license or certificate issued by the Commission; or

(2) Deliberately submit to the NRC, a licensee, a certificate holder, an applicant for a license or certificate, or a licensee's, applicant's, or certificate holder's contractor or subcontractor, information that the person submitting the information knows to be incomplete or inaccurate in some respect material to the NRC.

(b) A person who violates paragraph (a)(1) or (a)(2) of this section may be subject to enforcement action in accordance with the procedures in 10 CFR part 2, subpart B.

(c) For the purposes of paragraph (a)(1) of this section, deliberate misconduct by a person means an intentional act or omission that the person knows:

(1) Would cause a licensee, certificate holder or applicant for a license or certificate to be in violation of any rule, regulation, or order; or any term, condition, or limitation, of any license or certificate issued by the Commission; or

(2) Constitutes a violation of a requirement, procedure, instruction, contract, purchase order, or policy of a licensee, certificate holder, applicant, contractor, or subcontractor.

[63 FR 1900, Jan. 13, 1998]

§ 72.13 Applicability.

(a) This section identifies those sections, under this part, that apply to the activities associated with a specific license, a general license, or a certificate of compliance.

(b) The following sections apply to activities associated with a specific license: §§ 72.1; 72.2(a) through (e); 72.3 through 72.13(b); 72.16 through 72.34; 72.40 through 72.62; 72.70 through 72.86; 72.90 through 72.108; 72.120 through 72.130; 72.140 through 72.176; 72.180 through 72.186; 72.190 through 72.194; and 72.200 through 72.206.

(c) The following sections apply to activities associated with a general license: 72.1; 72.2(a)(1), (b), (c), and (e); 72.3 through 72.6(c)(1); 72.7 through 72.13(a) and (c); 72.30(b), (c), (d), (e) and (f); 72.32(c) and (d); 72.44(b) and (f); 72.48; 72.50(a); 72.52(a), (b), (d), and (e); 72.60; 72.62; 72.72 through 72.80(f); 72.82 through 72.86; 72.104; 72.106; 72.122; 72.124; 72.126; 72.140 through 72.176; 72.190; 72.194; 72.210 through 72.220, and 72.240(a).

(d) The following sections apply to activities associated with a certificate of compliance: §§ 72.1; 72.2(e) and (f); 72.3; 72.4; 72.5; 72.7; 72.9 through 72.13(a) and (d); 72.48; 72.84(a); 72.86; 72.124; 72.140 through 72.176; 72.214; and 72.230 through 72.248.

[65 FR 50616, Aug. 21, 2000, as amended at 76 FR 35573, June 17, 2011]

Subpart B—License Application, Form, and Contents

§ 72.16 Filing of application for specific license.

(a) *Place of filing.* Each application for a license, or amendment thereof, under this part should be filed with the Director of the NRC's Division of Fuel Management, Office of Nuclear Material Safety and Safeguards in accordance with § 72.4.

(b) *Oath or affirmation.* Each application for a license or license amendment (including amendments to such applications), except for those filed by DOE, must be executed in an original signed by the applicant or duly authorized officer thereof under oath or affirmation. Each application for a license or license amendment (including amendments to such applications) filed by DOE must be signed by the Secretary of Energy or the Secretary's authorized representative.

(c) *Copies of application on paper or CD-ROM.* If the application is on paper, it must be the signed original. The applicant shall maintain the capability to generate additional copies for distribution in accordance with instruction from the Director or the Director's designee.

(d) *Fees.* The application, amendment, and renewal fees applicable to a license covering an ISFSI are those shown in § 170.31 of this chapter.

(e) *Notice of docketing.* Upon receipt of an application for a license or license

amendment under this part, the Director, Office of Nuclear Material Safety and Safeguards or the Director's designee will assign a docket number to the application, notify the applicant of the docket number, instruct the applicant to distribute copies retained by the applicant in accordance with paragraph (c) of this section, and cause a notice of docketing to be published in the FEDERAL REGISTER. The notice of docketing shall identify the site of the ISFSI or the MRS by locality and State and may include a notice of hearing or a notice of proposed action and opportunity for hearing as provided by § 72.46 of this part. In the case of an application for a license or an amendment to a license for an MRS, the Director, Office of Nuclear Material Safety and Safeguards, or the Director's designee, in accordance with § 72.200 of this part, shall send a copy of the notice of docketing to the Governor and legislature of any State in which an MRS is or may be located, to the Chief Executive of the local municipality, to the Governors of any contiguous States and to the governing body of any affected Indian Tribe.

[53 FR 31658, Aug. 19, 1988, as amended at 53 FR 43421, Oct. 27, 1988; 66 FR 51839, Oct. 11, 2001; 67 FR 3586, Jan. 25, 2002; 68 FR 58819, Oct. 10, 2003; 75 FR 73945, Nov. 30, 2010; 79 FR 75741, Dec. 19, 2014; 84 FR 65646, Nov. 29, 2019]

§ 72.18 Elimination of repetition.

In any application under this part, the applicant may incorporate by reference information contained in previous applications, statements, or reports filed with the Commission: Provided, That such references are clear and specific.

§ 72.20 Public inspection of application.

Applications and documents submitted to the Commission in connection with applications may be made available for public inspection in accordance with provisions of the regulations contained in parts 2 and 9 of this chapter.

§ 72.22 Contents of application: General and financial information.

Each application must state:

(a) Full name of applicant;

(b) Address of applicant;

(c) Description of business or occupation of applicant;

(d) If applicant is:

(1) An individual: Citizenship and age;

(2) A partnership: Name, citizenship, and address of each partner and the principal location at which the partnership does business;

(3) A corporation or an unincorporated association:

(i) The State in which it is incorporated or organized and the principal location at which it does business; and

(ii) The names, addresses, and citizenship of its directors and principal officers;

(4) Acting as an agent or representative of another person in filing the application: The identification of the principal and the information required under this paragraph with respect to such principal.

(5) The Department of Energy:

(i) The identification of the DOE organization responsible for the construction and operation of the ISFSI or MRS, including a description of any delegations of authority and assignments of responsibilities.

(ii) For each application for a license for an MRS, the provisions of the public law authorizing the construction and operation of the MRS.

(e) Except for DOE, information sufficient to demonstrate to the Commission the financial qualifications of the applicant to carry out, in accordance with the regulations in this chapter, the activities for which the license is sought. The information must state the place at which the activity is to be performed, the general plan for carrying out the activity, and the period of time for which the license is requested. The information must show that the applicant either possesses the necessary funds, or that the applicant has reasonable assurance of obtaining the necessary; funds or that by a combination of the two, the applicant will have the necessary funds available to cover the following:

(1) Estimated construction costs;

(2) Estimated operating costs over the planned life of the ISFSI; and

(3) Estimated decommissioning costs, and the necessary financial arrangements to provide reasonable assurance before licensing, that decommissioning will be carried out after the removal of spent fuel, high-level radioactive waste, and/or reactor-related GTCC waste from storage.

(f) Each applicant for a license under this part to receive, transfer, and possess power reactor spent fuel, power reactor-related Greater than Class C (GTCC) waste, and other radioactive materials associated with spent fuel storage in an independent spent fuel storage installation (ISFSI) shall protect Safeguards Information against unauthorized disclosure in accordance with the requirements in § 73.21 and the requirements of § 73.22 or § 73.23, as applicable.

[53 FR 31658, Aug. 19, 1988, as amended at 66 FR 51839, Oct. 11, 2001; 73 FR 63573, Oct. 24, 2008]

§ 72.24 Contents of application: Technical information.

Each application for a license under this part must include a Safety Analysis Report describing the proposed ISFSI or MRS for the receipt, handling, packaging, and storage of spent fuel, high-level radioactive waste, and/or reactor-related GTCC waste as appropriate, including how the ISFSI or MRS will be operated. The minimum information to be included in this report must consist of the following:

(a) A description and safety assessment of the site on which the ISFSI or MRS is to be located, with appropriate attention to the design bases for external events. Such assessment must contain an analysis and evaluation of the major structures, systems, and components of the ISFSI or MRS that bear on the suitability of the site when the ISFSI or MRS is operated at its design capacity. If the proposed ISFSI or MRS is to be located on the site of a nuclear power plant or other licensed facility, the potential interactions between the ISFSI or MRS and such other facility—including shared common utilities and services—must be evaluated.

(b) A description and discussion of the ISFSI or MRS structures with special attention to design and operating characteristics, unusual or novel design features, and principal safety considerations.

(c) The design of the ISFSI or MRS in sufficient detail to support the findings in § 72.40 for the term requested in the application, including:

(1) The design criteria for the ISFSI or MRS pursuant to subpart F of this part, with identification and justification for any additions to or departures from the general design criteria;

(2) the design bases and the relation of the design bases to the design criteria;

(3) Information relative to materials of construction, general arrangement, dimensions of principal structures, and descriptions of all structures, systems, and components important to safety, in sufficient detail to support a finding that the ISFSI or MRS will satisfy the design bases with an adequate margin for safety; and

(4) Applicable codes and standards.

(d) An analysis and evaluation of the design and performance of structures, systems, and components important to safety, with the objective of assessing the impact on public health and safety resulting from operation of the ISFSI or MRS and including determination of:

(1) The margins of safety during normal operations and expected operational occurrences during the life of the ISFSI or MRS; and

(2) The adequacy of structures, systems, and components provided for the prevention of accidents and the mitigation of the consequences of accidents, including natural and manmade phenomena and events.

(e) The means for controlling and limiting occupational radiation exposures within the limits given in part 20 of this chapter, and for meeting the objective of maintaining exposures as low as is reasonably achievable.

(f) The features of ISFSI or MRS design and operating modes to reduce to the extent practicable radioactive waste volumes generated at the installation.

(g) An identification and justification for the selection of those subjects that will be probable license conditions and technical specifications. These

subjects must cover the design, construction, preoperational testing, operation, and decommissioning of the ISFSI or MRS.

(h) A plan for the conduct of operations, including the planned managerial and administrative controls system, and the applicant's organization, and program for training of personnel pursuant to subpart I.

(i) If the proposed ISFSI or MRS incorporates structures, systems, or components important to safety whose functional adequacy or reliability have not been demonstrated by prior use for that purpose or cannot be demonstrated by reference to performance data in related applications or to widely accepted engineering principles, an identification of these structures, systems, or components along with a schedule showing how safety questions will be resolved prior to the initial receipt of spent fuel, high-level radioactive waste, and/or reactor-related GTCC waste as appropriate for storage at the ISFSI or MRS.

(j) The technical qualifications of the applicant to engage in the proposed activities, as required by §72.28.

(k) A description of the applicant's plans for coping with emergencies, as required by §72.32.

(l) A description of the equipment to be installed to maintain control over radioactive materials in gaseous and liquid effluents produced during normal operations and expected operational occurrences. The description must identify the design objectives and the means to be used for keeping levels of radioactive material in effluents to the environment as low as is reasonably achievable and within the exposure limits stated in §72.104. The description must include:

(1) An estimate of the quantity of each of the principal radionuclides expected to be released annually to the environment in liquid and gaseous effluents produced during normal ISFSI or MRS operations;

(2) A description of the equipment and processes used in radioactive waste systems; and

(3) A general description of the provisions for packaging, storage, and disposal of solid wastes containing radioactive materials resulting from treatment of gaseous and liquid effluents and from other sources.

(m) An analysis of the potential dose equivalent or committed dose equivalent to an individual outside the controlled area from accidents or natural phenomena events that result in the release of radioactive material to the environment or direct radiation from the ISFSI or MRS. The calculations of individual dose equivalent or committed dose equivalent must be performed for direct exposure, inhalation, and ingestion occurring as a result of the postulated design basis event.

(n) A description of the quality assurance program that satisfies the requirements of subpart G to be applied to the design, fabrication, construction, testing, operation, modification, and decommissioning of the structures, systems, and components of the ISFSI or MRS important to safety. The description must identify the structures, systems, and components important to safety. The program must also apply to managerial and administrative controls used to ensure safe operation of the ISFSI or MRS.

(o) A description of the detailed security measures for physical protection, including design features and the plans required by subpart H. For an application from DOE for an ISFSI or MRS, DOE will provide a description of the physical protection plan for protection against radiological sabotage as required by subpart H.

(p) A description of the program covering preoperational testing and initial operations.

(q) A description of the decommissioning plan required under §72.30.

[53 FR 31658, Aug. 19, 1988, as amended at 63 FR 26961, May 15, 1998; 64 FR 53615, Oct. 4, 1999; 66 FR 51839, Oct. 11, 2001; 76 FR 8890, Feb. 16, 2011]

§72.26 Contents of application: Technical specifications.

Each application under this part shall include proposed technical specifications in accordance with the requirements of §72.44 and a summary statement of the bases and justifications for these technical specifications.

§ 72.28 Contents of application: Applicant's technical qualifications.

Each application under this part must include:

(a) The technical qualifications, including training and experience, of the applicant to engage in the proposed activities;

(b) A description of the personnel training program required under subpart I;

(c) A description of the applicant's operating organization, delegations of responsibility and authority and the minimum skills and experience qualifications relevant to the various levels of responsibility and authority; and

(d) A commitment by the applicant to have and maintain an adequate complement of trained and certified installation personnel prior to the receipt of spent fuel, high-level radioactive waste, and/or reactor-related GTCC waste as appropriate for storage.

[53 FR 31658, Aug. 19, 1988, as amended at 66 FR 51840, Oct. 11, 2001]

§ 72.30 Financial assurance and recordkeeping for decommissioning.

(a) Each application under this part must include a proposed decommissioning plan that contains sufficient information on proposed practices and procedures for the decontamination of the site and facilities and for disposal of residual radioactive materials after all spent fuel, high-level radioactive waste, and reactor-related GTCC waste have been removed, in order to provide reasonable assurance that the decontamination and decommissioning of the ISFSI or MRS at the end of its useful life will provide adequate protection to the health and safety of the public. This plan must identify and discuss those design features of the ISFSI or MRS that facilitate its decontamination and decommissioning at the end of its useful life.

(b) Each holder of, or applicant for, a license under this part must submit for NRC review and approval a decommissioning funding plan that must contain:

(1) Information on how reasonable assurance will be provided that funds will be available to decommission the ISFSI or MRS.

(2) A detailed cost estimate for decommissioning, in an amount reflecting:

(i) The cost of an independent contractor to perform all decommissioning activities;

(ii) An adequate contingency factor; and

(iii) The cost of meeting the § 20.1402 of this chapter criteria for unrestricted use, provided that, if the applicant or licensee can demonstrate its ability to meet the provisions of § 20.1403 of this chapter, the cost estimate may be based on meeting the § 20.1403 criteria.

(3) Identification of and justification for using the key assumptions contained in the DCE.

(4) A description of the method of assuring funds for decommissioning from paragraph (e) of this section, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility.

(5) The volume of onsite subsurface material containing residual radioactivity that will require remediation to meet the criteria for license termination.

(6) A certification that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning.

(c) At the time of license renewal and at intervals not to exceed 3 years, the decommissioning funding plan must be resubmitted with adjustments as necessary to account for changes in costs and the extent of contamination. If the amount of financial assurance will be adjusted downward, this can not be done until the updated decommissioning funding plan is approved. The decommissioning funding plan must update the information submitted with the original or prior approved plan and must specifically consider the effect of the following events on decommissioning costs:

(1) Spills of radioactive material producing additional residual radioactivity in onsite subsurface material.

(2) Facility modifications.

(3) Changes in authorized possession limits.

(4) Actual remediation costs that exceed the previous cost estimate.

(d) If, in surveys made under 10 CFR 20.1501(a), residual radioactivity in

soils or groundwater is detected at levels that would require such radioactivity to be reduced to a level permitting release of the property for unrestricted use under the decommissioning requirements in part 20 of this chapter, the licensee must submit a new or revised decommissioning funding plan within one year of when the survey is completed.

(e) The financial instrument must include the licensee's name, license number, and docket number; and the name, address, and other contact information of the issuer, and, if a trust is used, the trustee. When any of the foregoing information changes, the licensee must, within 30 days, submit financial instruments reflecting such changes. Financial assurance for decommissioning must be provided by one or more of the following methods:

(1) *Prepayment.* Prepayment is the deposit before the start of operation into an account segregated from licensee assets and outside the licensee's administrative control of cash or liquid assets such that the amount of funds would be sufficient to pay decommissioning costs. Prepayment must be made into a trust account, and the trustee and the trust must be acceptable to the Commission.

(2) *A surety method, insurance, or other guarantee method.* These methods guarantee that decommissioning costs will be paid. A surety method may be in the form of a surety bond, or letter of credit. A parent company guarantee of funds for decommissioning costs based on a financial test may be used if the guarantee and test are as contained in Appendix A to part 30 of this chapter. For commercial corporations that issue bonds, a guarantee of funds by the applicant or licensee for decommissioning costs based on a financial test may be used if the guarantee and test are as contained in Appendix C to part 30 of this chapter. For commercial companies that do not issue bonds, a guarantee of funds by the applicant or licensee for decommissioning costs may be used if the guarantee and test are as contained in Appendix D to part 30 of this chapter. Except for an external sinking fund, a parent company guarantee or a guarantee by the applicant or licensee may not be used in combination with other financial methods to satisfy the requirements of this section. A guarantee by the applicant or licensee may not be used in any situation where the applicant or licensee has a parent company holding majority control of the voting stock of the company. Any surety method or insurance used to provide financial assurance for decommissioning must contain the following conditions:

(i) The surety method or insurance must be open-ended or, if written for a specified term, such as five years, must be renewed automatically unless 90 days or more prior to the renewal date, the issuer notifies the Commission, the beneficiary, and the licensee of its intention not to renew. The surety method or insurance must also provide that the full face amount be paid to the beneficiary automatically prior to the expiration without proof of forfeiture if the licensee fails to provide a replacement acceptable to the Commission withing 30 days after receipt of notification or cancellation.

(ii) The surety method or insurance must be payable to a trust established for decommissioning costs. The trustee and trust must be acceptable to the Commission. An acceptable trustee includes an appropriate State or Federal government agency or an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(iii) The surety or insurance must remain in effect until the Commission has terminated the license.

(3) *An external sinking fund in which deposits are made at least annually, coupled with a surety method, insurance, or other guarantee method, the value of which may decrease by the amount being accumulated in the sinking fund.* An external sinking fund is a fund established and maintained by setting aside funds periodically in an account segregated from licensee assets and outside the licensee's administrative control in which the total amount of funds would be sufficient to pay decommissioning costs at the time termination of operation is expected. An external sinking fund must be in the form of a trust. If the other guarantee method is used, no surety or insurance may be

combined with the external sinking fund. The surety, insurance, or other guarantee provisions must be as stated in paragraph (e)(2) of this section.

(4) In the case of Federal, State, or local government licensees, a statement of intent containing a cost estimate for decommissioning, and indicating that funds for decommissioning will be obtained when necessary.

(5) In the case of licensees who are issued a power reactor license under part 50 of this chapter or ISFSI licensees who are an electric utility, as defined in part 50 of this chapter, with a specific license issued under this part, the methods of 10 CFR 50.75(b), (e), and (h), as applicable. In the event that funds remaining to be placed into the licensee's ISFSI decommissioning external sinking fund are no longer approved for recovery in rates by a competent rate making authority, the licensee must make changes to provide financial assurance using one or more of the methods stated in paragraphs (1) through (4) of this section.

(6) When a governmental entity is assuming ownership of a site, an arrangement that is deemed acceptable by such governmental entity.

(f) Each person licensed under this part shall keep records of information important to the decommissioning of a facility in an identified location until the site is released for unrestricted use. If records important to the decommissioning of a facility are kept for other purposes, reference to these records and their locations may be used. Information the Commission considers important to decommissioning consists of—

(1) Records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site. These records may be limited to instances when contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants may have spread to inaccessible areas as in the case of possible seepage into porous materials such as concrete. These records must include any known information on identification of involved nuclides, quantities, forms, and concentrations.

(2) As-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used and/or stored, and of locations of possible inaccessible contamination such as buried pipes which may be subject to contamination. If required drawings are referenced, each relevant document need not be indexed individually. If drawings are not available, the licensee shall substitute appropriate records of available information concerning these areas and locations.

(3) A list contained in a single document and updated no less than every 2 years of the following:

(i) All areas designated and formerly designated as restricted areas as defined under 10 CFR 20.1003; and

(ii) All areas outside of restricted areas that require documentation under § 72.30(f)(1).

(4) Records of the cost estimate performed for the decommissioning funding plan and records of the funding method used for assuring funds are available for decommissioning.

(g) In providing financial assurance under this section, each licensee must use the financial assurance funds only for decommissioning activities and each licensee must monitor the balance of funds held to account for market variations. The licensee must replenish the funds, and report such actions to the NRC, as follows:

(1) If, at the end of a calendar year, the fund balance is below the amount necessary to cover the cost of decommissioning, but is not below 75 percent of the cost, the licensee must increase the balance to cover the cost, and must do so within 30 days after the end of the calendar year.

(2) If, at any time, the fund balance falls below 75 percent of the amount necessary to cover the cost of decommissioning, the licensee must increase the balance to cover the cost, and must do so within 30 days of the occurrence.

(3) Within 30 days of taking the actions required by paragraph (g)(1) or (g)(2) of this section, the licensee must provide a written report of such actions to the Director, Office of Nuclear

Material Safety and Safeguards, and state the new balance of the fund.

[53 FR 31658, Aug. 19, 1988, as amended at 55 FR 29191, July 18, 1990; 58 FR 39635, July 26, 1993; 58 FR 67662, Dec. 22, 1993; 58 FR 68732, Dec. 29, 1993; 59 FR 1618, Jan. 12, 1994; 61 FR 24675, May 16, 1996; 62 FR 39092, July 21, 1997; 63 FR 29544, June 1, 1998; 66 FR 51840, Oct. 11, 2001; 67 FR 78351, Dec. 24, 2002; 76 FR 35573, June 17, 2011; 79 FR 75741 Dec. 19, 2014]

§ 72.32 Emergency Plan.

(a) Each application for an ISFSI that is licensed under this part which is: Not located on the site of a nuclear power reactor, or not located within the exclusion area as defined in 10 CFR part 100 of a nuclear power reactor, or located on the site of a nuclear power reactor which does not have an operating license, or located on the site of a nuclear power reactor that is not authorized to operate must be accompanied by an Emergency Plan that includes the following information:

(1) *Facility description.* A brief description of the licensee's facility and area near the site.

(2) *Types of accidents.* An identification of each type of radioactive materials accident.

(3) *Classification of accidents.* A classification system for classifying accidents as ''alerts.''

(4) *Detection of accidents.* Identification of the means of detecting an accident condition.

(5) *Mitigation of consequences.* A brief description of the means of mitigating the consequences of each type of accident, including those provided to protect workers onsite, and a description of the program for maintaining the equipment.

(6) *Assessment of releases.* A brief description of the methods and equipment to assess releases of radioactive materials.

(7) *Responsibilities.* A brief description of the responsibilities of licensee personnel should an accident occur, including identification of personnel responsible for promptly notifying offsite response organizations and the NRC; also responsibilities for developing, maintaining, and updating the plan.

(8) *Notification and coordination.* A commitment to and a brief description of the means to promptly notify offsite response organizations and request offsite assistance, including medical assistance for the treatment of contaminated injured onsite workers when appropriate. A control point must be established. The notification and coordination must be planned so that unavailability of some personnel, parts of the facility, and some equipment will not prevent the notification and coordination. The licensee shall also commit to notify the NRC operations center immediately after notifications of the appropriate offsite response organizations and not later than one hour after the licensee declares an emergency.[1]

(9) *Information to be communicated.* A brief description of the types of information on facility status; radioactive releases; and recommended protective actions, if necessary, to be given to offsite response organizations and to the NRC.

(10) *Training.* A brief description of the training the licensee will provide workers on how to respond to an emergency and any special instructions and orientation tours the licensee would offer to fire, police, medical and other emergency personnel.

(11) *Safe condition.* A brief description of the means of restoring the facility to a safe condition after an accident.

(12) *Exercises.* (i) Provisions for conducting semiannual communications checks with offsite response organizations and biennial onsite exercises to test response to simulated emergencies. Radiological/Health Physics, Medical, and Fire drills shall be conducted annually. Semiannual communications checks with offsite response organizations must include the check and update of all necessary telephone numbers. The licensee shall invite offsite response organizations to participate in the biennial exercise.

(ii) Participation of offsite response organizations in biennial exercises, although recommended, is not required. Exercises must use scenarios not known to most exercise participants.

[1] These reporting requirements do not supersede or release licensees of complying with the requirements under the Emergency Planning and Community Right-to-Know Act of 1986, Title III, Pub. L. 99–499 or other State or Federal reporting requirements.

The licensee shall critique each exercise using individuals not having direct implementation responsibility for conducting the exercise. Critiques of exercises must evaluate the appropriateness of the plan, emergency procedures, facilities, equipment, training of personnel, and overall effectiveness of the response. Deficiencies found by the critiques must be corrected.

(13) *Hazardous chemicals.* A certification that the applicant has met its responsibilities under the Emergency Planning and Community Right-to-Know Act of 1986, Title III, Pub. L. 99–499, with respect to hazardous materials at the facility.

(14) *Comments on Plan.* The licensee shall allow the offsite response organizations expected to respond in case of an accident 60 days to comment on the initial submittal of the licensee's emergency plan before submitting it to NRC. Subsequent plan changes need not have the offsite comment period unless the plan changes affect the offsite response organizations. The licensee shall provide any comments received within the 60 days to the NRC with the emergency plan.

(15) *Offsite assistance.* The applicant's emergency plans shall include a brief description of the arrangements made for requesting and effectively using offsite assistance on site and provisions that exist for using other organizations capable of augmenting the planned onsite response.

(16) Arrangements made for providing information to the public.

(b) Each application for an MRS that is licensed under this part and each application for an ISFSI that is licensed under this part and that may process and/or repackage spent fuel, must be accompanied by an Emergency Plan that includes the following information:

(1) *Facility description.* A brief description of the licensee facility and area near the site.

(2) *Types of accidents.* An identification of each type of radioactive materials accident.

(3) *Classification of accidents.* A classification system for classifying accidents as ''alerts'' or ''site area emergencies.''

(4) *Detection of accidents.* Identification of the means of detecting an accident condition.

(5) *Mitigation of consequences.* A brief description of the means of mitigating the consequences of each type of accident, including those provided to protect workers on site, and a description of the program for maintaining the equipment.

(6) *Assessment of releases.* A brief description of the methods and equipment to assess releases of radioactive materials.

(7) *Responsibilities.* A brief description of the responsibilities of licensee personnel should an accident occur, including identification of personnel responsible for promptly notifying offsite response organizations and the NRC; also responsibilities for developing, maintaining, and updating the plan.

(8) *Notification and coordination.* A commitment to and a brief description of the means to promptly notify offsite response organizations and request offsite assistance, including medical assistance for the treatment of contaminated injured onsite workers when appropriate. A control point must be established. The notification and coordination must be planned so that unavailability of some personnel, parts of the facility, and some equipment will not prevent the notification and coordination. The licensee shall also commit to notify the NRC operations center immediately after notifications of the appropriate offsite response organizations and not later than one hour after the licensee declares an emergency.[2]

(9) *Information to be communicated.* A brief description of the types of information on facility status; radioactive releases; and recommended protective actions, if necessary, to be given to offsite response organizations and to the NRC.

(10) *Training.* A brief description of the training the licensee will provide workers on how to respond to an emergency and any special instructions and

[2]These reporting requirements do not supersede or release licensees of complying with the requirements under the Emergency Planning and Community Right-to-Know Act of 1986, Title III, Pub. L. 99–499 or other State or Federal reporting requirements.

orientation tours the licensee would offer to fire, police, medical and other emergency personnel.

(11) *Safe condition*. A brief description of the means of restoring the facility to a safe condition after an accident.

(12) *Exercises*. (i) Provisions for conducting quarterly communications checks with offsite response organizations and biennial onsite exercises to test response to simulated emergencies. Radiological/Health Physics, Medical, and Fire Drills shall be held semiannually. Quarterly communications checks with offsite response organizations must include the check and update of all necessary telephone numbers. The licensee shall invite offsite response organizations to participate in the biennial exercises.

(ii) Participation of offsite response organizations in the biennial exercises, although recommended, is not required. Exercises must use scenarios not known to most exercise participants. The licensee shall critique each exercise using individuals not having direct implementation responsibility for conducting the exercise. Critiques of exercises must evaluate the appropriateness of the plan, emergency procedures, facilities, equipment, training of personnel, and overall effectiveness of the response. Deficiencies found by the critiques must be corrected.

(13) *Hazardous chemicals*. A certification that the applicant has met its responsibilities under the Emergency Planning and Community Right-to-Know Act of 1986, Title III, Pub. L. 99–499, with respect to hazardous materials at the facility.

(14) *Comments on Plan*. The licensee shall allow the offsite response organizations expected to respond in case of an accident 60 days to comment on the initial submittal of the licensee's emergency plan before submitting it to NRC. Subsequent plan changes need not have the offsite comment period unless the plan changes affect the offsite response organizations. The licensee shall provide any comments received within the 60 days to the NRC with the emergency plan.

(15) *Offsite assistance*. The applicant's emergency plans shall include the following:

(i) A brief description of the arrangements made for requesting and effectively using offsite assistance on site and provisions that exist for using other organizations capable of augmenting the planned onsite response.

(ii) Provisions that exist for prompt communications among principal response organizations to offsite emergency personnel who would be responding onsite.

(iii) Adequate emergency facilities and equipment to support the emergency response onsite are provided and maintained.

(iv) Adequate methods, systems, and equipment for assessing and monitoring actual or potential consequences of a radiological emergency condition are available.

(v) Arrangements are made for medical services for contaminated and injured onsite individuals.

(vi) Radiological Emergency Response Training has been made available to those offsite who may be called to assist in an emergency onsite.

(16) Arrangements made for providing information to the public.

(c) For an ISFSI that is:

(1) located on the site, or

(2) Located within the exclusion area as defined in 10 CFR part 100, of a nuclear power reactor licensed for operation by the Commission, the emergency plan that meets either the requirements in § 50.160 of this chapter, or the requirements in appendix E to part 50 of this chapter and § 50.47(b) of this chapter shall be deemed to satisfy the requirements of this section.

(d) A licensee with a license issued under this part may take reasonable action that departs from a license condition or a technical specification (contained in a license issued under this part) in an emergency when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent.

[60 FR 32441, June 22, 1995, as amended at 85 FR 65663, Oct. 16, 2020; 88 FR 80078, Nov. 16, 2023]

§ 72.34 Environmental report.

Each application for an ISFSI or MRS license under this part must be accompanied by an Environmental Report which meets the requirements of subpart A of part 51 of this chapter.

Subpart C—Issuance and Conditions of License

§ 72.40 Issuance of license.

(a) Except as provided in paragraph (c) of this section, the Commission will issue a license under this part upon a determination that the application for a license meets the standards and requirements of the Act and the regulations of the Commission, and upon finding that:

(1) The applicant's proposed ISFSI or MRS design complies with subpart F;

(2) The proposed site complies with the criteria in subpart E;

(3) If on the site of a nuclear power plant or other licensed activity or facility, the proposed ISFSI would not pose an undue risk to the safe operation of such nuclear power plant or other licensed activity or facility;

(4) The applicant is qualified by reason of training and experience to conduct the operation covered by the regulations in this part;

(5) The applicant's proposed operating procedures to protect health and to minimize danger to life or property are adequate;

(6) Except for DOE, the applicant for an ISFSI or MRS is financially qualified to engage in the proposed activities in accordance with the regulations in this part;

(7) The applicant's quality assurance plan complies with subpart G;

(8) The applicant's physical protection provisions comply with subpart H. DOE has complied with the safeguards and physical security provisions identified in § 72.24(o);

(9) The applicant's personnel training program complies with subpart I;

(10) Except for DOE, the applicant's decommissioning plan and its financing pursuant to § 72.30 provide reasonable assurance that the decontamination and decommissioning of the ISFSI or MRS at the end of its useful life will provide adequate protection to the health and safety of the public;

(11) The applicant's emergency plan complies with § 72.32;

(12) The applicable provisions of part 170 of this chapter have been satisfied;

(13) There is reasonable assurance that: (i) The activities authorized by the license can be conducted without endangering the health and safety of the public and (ii) these activities will be conducted in compliance with the applicable regulations of this chapter; and

(14) The issuance of the license will not be inimical to the common defense and security.

(b) A license to store spent fuel and reactor-related GTCC waste in the proposed ISFSI or to store spent fuel, high-level radioactive waste, and reactor-related GTCC waste in the proposed MRS may be denied if construction on the proposed facility begins before a finding approving issuance of the proposed license with any appropriate conditions to protect environmental values. Grounds for denial may be the commencement of construction prior to a finding by the Director, Office of Nuclear Materials Safety and Safeguards or designee or a finding after a public hearing by the presiding officer, Atomic Safety and Licensing Board, or the Commission acting as a collegial body, as appropriate, that the action called for is the issuance of the proposed license with any appropriate conditions to protect environmental values. This finding is to be made on the basis of information filed and evaluations made pursuant to subpart A of part 51 of this chapter or in the case of an MRS on the basis of evaluations made pursuant to sections 141(c) and (d) or 148(a) and (c) of NWPA (96 Stat. 2242, 2243, 42 U.S.C. 10161(c), (d); 101 Stat. 1330–235, 1330–236, 42 U.S.C. 10168(a), (c)), as appropriate, and after weighing the environmental, economic, technical and other benefits against environmental costs and considering available alternatives.

(c) For facilities that have been covered under previous licensing actions including the issuance of a construction permit under part 50 of this chapter, a reevaluation of the site is not required except where new information is

discovered which could alter the original site evaluation findings. In this case, the site evaluation factors involved will be reevaluated.

[53 FR 31658, Aug. 19, 1988, as amended at 66 FR 51840, Oct. 11, 2001]

§ 72.42 Duration of license; renewal.

(a) Each license issued under this part must be for a fixed period of time to be specified in the license. The license term for an ISFSI must not exceed 40 years from the date of issuance. The license term for an MRS must not exceed 40 years from the date of issuance. Licenses for either type of installation may be renewed by the Commission at the expiration of the license term upon application by the licensee for a period not to exceed 40 years and under the requirements of this rule. Application for ISFSI license renewals must include the following:

(1) TLAAs that demonstrate that structures, systems, and components important to safety will continue to perform their intended function for the requested period of extended operation; and

(2) A description of the AMP for management of issues associated with aging that could adversely affect structures, systems, and components important to safety.

(b) Applications for renewal of a license should be filed in accordance with the applicable provisions of subpart B of this part at least 2 years before the expiration of the existing license. The application must also include design bases information as documented in the most recently updated FSAR as required by § 72.70. Information contained in previous applications, statements, or reports filed with the Commission under the license may be incorporated by reference provided that these references are clear and specific.

(c) In any case in which a licensee, not less than two years prior to expiration of its existing license, has filed an application in proper form for renewal of a license, the existing license shall not expire until a final decision concerning the application for renewal has been made by the Commission.

[53 FR 31658, Aug. 19, 1988, as amended at 76 FR 8890, Feb. 16, 2011]

§ 72.44 License conditions.

(a) Each license issued under this part shall include license conditions. The license conditions may be derived from the analyses and evaluations included in the Safety Analysis Report and amendments thereto submitted pursuant to § 72.24. License conditions pertain to design, construction and operation. The Commission may also include additional license conditions as it finds appropriate.

(b) Each license issued under this part shall be subject to the following conditions, even if they are not explicitly stated therein;

(1) Neither the license nor any right thereunder shall be transferred, assigned, or disposed of in any manner, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission shall, after securing full information, find that the transfer is in accordance with the provisions of the Atomic Energy Act of 1954, as amended, and give its consent in writing.

(2) The license shall be subject to revocation, suspension, modification, or amendment in accordance with the procedures provided by the Atomic Energy Act of 1954, as amended, and Commission regulations.

(3) Upon request of the Commission, the licensee shall, at any time before expiration of the license, submit written statements, signed under oath or affirmation if appropriate, to enable the Commission to determine whether or not the license should be modified, suspended, or revoked.

(4) The licensee shall have an NRC-approved program in effect that covers the training and certification of personnel that meets the requirements of subpart I before the licensee may receive spent fuel and/or reactor-related GTCC waste for storage at an ISFSI or the receipt of spent fuel, high-level radioactive waste, and/or reactor-related GTCC waste for storage at an MRS.

(5) The license shall permit the operation of the equipment and controls

that are important to safety of the ISFSI or the MRS only by personnel whom the licensee has certified as being adequately trained to perform such operations, or by uncertified personnel who are under the direct visual supervision of a certified individual.

(6)(i) Each licensee shall notify the appropriate NRC Regional Administrator, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any Chapter of Title II (Bankruptcy) of the United States Code by or against:

(A) The licensee;

(B) An entity (as that term is defined in 11 U.S.C. 101(14)) controlling the licensee or listing the license or licensee as property of the estate; or

(C) An affiliate (as that term is defined in 11 U.S.C. 101(2)) of the licensee.

(ii) This notification must indicate:

(A) The bankruptcy court in which the petition for bankruptcy was filed; and

(B) The date of the filing of the petition.

(c) Each license issued under this part must include technical specifications. Technical specifications must include requirements in the following categories:

(1) *Functional and operating limits and monitoring instruments and limiting control settings.* (i) Functional and operating limits for an ISFSI or MRS are limits on fuel or waste handling and storage conditions that are found to be necessary to protect the integrity of the stored fuel or waste container, to protect employees against occupational exposures and to guard against the uncontrolled release of radioactive materials; and

(ii) Monitoring instruments and limiting control settings for an ISFSI or MRS are those related to fuel or waste handling and storage conditions having significant safety functions.

(2) *Limiting conditions.* Limiting conditions are the lowest functional capability or performance levels of equipment required for safe operation.

(3) *Surveillance requirements.* Surveillance requirements include:

(i) Inspection and monitoring of spent fuel, high-level radioactive waste, or reactor-related GTCC waste in storage;

(ii) Inspection, test and calibration activities to ensure that the necessary integrity of required systems and components is maintained;

(iii) Confirmation that operation of the ISFSI or MRS is within the required functional and operating limits; and

(iv) Confirmation that the limiting conditions required for safe storage are met.

(4) *Design features.* Design features include items that would have a significant effect on safety if altered or modified, such as materials of construction and geometric arrangements.

(5) *Administrative controls.* Administrative controls include the organization and management procedures, recordkeeping, review and audit, and reporting requirements necessary to assure that the operations involved in the storage of spent fuel and reactor-related GTCC waste in an ISFSI and the storage of spent fuel, high-level radioactive waste, and reactor-related GTCC waste in an MRS are performed in a safe manner.

(d) Each license authorizing the receipt, handling, and storage of spent fuel, high-level radioactive waste, and/or reactor-related GTCC waste under this part must include technical specifications that, in addition to stating the limits on the release of radioactive materials for compliance with limits of part 20 of this chapter and the ''as low as is reasonably achievable'' objectives for effluents, require that:

(1) Operating procedures for control of effluents be established and followed, and equipment in the radioactive waste treatment systems be maintained and used, to meet the requirements of § 72.104;

(2) An environmental monitoring program be established to ensure compliance with the technical specifications for effluents; and

(3) An annual report be submitted to the Commission in accordance with § 72.4, specifying the quantity of each of the principal radionuclides released to the environment in liquid and in gaseous effluents during the previous 12 months of operation and such other information as may be required by the

Commission to estimate maximum potential radiation dose commitment to the public resulting from effluent releases. On the basis of this report and any additional information that the Commission may obtain from the licensee or others, the Commission may from time to time require the licensee to take such action as the Commission deems appropriate. The report must be submitted within 60 days after the end of the 12-month monitoring period.

(e) The licensee shall make no change that would decrease the effectiveness of the physical security plan prepared pursuant to §72.180 without the prior approval of the Commission. A licensee desiring to make such a change shall submit an application for an amendment to the license pursuant to §72.56. A licensee may make changes to the physical security plan without prior Commission approval, provided that such changes do not decrease the effectiveness of the plan. The licensee shall furnish to the Commission a report containing a description of each change within two months after the change is made, and shall maintain records of changes to the plan made without prior Commission approval for a period of 3 years from the date of the change.

(f) A licensee shall follow and maintain in effect an emergency plan that is approved by the Commission. The licensee may make changes to the approved plan without Commission approval only if such changes do not decrease the effectiveness of the plan. Within six months after any change is made, the licensee shall submit, in accordance with §72.4, a report containing a description of any changes made in the plan addressed to Director, Division of Fuel Management, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, with a copy to the appropriate NRC Regional Office shown in appendix D to part 20 of this chapter. Proposed changes that decrease the effectiveness of the approved emergency plan must not be implemented unless the licensee has received prior approval of such changes from the Commission.

(g) A license issued to DOE under this part for an MRS authorized by section 142(b) of NWPA (101 Stat. 1330–232, 42 U.S.C. 10162(b)) must include the following conditions:

(1) Construction of the MRS may not begin until the Commission has authorized the construction of a repository under section 114(d) of NWPA (96 Stat. 2215, as amended by 101 Stat. 1330–230, 42 U.S.C. 10134 (d)) and part 60 or 63 of this chapter;

(2) Construction of the MRS or acceptance of spent nuclear fuel, high-level radioactive waste, and/or reactor-related GTCC waste at the MRS is prohibited during such time as the repository license is revoked by the Commission or construction of the repository ceases.

(3) The quantity of spent nuclear fuel or high-level radioactive waste at the site of the MRS at any one time may not exceed 10,000 metric tons of heavy metal until a repository authorized under NWPA and part 60 or 63 of this chapter first accepts spent nuclear fuel or solidified high-level radioactive waste; and

(4) The quantity of spent nuclear fuel or high-level radioactive waste at the site of the MRS at any one time may not exceed 15,000 metric tons of heavy metal.

(h) Each licensee shall protect Safeguards Information against unauthorized disclosure in accordance with the requirements of §73.21 and the requirements of §73.22 or §73.23, as applicable.

[53 FR 31658, Aug. 19, 1988, as amended at 64 FR 33183, June 22, 1999; 66 FR 51840, Oct. 11, 2001; 66 FR 55815, Nov. 2, 2001; 67 FR 3586, Jan. 25, 2002; 68 FR 58819, Oct. 10, 2003; 73 FR 63573, Oct. 24, 2008; 75 FR 73945, Nov. 30, 2010; 79 FR 75741, Dec. 19, 2014; 84 FR 65646, Nov. 29, 2019]

§ 72.46 Public hearings.

(a) In connection with each application for a license under this part, the Commission shall issue or cause to be issued a notice of proposed action and opportunity for hearing in accordance with §2.105 or §2.1107 of this chapter, as appropriate, or, if the Commission finds that a hearing is required in the public interest, a notice of hearing in accordance with §2.104 of this chapter.

(b)(1) In connection with each application for an amendment to a license under this part, the Commission shall, except as provided in paragraph (b)(2) of this section, issue or cause to be

issued a notice of proposed action and opportunity for hearing in accordance with § 2.105 or § 2.1107 of this chapter, as appropriate, or, if the Commission finds that a hearing is required in the public interest, a notice of hearing in accordance with § 2.104 of this chapter.

(2) The Director, Office of Nuclear Material Safety and Safeguards, or the Director's designee may dispense with a notice of proposed action and opportunity for hearing or a notice of hearing and take immediate action on an amendment to a license issued under this part upon a determination that the amendment does not present a genuine issue as to whether the health and safety of the public will be significantly affected. After taking the action, the Director or the Director's designee shall promptly publish a notice in the FEDERAL REGISTER of the action taken and of the right of interested persons to request a hearing on whether the action should be rescinded or modified. If the action taken amends an MRS license, the Director or the Director's designee shall also inform the appropriate State and local officials.

(c) The notice of proposed action and opportunity for hearing or the notice of hearing may be included in the notice of docketing required to be published by § 72.16 of this part.

(d) If no request for a hearing or petition for leave to intervene is filed within the time prescribed in the notice of proposed action and opportunity for hearing, the Director, Office of Nuclear Material Safety and Safeguards or the Director's designee may take the proposed action, and thereafter shall promptly inform the appropriate State and local officials and publish a notice in the FEDERAL REGISTER of the action taken. In accordance with § 2.764(c) of this chapter, the Director, Office of Nuclear Material Safety and Safeguards shall not issue an initial license for the construction and operation of an ISFSI located at a site other than a reactor site or an MRS until expressly authorized to do so by the Commission.

(e) If an application for (or an amendment to) a specific license issued under this part incorporates by reference information on the design of a spent fuel storage cask for which NRC approval pursuant to subpart L of this part has been issued or is being sought, the scope of any public hearing held to consider the application will not include any cask design issues.

[53 FR 31658, Aug. 19, 1988, as amended at 60 FR 20886, Apr. 28, 1995; 65 FR 50617, Aug. 21, 2000]

§ 72.48 Changes, tests, and experiments.

(a) Definitions for the purposes of this section:

(1) *Change* means a modification or addition to, or removal from, the facility or spent fuel storage cask design or procedures that affects a design function, method of performing or controlling the function, or an evaluation that demonstrates that intended functions will be accomplished.

(2) *Departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses* means:

(i) Changing any of the elements of the method described in the FSAR (as updated) unless the results of the analysis are conservative or essentially the same; or

(ii) Changing from a method described in the FSAR to another method unless that method has been approved by NRC for the intended application.

(3) *Facility* means either an independent spent fuel storage installation (ISFSI) or a Monitored Retrievable Storage facility (MRS).

(4) The *facility or spent fuel storage cask design as described in the Final Safety Analysis Report (FSAR) (as updated)* means:

(i) The structures, systems, and components (SSC) that are described in the FSAR (as updated),

(ii) The design and performance requirements for such SSCs described in the FSAR (as updated), and

(iii) The evaluations or methods of evaluation included in the FSAR (as updated) for such SSCs which demonstrate that their intended function(s) will be accomplished.

(5) *Final Safety Analysis Report (as updated)* means:

(i) For specific licensees, the Safety Analysis Report for a facility submitted and updated in accordance with § 72.70;

(ii) For general licensees, the Safety Analysis Report for a spent fuel storage cask design, as amended and supplemented; and

(iii) For certificate holders, the Safety Analysis Report for a spent fuel storage cask design submitted and updated in accordance with § 72.248.

(6) *Procedures as described in the Final Safety Analysis Report (as updated)* means those procedures that contain information described in the FSAR (as updated) such as how SSCs are operated and controlled (including assumed operator actions and response times).

(7) *Tests or experiments not described in the Final Safety Analysis Report (as updated)* means any activity where any SSC is utilized or controlled in a manner which is either:

(i) Outside the reference bounds of the design bases as described in the FSAR (as updated) or

(ii) Inconsistent with the analyses or descriptions in the FSAR (as updated).

(b) This section applies to:

(1) Each holder of a general or specific license issued under this part, and

(2) Each holder of a Certificate of Compliance (CoC) issued under this part.

(c)(1) A licensee or certificate holder may make changes in the facility or spent fuel storage cask design as described in the FSAR (as updated), make changes in the procedures as described in the FSAR (as updated), and conduct tests or experiments not described in the FSAR (as updated), without obtaining either:

(i) A license amendment pursuant to § 72.56 (for specific licensees) or

(ii) A CoC amendment submitted by the certificate holder pursuant to § 72.244 (for general licensees and certificate holders) if:

(A) A change to the technical specifications incorporated in the specific license is not required; or

(B) A change in the terms, conditions, or specifications incorporated in the CoC is not required; and

(C) The change, test, or experiment does not meet any of the criteria in paragraph (c)(2) of this section.

(2) A specific licensee shall obtain a license amendment pursuant to § 72.56, a certificate holder shall obtain a CoC amendment pursuant to § 72.244, and a general licensee shall request that the certificate holder obtain a CoC amendment pursuant to § 72.244, prior to implementing a proposed change, test, or experiment if the change, test, or experiment would:

(i) Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the FSAR (as updated);

(ii) Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a system, structure, or component (SSC) important to safety previously evaluated in the FSAR (as updated);

(iii) Result in more than a minimal increase in the consequences of an accident previously evaluated in the FSAR (as updated);

(iv) Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the FSAR (as updated);

(v) Create a possibility for an accident of a different type than any previously evaluated in the FSAR (as updated);

(vi) Create a possibility for a malfunction of an SSC important to safety with a different result than any previously evaluated in the FSAR (as updated);

(vii) Result in a design basis limit for a fission product barrier as described in the FSAR (as updated) being exceeded or altered; or

(viii) Result in a departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses.

(3) In implementing this paragraph, the FSAR (as updated) is considered to include FSAR changes resulting from evaluations performed pursuant to this section and analyses performed pursuant to § 72.56 or § 72.244 since the last update of the FSAR pursuant to § 72.70, or § 72.248 of this part.

(4) The provisions in this section do not apply to changes to the facility or procedures when the applicable regulations establish more specific criteria for accomplishing such changes.

(d)(1) The licensee and certificate holder shall maintain records of changes in the facility or spent fuel

storage cask design, of changes in procedures, and of tests and experiments made pursuant to paragraph (c) of this section. These records must include a written evaluation which provides the bases for the determination that the change, test, or experiment does not require a license or CoC amendment pursuant to paragraph (c)(2) of this section.

(2) The licensee and certificate holder shall submit, as specified in §72.4, a report containing a brief description of any changes, tests, and experiments, including a summary of the evaluation of each. A report shall be submitted at intervals not to exceed 24 months.

(3) The records of changes in the facility or spent fuel storage cask design shall be maintained until:

(i) Spent fuel is no longer stored in the facility or the spent fuel storage cask design is no longer being used, or

(ii) The Commission terminates the license or CoC issued pursuant to this part.

(4) The records of changes in procedures and of tests and experiments shall be maintained for a period of 5 years.

(5) The holder of a spent fuel storage cask design CoC, who permanently ceases operation, shall provide the records of changes to the new certificate holder or to the Commission, as appropriate, in accordance with §72.234(d)(3).

(6)(i) A general licensee shall provide a copy of the record for any changes to a spent fuel storage cask design to the applicable certificate holder within 60 days of implementing the change.

(ii) A specific licensee using a spent fuel storage cask design, approved pursuant to subpart L of this part, shall provide a copy of the record for any changes to a spent fuel storage cask design to the applicable certificate holder within 60 days of implementing the change.

(iii) A certificate holder shall provide a copy of the record for any changes to a spent fuel storage cask design to any general or specific licensee using the cask design within 60 days of implementing the change.

[64 FR 53615, Oct. 4, 1999, as amended at 66 FR 11527, Feb. 26, 2001]

§72.50 Transfer of license.

(a) No license or any part included in a license issued under this part for an ISFSI or MRS shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission gives its consent in writing.

(b)(1) An application for transfer of a license must include as much of the information described in §§72.22 and 72.28 with respect to the identity and the technical and financial qualifications of the proposed transferee as would be required by those sections if the application were for an initial license. The application must also include a statement of the purposes for which the transfer of the license is requested and the nature of the transaction necessitating or making desirable the transfer of the license.

(2) The Commission may require any person who submits an application for the transfer of a license pursuant to the provisions of this section to file a written consent from the existing licensee, or a certified copy of an order or judgment of a court of competent jurisdiction, attesting to the person's right—subject to the licensing requirements of the Act and these regulations—to possession of the radioactive materials and the storage installation involved.

(3) The application shall describe the financial assurance that will be provided for the decommissioning of the facility under §72.30.

(c) After appropriate notice to interested persons, including the existing licensee, and observance of such procedures as may be required by the Act or regulations or orders of the Commission, the Commission will approve an application for the transfer of a license, if the Commission determines that:

(1) The proposed transferee is qualified to be the holder of the license; and

(2) Transfer of the license is consistent with applicable provisions of the law, and the regulations and orders issued by the Commission.

[53 FR 31658, Aug. 19, 1988, as amended at 76 FR 35574, June 17, 2011]

§ 72.52 Creditor regulations.

(a) This section does not apply to an ISFSI or MRS constructed and operated by DOE.

(b) Pursuant to section 184 of the Act, the Commission consents, without individual application, to the creation of any mortgage, pledge, or other lien on special nuclear material contained in spent fuel not owned by the United States that is the subject of a license or on any interest in special nuclear material in spent fuel; Provided:

(1) That the rights of any creditor so secured may be exercised only in compliance with and subject to the same requirements and restrictions as would apply to the licensee pursuant to the provisions of the license, the Atomic Energy Act of 1954, as amended, and regulations issued by the Commission pursuant to said Act; and

(2) That no creditor so secured may take possession of the spent fuel and/or reactor-related GTCC waste under the provisions of this section before—

(i) The Commission issues a license authorizing possession; or

(ii) The license is transferred.

(c) Any creditor so secured may apply for transfer of the license covering spent fuel and/or reactor-related GTCC waste by filing an application for transfer of the license under § 72.50(b). The Commission will act upon the application under § 72.50(c).

(d) Nothing contained in this regulation shall be deemed to affect the means of acquiring, or the priority of, any tax lien or other lien provided by law.

(e) As used in this section, ''creditor'' includes, without implied limitation—

(1) The trustee under any mortgage, pledge, or lien on spent fuel and/or reactor-related GTCC waste in storage made to secure any creditor;

(2) Any trustee or receiver of spent fuel and/or reactor-related GTCC waste appointed by a court of competent jurisdiction in any action brought for the benefit of any creditor secured by a mortgage, pledge, or lien;

(3) Any purchaser of the spent fuel and/or reactor-related GTCC waste at the sale thereof upon foreclosure of the mortgage, pledge, or lien or upon exercise of any power of sale contained therein; or

(4) Any assignee of any such purchaser.

[53 FR 31658, Aug. 19, 1988, as amended at 66 FR 51840, Oct. 11, 2001]

§ 72.54 Expiration and termination of licenses and decommissioning of sites and separate buildings or outdoor areas.

(a) Each specific license expires at the end of the day on the expiration date stated in the license except when a licensee has filed an application for renewal pursuant to § 72.42 not less than 24 months before the expiration of the existing license. If an application for renewal has been filed at least 24 months prior to the expiration date stated in the existing license, the existing license expires at the end of the day on which the Commission makes a final determination to deny the renewal application or, if the determination states an expiration date, the expiration date stated in the determination.

(b) Each specific license revoked by the Commission expires at the end of the day on the date of the Commission's final determination to revoke the license or on the expiration date stated in the determination or as otherwise provided by Commission Order.

(c) Each specific license continues in effect, beyond the expiration date if necessary, with respect to possession of licensed material until the Commission notifies the licensee in writing that the license is terminated. During this time, the licensee shall—

(1) Limit actions involving spent fuel, reactor-related GTCC waste, or other licensed material to those related to decommissioning; and

(2) Continue to control entry to restricted areas until they are suitable for release in accordance with NRC requirements.

(d) As required by § 72.42(b), or within 60 days of the occurrence of any of the following, consistent with the administrative directions in § 72.4, each licensee shall notify the NRC in writing, and submit within 12 months of this notification, a final decommissioning plan and begin decommissioning upon approval of the plan if—

(1) The licensee has decided to permanently cease principal activities, as

defined in this part, at the entire site or any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with NRC requirements; or

(2) No principal activities under the license have been conducted for a period of 24 months; or

(3) No principal activities have been conducted for a period of 24 months in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with NRC requirements.

(e) Coincident with the notification required by paragraph (d) of this section, the licensee shall maintain in effect all decommissioning financial assurances established by the licensee pursuant to §72.30 in conjunction with a license issuance or renewal or as required by this section. The amount of the financial assurance must be increased, or may be decreased, as appropriate, to cover the detailed cost estimate for decommissioning established pursuant to paragraph (g)(5) of this section.

(1) Any licensee who has not provided financial assurance to cover the detailed cost estimate submitted with the decommissioning plan shall do so when this rule becomes effective November 24, 1995.

(2) Following approval of the decommissioning plan, a licensee may reduce the amount of the financial assurance as decommissioning proceeds and radiological contamination is reduced at the site with the approval of the Commission.

(f)(1) The Commission may grant a request to delay or postpone initiation of the decommissioning process if the Commission determines that this relief is not detrimental to the public health and safety and is otherwise in the public interest. The request must be submitted no later than 30 days before notification pursuant to paragraph (d) of this section. The schedule for decommissioning set forth in paragraph (d) of this section may not commence until the Commission has made a determination on the request.

(2) The Commission may approve an alternate schedule for submittal of the final decommissioning plan required pursuant to paragraph (d) of this section if the Commission determines that the alternate schedule is necessary to the effective conduct of decommissioning operations and presents no undue risk from radiation to the public health and safety, and is otherwise to the public interest.

(g) The proposed final decommissioning plan must include—

(1) A description of the current conditions of the site or separate building or outdoor area sufficient to evaluate the acceptability of the plan;

(2) The choice of the alternative for decommissioning with a description of the activities involved;

(3) A description of controls and limits on procedures and equipment to protect occupational and public health and safety;

(4) A description of the planned final radiation survey; and

(5) An updated detailed cost estimate for the chosen alternative for decommissioning, comparison of that estimate with present funds set aside for decommissioning, and plan for assuring the availability of adequate funds for completion of decommissioning including means for adjusting cost estimates and associated funding levels over any storage or surveillance period; and

(6) A description of technical specifications and quality assurance provisions in place during decommissioning.

(h) For final decommissioning plans in which the major dismantlement activities are delayed by first placing the ISFSI or MRS in storage, planning for these delayed activities may be less detailed. Updated detailed plans must be submitted and approved prior to the start of these activities.

(i) If the final decommissioning plan demonstrates that the decommissioning will be completed as soon as practicable, performed in accordance with the regulations in this chapter, and will not be inimical to the common defense and security or to the health and safety of the public, and after notice to interested persons, the Commission will approve the plan subject to any appropriate conditions and limitations and issue an order authorizing decommissioning.

(j)(1) Except as provided in paragraph (k) of this section, each licensee shall complete decommissioning of the site or separate building or outdoor area as soon as practicable but no later than 24 months following approval of the final decommissioning plan by the Commission.

(2) Except as provided in paragraph (k) of this section, when decommissioning involves the entire site, each licensee shall request license termination as soon as practicable but no later than 24 months following approval of the final decommissioning plan by the Commission.

(k) The Commission may approve a request for an alternate schedule for completion of decommissioning of the site or separate building or outdoor area, and license termination if appropriate, if the Commission determines that the alternate schedule is warranted by consideration of the following:

(1) Whether it is technically feasible to complete decommissioning within the allotted 24-month period;

(2) Whether sufficient waste disposal capacity is available to allow completion of decommissioning within the allotted 24-month period;

(3) Whether a significant volume reduction in wastes requiring disposal will be achieved by allowing short-lived radionuclides to decay;

(4) Whether a significant reduction in radiation exposure to workers can be achieved by allowing short-lived radionuclides to decay; and

(5) Other site-specific factors that the Commission may consider appropriate on a case-by-case basis, such as regulatory requirements of other government agencies, lawsuits, groundwater treatment activities, monitored natural groundwater restoration, actions that could result in more environmental harm than deferred cleanup, and other factors beyond the control of the licensee.

(l) As the final step in decommissioning, the licensee shall—

(1) Certify the disposition of all licensed material, including accumulated wastes, by submitting a completed NRC Form 314 or equivalent information; and

(2) Conduct a radiation survey of the premises where the licensed activities were conducted and submit a report of the results of this survey, unless the licensee demonstrates in some other manner that the premises are suitable for release in accordance with the criteria for decommissioning in 10 CFR part 20, subpart E. The licensee shall, as appropriate—

(i) Report levels of gamma radiation in units of millisieverts (microroentgen) per hour at one meter from surfaces, and report levels of radioactivity, including alpha and beta, in units of megabecquerels (disintegrations per minute or microcuries) per 100 square centimeters removable and fixed for surfaces, megabecquerels (microcuries) per milliliter for water, and becquerels (picocuries) per gram for solids such as soils or concrete; and

(ii) Specify the survey instrument(s) used and certify that each instrument is properly calibrated and tested.

(m) Specific licenses, including expired licenses, will be terminated by written notice to the licensee when the Commission determines that—

(1) The decommissioning has been performed in accordance with the approved final decommissioning plan and the order authorizing decommissioning; and

(2)(i) A radiation survey has been performed which demonstrates that the premises are suitable for release in accordance with the criteria for decommissioning in 10 CFR part 20, subpart E; or

(ii) Other information submitted by the licensee is sufficient to demonstrate that the premises are suitable for release in accordance with the criteria for decommissioning in 10 CFR part 20, subpart E.

(3) Records required by § 72.80(e) have been received.

[59 FR 36038, July 15, 1994, as amended at 60 FR 38240, July 26, 1995; 61 FR 24675, May 16, 1996; 61 FR 29638, June 12, 1996; 62 FR 39092, July 21, 1997; 62 FR 59276, Nov. 3, 1997; 66 FR 51840, Oct. 11, 2001]

§ 72.56 Application for amendment of license.

Whenever a holder of a specific license desires to amend the license (including a change to the license conditions), an application for an amendment shall be filed with the Commission fully describing the changes desired and the reasons for such changes, and following as far as applicable the form prescribed for original applications.

[64 FR 53616, Oct. 4, 1999]

§ 72.58 Issuance of amendment.

In determining whether an amendment to a license will be issued to the applicant, the Commission will be guided by the considerations that govern the issuance of initial licenses.

§ 72.60 Modification, revocation, and suspension of license.

(a) The terms and conditions of all licenses are subject to amendment, revision, or modification by reason of amendments to the Atomic Energy Act of 1954, as amended, or by reason or rules, regulations, or orders issued in accordance with the Act or any amendments thereto.

(b) Any license may be modified, revoked, or suspended in whole or in part for any of the following:

(1) Any material false statement in the application or in any statement of fact required under section 182 of the Act;

(2) Conditions revealed by the application or statement of fact or any report, record, inspection or other means which would warrant the Commission to refuse to grant a license on an original application;

(3) Failure to operate an ISFSI or MRS in accordance with the terms of the license;

(4) Violation of, or failure to observe, any of the terms and conditions of the Act, or of any applicable regulation, license, or order of the Commission.

(c) Upon revocation of a license, the Commission may immediately cause the retaking of possession of all special nuclear material contained in spent fuel and/or reactor-related GTCC waste held by the licensee. In cases found by the Commission to be of extreme importance to the national defense and security or to the health and safety of the public, the Commission may cause the taking of possession of any special nuclear material contained in spent fuel and/or reactor-related GTCC waste held by the licensee before following any of the procedures provided under sections 551–558 of title 5 of the United States Code.

[53 FR 31658, Aug. 19, 1988, as amended at 66 FR 51841, Oct. 11, 2001]

§ 72.62 Backfitting.

(a) As used in this section, *backfitting* means the addition, elimination, or modification, after the license has been issued, of:

(1) Structures, systems, or components of an ISFSI or MRS, or

(2) Procedures or organization required to operate an ISFSI or MRS.

(b) The Commission will require backfitting of an ISFSI or MRS if it finds that such action is necessary to assure adequate protection to occupational or public health and safety, or to bring the ISFSI or MRS into compliance with a license or the rules or orders of the Commission, or into conformance with written commitments by a licensee.

(c) The Commission may require the backfitting of an ISFSI or MRS if it finds:

(1) That there is a substantial increase in the overall protection of the occupational or public health and safety to be derived from the backfit, and

(2) That the direct and indirect costs of implementation for that ISFSI or MRS are justified in view of this increased protection.

(d) The Commission may at any time require a holder of a license to submit such information concerning the backfitting or the proposed backfitting of an ISFSI or MRS as it deems appropriate.

Subpart D—Records, Reports, Inspections, and Enforcement

§ 72.70 Safety analysis report updating.

(a) Each specific licensee for an ISFSI or MRS shall update periodically, as provided in paragraphs (b) and

(c) of this section, the final safety analysis report (FSAR) to assure that the information included in the report contains the latest information developed.

(1) Each licensee shall submit an original FSAR to the Commission, in accordance with § 72.4, within 90 days after issuance of the license.

(2) The original FSAR shall be based on the safety analysis report submitted with the application and reflect any changes and applicant commitments developed during the license approval and/or hearing process.

(b) Each update shall contain all the changes necessary to reflect information and analyses submitted to the Commission by the licensee or prepared by the licensee pursuant to Commission requirement since the submission of the original FSAR or, as appropriate, the last update to the FSAR under this section. The update shall include the effects[1] of:

(1) All changes made in the ISFSI or MRS or procedures as described in the FSAR;

(2) All safety analyses and evaluations performed by the licensee either in support of approved license amendments, or in support of conclusions that changes did not require a license amendment in accordance with § 72.48;

(3) All final analyses and evaluations of the design and performance of structures, systems, and components that are important to safety taking into account any pertinent information developed during final design, construction, and preoperational testing; and

(4) All analyses of new safety issues performed by or on behalf of the licensee at Commission request. The information shall be appropriately located within the updated FSAR.

(c)(1) The update of the FSAR must be filed in accordance with § 72.4. If the update is filed on paper, it should be filed on a page-replacement basis; if filed electronically, it should be filed on a full replacement basis. See Guidance for Electronic Submissions to the Commission at *http://www.nrc.gov/site-help/e-submittals.html*.

[1] Effects of changes includes appropriate revisions of descriptions in the FSAR such that the FSAR (as updated) is complete and accurate.

(2) A paper update filed on a page-replacement basis must include a list that identifies the current pages of the FSAR following page replacement. If the update is filed electronically on a full replacement basis, it must include a list of changed pages.

(3) Each replacement page shall include both a change indicator for the area changed, e.g., a bold line vertically drawn in the margin adjacent to the portion actually changed, and a page change identification (date of change or change number or both);

(4) The update shall include:

(i) A certification by a duly authorized officer of the licensee that either the information accurately presents changes made since the previous submittal, or that no such changes were made; and

(ii) An identification of changes made under the provisions of § 72.48, but not previously submitted to the Commission;

(5) The update shall reflect all changes implemented up to a maximum of 6 months prior to the date of filing; and

(6) Updates shall be filed every 24 months from the date of issuance of the license.

(d) The updated FSAR shall be retained by the licensee until the Commission terminates the license.

[64 FR 53616, Oct. 4, 1999, as amended at 68 FR 58819, Oct. 10, 2003; 74 FR 62684, Dec. 1, 2009]

§ 72.72 Material balance, inventory, and records requirements for stored materials.

(a) Each licensee shall keep records showing the receipt, inventory (including location), disposal, acquisition, and transfer of all special nuclear material with quantities as specified in § 74.13(a) of this chapter and for source material as specified in § 40.64 of this chapter. The records must include as a minimum the name of shipper of the material to the ISFSI or MRS, the estimated quantity of radioactive material per item (including special nuclear material in spent fuel and reactor-related GTCC waste), item identification and seal number, storage location, onsite movements of each fuel assembly or storage canister, and ultimate disposal.

These records for spent fuel and reactor-related GTCC waste at an ISFSI or for spent fuel, high-level radioactive waste, and reactor-related GTCC waste at an MRS must be retained for as long as the material is stored and for a period of 5 years after the material is disposed of or transferred out of the ISFSI or MRS.

(b) Each licensee shall conduct a physical inventory of all spent fuel, high-level radioactive waste, and reactor-related GTCC waste containing special nuclear material meeting the requirements in paragraph (a) of this section at intervals not to exceed 12 months unless otherwise directed by the Commission. The licensee shall retain a copy of the current inventory as a record until the Commission terminates the license.

(c) Each licensee shall establish, maintain, and follow written material control and accounting procedures that are sufficient to enable the licensee to account for material in storage. The licensee shall retain a copy of the current material control and accounting procedures until the Commission terminates the license.

(d) Records of spent fuel, high-level radioactive waste, and reactor-related GTCC waste containing special nuclear material meeting the requirements in paragraph (a) of this section must be kept in duplicate. The duplicate set of records must be kept at a separate location sufficiently remote from the original records that a single event would not destroy both sets of records. Records of spent fuel or reactor-related GTCC waste containing special nuclear material transferred out of an ISFSI or of spent fuel, high-level radioactive waste, or reactor-related GTCC waste containing special nuclear material transferred out of an MRS must be preserved for a period of five years after the date of transfer.

[53 FR 31658, Aug. 19, 1988, as amended at 66 FR 51841, Oct. 11, 2001; 73 FR 32462, June 9, 2008]

§ 72.74 Reports of accidental criticality or loss of special nuclear material.

(a) Each licensee shall notify the NRC Headquarters Operations Center by telephone at the numbers specified in appendix A to part 73 of this chapter within 1 hour of discovery of accidental criticality or any loss of special nuclear material.

(b) This notification must be made to the NRC Operations Center via the Emergency Notification System if the licensee is party to that system. If the Emergency Notification System is inoperative or unavailable, the licensee shall make the required notification via commercial telephonic service or any other dedicated telephonic system or any other method that will ensure that a report is received by the NRC Operations Center within one hour. The exemption of §73.22(f)(3) of this chapter applies to all telephonic reports required by this section.

(c) Reports required under §73.1200 of this chapter need not be duplicated under the requirements of this section.

[53 FR 31658, Aug. 19, 1988, as amended at 59 FR 14087, Mar. 25, 1994, 81 FR 86910, Dec. 2, 2016; 85 FR 65664, Oct. 16, 2020; 88 FR 15881, Mar. 14, 2023]

§ 72.75 Reporting requirements for specific events and conditions.

(a) *Emergency notifications:* Each licensee shall notify the NRC Headquarters Operations Center upon the declaration of an emergency as specified in the licensee's approved emergency plan addressed in §72.32. The licensee shall notify the NRC immediately after notification of the appropriate State or local agencies, but not later than one hour after the time the licensee declares an emergency.

(b) *Non-emergency notifications:* Four-hour reports. Each licensee shall notify the NRC as soon as possible but not later than four hours after the discovery of any of the following events or conditions involving spent fuel, HLW, or reactor-related GTCC waste:

(1) An action taken in an emergency that departs from a condition or a technical specification contained in a license or certificate of compliance issued under this part when the action is immediately needed to protect the public health and safety, and no action consistent with license or certificate of compliance conditions or technical specifications that can provide adequate or equivalent protection is immediately apparent.

(2) Any event or situation related to the health and safety of the public or onsite personnel, or protection of the environment, for which a news release is planned or notification to other Government agencies has been or will be made. Such an event may include an onsite fatality or inadvertent release of radioactively contaminated materials.

(c) *Non-emergency notifications:* Eight-hour reports. Each licensee shall notify the NRC as soon as possible but not later than eight hours after the discovery of any of the following events or conditions involving spent fuel, HLW, or reactor-related GTCC waste:

(1) A defect in any spent fuel, HLW, or reactor-related GTCC waste storage structure, system, or component that is important to safety.

(2) A significant reduction in the effectiveness of any spent fuel, HLW, or reactor-related GTCC waste storage confinement system during use.

(3) Any event requiring the transport of a radioactively contaminated person to an offsite medical facility for treatment.

(d) *Non-emergency notifications:* 24-hour reports. Each licensee shall notify the NRC within 24 hours after the discovery of any of the following events involving spent fuel, HLW, or reactor-related GTCC waste:

(1) An event in which important to safety equipment is disabled or fails to function as designed when:

(i) The equipment is required by regulation, license condition, or certificate of compliance to be available and operable to prevent releases that could exceed regulatory limits, to prevent exposures to radiation or radioactive materials that could exceed regulatory limits, or to mitigate the consequences of an accident; and

(ii) No redundant equipment was available and operable to perform the required safety function.

(2) For notifications made under this paragraph, the licensee may delay the notification to the NRC if the end of the 24-hour period occurs outside of the NRC's normal working day (*i.e.,* 7:30 a.m. to 5:00 p.m. Eastern time), on a weekend, or a Federal holiday. In these cases, the licensee shall notify the NRC before 8:00 a.m. Eastern time on the next working day.

(e) *Initial notification:* Reports made by licensees in response to the requirements of this section must be made as follows:

(1) Licensees shall make reports required by paragraphs (a), (b), (c), or (d) of this section by telephone to the NRC Headquarters Operations Center at the numbers specified in appendix A to part 73 of this chapter.[1]

(2) When making a report under paragraphs (a), (b), (c), or (d) of this section, the licensee shall identify:

(i) The Emergency Class declared; or

(ii) Paragraph (b), ''four-hour reports,'' paragraph (c), ''eight-hour reports,'' or paragraph (d), ''24-hour reports,'' as the paragraph of this section requiring notification of the non-emergency event.

(3) To the extent that the information is available at the time of notification, the information provided in these reports must include:

(i) The caller's name and call back telephone number;

(ii) A description of the event, including date and time;

(iii) The exact location of the event;

(iv) The quantities and chemical and physical forms of the spent fuel, HLW, or reactor-related GTCC waste involved in the event; and

(v) Any personnel radiation exposure data.

(f) *Follow-up notification:* With respect to the telephone notifications made under paragraphs (a), (b), (c) or (d) of this section, in addition to making the required initial notification, each licensee shall during the course of the event:

(1) Immediately report any further degradation in the level of safety of the ISFSI or MRS or other worsening conditions, including those that require the declaration of any of the Emergency Classes, if such a declaration has not been previously made; or any change from one Emergency Class to another; or a termination of the Emergency Class.

(2) Immediately report the results of ensuing evaluations or assessments of

[1] Those licensees with an available Emergency Notification System (ENS) shall use the ENS to notify the NRC Headquarters Operations Center.

ISFSI or MRS conditions; the effectiveness of response or protective measures taken; and information related to ISFSI or MRS behavior that is not understood.

(3) Maintain an open, continuous communication channel with the NRC Headquarters Operations Center upon request by the NRC.

(g) *Preparation and submission of written reports.* Each licensee who makes an initial notification required by paragraphs (b)(1), (c)(1), (c)(2), or (d)(1) of this section shall also submit a written follow-up report to the Commission within 60 days of the initial notification. Written reports prepared pursuant to other regulations may be submitted to fulfill this requirement if the reports contain all the necessary information and the appropriate distribution is made. These written reports must be of sufficient quality to permit legible reproduction and optical scanning and must be submitted to the NRC in accordance with §72.4. These reports must include the following information:

(1) A brief abstract describing the major occurrences during the event, including all component or system failures that contributed to the event and significant corrective action taken or planned to prevent recurrence;

(2) A clear, specific, narrative description of the event that occurred so that knowledgeable readers conversant with the design of an ISFSI or MRS, but not familiar with the details of a particular facility, can understand the complete event. The narrative description must include the following specific information as appropriate for the particular event:

(i) The ISFSI or MRS operating conditions before the event;

(ii) The status of structures, components, or systems that were inoperable at the start of the event and that contributed to the event;

(iii) The dates and approximate times of occurrences;

(iv) The cause of each component or system failure or personnel error, if known;

(v) The failure mode, mechanism, and effect of each failed component, if known;

(vi) A list of systems or secondary functions that were also affected for failures of components with multiple functions;

(vii) For wet spent fuel storage systems only, after the failure that rendered a train of a safety system inoperable, an estimate of the elapsed time from the discovery of the failure until the train was returned to service;

(viii) The method of discovery of each component or system failure or procedural error;

(ix) For each human performance related root cause, the licensee shall discuss the cause(s) and circumstances;

(x) For wet spent fuel storage systems only, any automatically and manually initiated safety system responses;

(xi) The manufacturer and model number (or other identification) of each component that failed during the event; and

(xii) The quantities and chemical and physical forms of the spent fuel, HLW, or reactor-related GTCC waste involved in the event;

(3) An assessment of the safety consequences and implications of the event. This assessment must include the availability of other systems or components that could have performed the same function as the components and systems that failed during the event;

(4) A description of any corrective actions planned as a result of the event, including those to reduce the probability of similar events occurring in the future;

(5) Reference to any previous similar events at the same facility that are known to the licensee;

(6) The name and telephone number of a person within the licensee's organization who is knowledgeable about the event and can provide additional information concerning the event and the facility's characteristics; and

(7) The extent of exposure of individuals to radiation or to radioactive materials without identification of individuals by name.

(h) *Supplemental information:* The Commission may require the licensee to submit specific additional information beyond that required by paragraph (g) of this section if the Commission

finds that supplemental material is necessary for complete understanding of an unusually complex or significant event. These requests for supplemental information will be made in writing, and the licensee shall submit, as specified in § 72.4, the requested information as a supplement to the initial written report.

(i) *Applicability:* The requirements of this section apply to:

(1)(i) Licensees issued a specific license under § 72.40; and

(ii) Licensees issued a general license under § 72.210, after the licensee has placed spent fuel on the ISFSI storage pad (if the ISFSI is located inside the collocated protected area, for a reactor licensed under part 50 of this chapter) or after the licensee has transferred spent fuel waste outside the reactor licensee's protected area to the ISFSI storage pad (if the ISFSI is located outside the collocated protected area, for a reactor licensed under part 50 of this chapter).

(2) Those non-emergency events specified in paragraphs (b), (c), and (d) of this section that occurred within 3 years of the date of discovery.

[68 FR 33615, June 5, 2003, as amended at 85 FR 65664, Oct. 16, 2020]

§ 72.76 Material status reports.

(a) Except as provided in paragraph (b) of this section, each licensee shall complete in computer-readable format and submit to the Commission a Material Balance Report and a Physical Inventory Listing Report as specified in the instructions in NUREG/BR–0007 and NMMSS Report D–24 ''Personal Computer Data Input for NRC Licensees.'' Copies of these instructions may be obtained either by writing to the U.S. Nuclear Regulatory Commission, Division of Fuel Management, Washington, DC 20555–0001, or by e-mail to *RidsNmssFcss@nrc.gov*. These reports, as specified by § 74.13 or 40.64 of this chapter, provide information concerning the special nuclear material and/or source material possessed, received, transferred, disposed of, or lost by the licensee. Each report must be submitted within 60 days of the beginning of the physical inventory required by § 72.72(b). The Commission may, when good cause is shown, permit a licensee to submit Material Balance Reports and Physical Inventory Listing Reports at other times. Each licensee required to report material balance and inventory information as described in this part, shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by NRC. The Commission's copy of this report must be submitted to the address specified in the instructions. These prescribed, computer-readable forms replace the DOE/NRC Forms 742 and 742C previously submitted in paper form.

(b) Any licensee who is required to submit routine material status reports pursuant to § 75.35 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit such reports only as provided in that section instead of as provided in paragraph (a) of this section.

[53 FR 31658, Aug. 19, 1988, as amended at 59 FR 35620, July 13, 1994; 66 FR 51841, Oct. 11, 2001; 67 FR 78143, Dec. 23, 2002; 68 FR 58819, Oct. 10, 2003; 73 FR 32462, June 9, 2008; 79 FR 75741, Dec. 19, 2014; 84 FR 65646, Nov. 29, 2019]

§ 72.78 Nuclear material transaction reports.

(a) Except as provided in paragraph (b) of this section, whenever the licensee transfers or receives or adjusts the inventory, in any manner, of special nuclear material as specified by § 74.15 and/or source material as specified by § 40.64 of this chapter, the licensee shall complete in computer-readable format a Nuclear Material Transaction Report as specified in the instructions in NUREG/BR–0006 and NMMSS Report D–24, ''Personal Computer Data Input for NRC Licensees.'' Copies of these instructions may be obtained either by writing to the U.S. Nuclear Regulatory Commission, Division of Fuel Management, Washington, DC 20555–0001, or by e-mail to *RidsNmssFcss@nrc.gov*. Each licensee who transfers the material shall submit a Nuclear Material Transaction Report in computer-readable format as specified in the instructions no later than the close of business the next

working day. Each licensee who receives the material shall submit a Nuclear Material Transaction Report in computer-readable format in accordance with instructions within ten (10) days after the material is received. Each ISFSI licensee who receives spent fuel from a foreign source shall complete both the supplier's and the receiver's portion of the Nuclear Material Transaction Report, verify the identity of the spent fuel, and indicate the results on the receiver's portion of the form. These prescribed computer-readable forms replace the DOE/NRC Form 741 which have been previously submitted in paper form.

(b) Any licensee who is required to submit Nuclear Material Transactions Reports pursuant to § 75.34 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit the reports only as provided in that section instead of as provided in paragraph (a) of this section.

[59 FR 35621, July 13, 1994, as amended at 66 FR 51841, Oct. 11, 2001; 68 FR 58819, Oct. 10, 2003; 73 FR 32463, June 9, 2008; 79 FR 75741, Dec. 19, 2014; 84 FR 65646, Nov. 29, 2019]

§ 72.79 Facility information and verification.

(a) In response to a written request by the Commission, each applicant for a certificate of compliance or license and each recipient of a certificate of compliance or specific or general license shall submit facility information, as described in § 75.10 of this chapter, on IAEA Design Information Questionnaire forms and site information on DOC/NRC Form AP–A and associated forms;

(b) Shall submit location information described in § 75.11 of this chapter on DOC/NRC Form AP–1 and associated forms; and

(c) Shall permit verification thereof by the International Atomic Energy Agency (IAEA) and take other action as necessary to implement the US/IAEA Safeguards Agreement, as described in part 75 of this chapter.

[73 FR 78607, Dec. 23, 2008, as amended at 85 FR 65663, Oct. 16, 2020]

§ 72.80 Other records and reports.

(a) Each licensee shall maintain any records and make any reports that may be required by the conditions of the license or by the rules, regulations, and orders of the Commission in effectuating the purposes of the Act.

(b) Each licensee shall furnish a copy of its annual financial report, including the certified financial statements, to the Commission. However, licensees who submit a Form 10–Q with the Securities and Exchange Commission or a Form 1 with the Federal Energy Regulatory Commission, need not submit the annual financial report or a certified financial statement under this paragraph.

(c) Records that are required by the regulations in this part or by the license conditions must be maintained for the period specified by the appropriate regulation or license condition. If a retention period is not otherwise specified, the above records must be maintained until the Commission terminates the license.

(d) Any record that must be maintained pursuant to this part may be either the original or a reproduced copy by any state of the art method provided that any reproduced copy is duly authenticated by authorized personnel and is capable of producing a clear and legible copy after storage for the period specified by Commission regulations.

(e) Before license termination, the licensee shall forward records required by § 20.2103(b)(4), of this chapter, and § 72.30(f) to the appropriate NRC Regional Office.

(f) If licensed activities are transferred or assigned in accordance with § 72.44(b)(1), the licensee shall transfer the records required by § 20.2103(b)(4), of this chapter, and § 72.30(f) to the new licensee and the new licensee will be responsible for maintaining these records until the license is terminated.

(g) Each specific licensee shall notify the Commission, in accordance with § 72.4, of its readiness to begin operation at least 90 days prior to the first storage of spent fuel, high-level waste,

or reactor-related GTCC waste in an ISFSI or an MRS.

[53 FR 31658, Aug. 19, 1988, as amended at 61 FR 24675, May 16, 1996; 64 FR 53616, Oct. 4, 1999; 66 FR 51841, Oct. 11, 2001; 71 FR 29247, May 22, 2006; 76 FR 35574, June 17, 2011]

§ 72.82 Inspections and tests.

(a) Each licensee under this part shall permit duly authorized representatives of the Commission to inspect its records, premises, and activities and of spent fuel, high-level radioactive waste, or reactor-related GTCC waste in its possession related to the specific license as may be necessary to meet the objectives of the Act, including section 105 of the Act.

(b) Each licensee under this part shall make available to the Commission for inspection, upon reasonable notice, records kept by the licensee pertaining to its receipt, possession, packaging, or transfer of spent fuel, high-level radioactive waste, or reactor-related GTCC waste.

(c)(1) Each licensee under this part shall upon request by the Director, Office of Nuclear Material Safety and Safeguards or the appropriate NRC Regional Administrator provide rent-free office space for the exclusive use of the Commission inspection personnel. Heat, air conditioning, light, electrical outlets and janitorial services shall be furnished by each licensee. The office shall be convenient to and have full access to the installation and shall provide the inspector both visual and acoustic privacy.

(2) For a site with a single storage installation the space provided shall be adequate to accommodate a full-time inspector, a part-time secretary, and transient NRC personnel and will be generally commensurate with other office facilities at the site. A space of 250 sq. ft., either within the site's office complex or in an office trailer, or other onsite space, is suggested as a guide. For sites containing multiple facilities, additional space may be requested to accommodate additional full-time inspectors. The office space that is provided shall be subject to the approval of the Director, Office of Nuclear Material Safety and Safeguards or the appropriate NRC Regional Administrator. All furniture, supplies and Commission equipment will be furnished by the Commission.

(3) Each licensee under this part shall afford any NRC resident inspector assigned to that site, or other NRC inspectors identified by the Regional Administrator as likely to inspect the installation, immediate unfettered access, equivalent to access provided regular plant employees, following proper identification and compliance with applicable access control measures for security, radiological protection, and personal safety.

(d) Each licensee shall perform, or permit the Commission to perform, such tests as the Commission deems appropriate or necessary for the administrator of the regulations in this part.

[53 FR 31658, Aug. 19, 1988, as amended at 64 FR 17512, Apr. 12, 1999; 66 FR 51842, Oct. 11, 2001]

§ 72.84 Violations.

(a) The Commission may obtain an injunction or other court order to prevent a violation of the provisions of—

(1) The Atomic Energy Act of 1954, as amended;

(2) Title II of the Energy Reorganization Act of 1974, as amended; or

(3) A regulation or order issued pursuant to those Acts.

(b) The Commission may obtain a court order for the payment of a civil penalty imposed under section 234 of the Atomic Energy Act:

(1) For violations of—

(i) Sections 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Atomic Energy Act of 1954, as amended;

(ii) Section 206 of the Energy Reorganization Act;

(iii) Any rule, regulation, or order issued pursuant to the sections specified in paragraph (b)(1)(i) of this section;

(iv) Any term, condition, or limitation of any license issued under the sections specified in paragraph (b)(1)(i) of this section.

(2) For any violation for which a license may be revoked under Section 186 of the Atomic Energy Act of 1954, as amended.

[57 FR 55078, Nov. 24, 1992]

§ 72.86 Criminal penalties.

(a) Section 223 of the Atomic Energy Act of 1954, as amended, provides for criminal sanctions for willful violation of, attempted violation of, or conspiracy to violate, any regulation issued under sections 161b, 161i, or 161o of the Act. For purposes of section 223, all the regulations in part 72 are issued under one or more of sections 161b, 161i, or 161o, except for the sections listed in paragraph (b) of this section.

(b) The regulations in Part 72 that are not issued under sections 161b, 161i, or 161o for the purposes of section 223 are as follows: §§72.1, 72.2, 72.3, 72.4, 72.5, 72.7, 72.8, 72.9, 72.13, 72.16, 72.18, 72.20, 72.22, 72.24, 72.26, 72.28, 72.32, 72.34, 72.40, 72.46, 72.56, 72.58, 72.60, 72.62, 72.84, 72.86, 72.90, 72.96, 72.108, 72.120, 72.122, 72.124, 72.126, 72.128, 72.130, 72.182, 72.194, 72.200, 72.202, 72.204, 72.206, 72.210, 72.214, 72.220, 72.230, 72.238, and 72.240.

[57 FR 55078, Nov. 24, 1992, as amended at 59 FR 36040, July 13, 1994; 64 FR 53616, Oct. 4, 1999; 64 FR 56122, Oct. 15, 1999; 65 FR 50617, Aug. 21, 2000]

Subpart E—Siting Evaluation Factors

§ 72.90 General considerations.

(a) Site characteristics that may directly affect the safety or environmental impact of the ISFSI or MRS must be investigated and assessed.

(b) Proposed sites for the ISFSI or MRS must be examined with respect to the frequency and the severity of external natural and man-induced events that could affect the safe operation of the ISFSI or MRS.

(c) Design basis external events must be determined for each combination of proposed site and proposed ISFSI or MRS design.

(d) Proposed sites with design basis external events for which adequate protection cannot be provided through ISFSI or MRS design shall be deemed unsuitable for the location of the ISFSI or MRS.

(e) Pursuant to subpart A of part 51 of this chapter for each proposed site for an ISFSI and pursuant to sections 141 or 148 of NWPA, as appropriate (96 Stat. 2241, 101 Stat. 1330–235, 42 U.S.C. 10161, 10168) for each proposed site for an MRS, the potential for radiological and other environmental impacts on the region must be evaluated with due consideration of the characteristics of the population, including its distribution, and of the regional environs, including its historical and esthetic values.

(f) The facility must be sited so as to avoid to the extent possible the long-term and short-term adverse impacts associated with the occupancy and modification of floodplains.

§ 72.92 Design basis external natural events.

(a) Natural phenomena that may exist or that can occur in the region of a proposed site must be identified and assessed according to their potential effects on the safe operation of the ISFSI or MRS. The important natural phenomena that affect the ISFSI or MRS design must be identified.

(b) Records of the occurrence and severity of those important natural phenomena must be collected for the region and evaluated for reliability, accuracy, and completeness. The applicant shall retain these records until the license is issued.

(c) Appropriate methods must be adopted for evaluating the design basis external natural events based on the characteristics of the region and the current state of knowledge about such events.

§ 72.94 Design basis external man-induced events.

(a) The region must be examined for both past and present man-made facilities and activities that might endanger the proposed ISFSI or MRS. The important potential man-induced events that affect the ISFSI or MRS design must be identified.

(b) Information concerning the potential occurrence and severity of such events must be collected and evaluated for reliability, accuracy, and completeness.

(c) Appropriate methods must be adopted for evaluating the design basis external man-induced events, based on the current state of knowledge about such events.

§ 72.96 Siting limitations.

(a) An ISFSI which is owned and operated by DOE must not be located at any site within which there is a candidate site for a HLW repository. This limitation shall apply until such time as DOE decides that such candidate site is no longer a candidate site under consideration for development as a HLW repository.

(b) An MRS must not be sited in any State in which there is located any site approved for site characterization for a HLW repository. This limitation shall apply until such time as DOE decides that the candidate site is no longer a candidate site under consideration for development as a repository. This limitation shall continue to apply to any site selected for construction as a repository.

(c) If an MRS is located, or is planned to be located, within 50 miles of the first HLW repository, any Commission decision approving the first HLW repository application must limit the quantity of spent fuel or high-level radioactive waste that may be stored. This limitation shall prohibit the storage of a quantity of spent fuel containing in excess of 70,000 metric tons of heavy metal, or a quantity of solidified high-level radioactive waste resulting from the reprocessing of such a quantity of spent fuel, in both the repository and the MRS until such time as a second repository is in operation.

(d) An MRS authorized by section 142(b) of NWPA (101 Stat. 1330–232, 42 U.S.C. 10162(b)) may not be constructed in the State of Nevada. The quantity of spent nuclear fuel or high-level radioactive waste that may be stored at an MRS authorized by section 142(b) of NWPA shall be subject to the limitations in § 72.44(g) of this part instead of the limitations in paragraph (c) of this section.

§ 72.98 Identifying regions around an ISFSI or MRS site.

(a) The regional extent of external phenomena, man-made or natural, that are used as a basis for the design of the ISFSI or MRS must be identified.

(b) The potential regional impact due to the construction, operation or decommissioning of the ISFSI or MRS must be identified. The extent of regional impacts must be determined on the basis of potential measurable effects on the population or the environment from ISFSI or MRS activities.

(c) Those regions identified pursuant to paragraphs (a) and (b) of this section must be investigated as appropriate with respect to:

(1) The present and future character and the distribution of population,

(2) Consideration of present and projected future uses of land and water within the region, and

(3) Any special characteristics that may influence the potential consequences of a release of radioactive material during the operational lifetime of the ISFSI or MRS.

§ 72.100 Defining potential effects of the ISFSI or MRS on the region.

(a) The proposed site must be evaluated with respect to the effects on populations in the region resulting from the release of radioactive materials under normal and accident conditions during operation and decommissioning of the ISFSI or MRS; in this evaluation both usual and unusual regional and site characteristics shall be taken into account.

(b) Each site must be evaluated with respect to the effects on the regional environment resulting from construction, operation, and decommissioning for the ISFSI or MRS; in this evaluation both usual and unusual regional and site characteristics must be taken into account.

§ 72.102 Geological and seismological characteristics for applications before October 16, 2003 and applications for other than dry cask modes of storage.

(a)(1) East of the Rocky Mountain Front (east of approximately 104° west longitude), except in areas of known seismic activity including but not limited to the regions around New Madrid, MO, Charleston, SC, and Attica, NY, sites will be acceptable if the results from onsite foundation and geological investigation, literature review, and regional geological reconnaissance show no unstable geological characteristics, soil stability problems, or potential for vibratory ground motion at the site in excess of an appropriate response spectrum anchored at 0.2 g.

(2) For those sites that have been evaluated under paragraph (a)(1) of this section that are east of the Rocky Mountain Front, and that are not in areas of known seismic activity, a standardized design earthquake (DE) described by an appropriate response spectrum anchored at 0.25 g may be used. Alternatively, a site-specific DE may be determined by using the criteria and level of investigations required by appendix A of part 100 of this chapter.

(b) West of the Rocky Mountain Front (west of approximately 104° west longitude), and in other areas of known potential seismic activity, seismicity will be evaluated by the techniques of appendix A of part 100 of this chapter. Sites that lie within the range of strong near-field ground motion from historical earthquakes on large capable faults should be avoided.

(c) Sites other than bedrock sites must be evaluated for their liquefaction potential or other soil instability due to vibratory ground motion.

(d) Site-specific investigations and laboratory analyses must show that soil conditions are adequate for the proposed foundation loading.

(e) In an evaluation of alternative sites, those which require a minimum of engineered provisions to correct site deficiencies are preferred. Sites with unstable geologic characteristics should be avoided.

(f) The design earthquake (DE) for use in the design of structures must be determined as follows:

(1) For sites that have been evaluated under the criteria of appendix A of 10 CFR part 100, the DE must be equivalent to the safe shutdown earthquake (SSE) for a nuclear power plant.

(2) Regardless of the results of the investigations anywhere in the continental U.S., the DE must have a value for the horizontal ground motion of no less than 0.10 g with the appropriate response spectrum.

§ 72.103 Geological and seismological characteristics for applications for dry cask modes of storage on or after October 16, 2003.

(a)(1) East of the Rocky Mountain Front (east of approximately 104° west longitude), except in areas of known seismic activity including but not limited to the regions around New Madrid, MO; Charleston, SC; and Attica, NY; sites will be acceptable if the results from onsite foundation and geological investigation, literature review, and regional geological reconnaissance show no unstable geological characteristics, soil stability problems, or potential for vibratory ground motion at the site in excess of an appropriate response spectrum anchored at 0.2 g.

(2) For those sites that have been evaluated under paragraph (a)(1) of this section that are east of the Rocky Mountain Front, and that are not in areas of known seismic activity, a standardized design earthquake ground motion (DE) described by an appropriate response spectrum anchored at 0.25 g may be used. Alternatively, a site-specific DE may be determined by using the criteria and level of investigations required by paragraph (f) of this section. For a site with a co-located nuclear power plant (NPP), the existing geological and seismological design criteria for the NPP may be used. If the existing design criteria for the NPP is used and the site has multiple NPPs, then the criteria for the most recent NPP must be used.

(b) West of the Rocky Mountain Front (west of approximately 104° west longitude), and in other areas of known potential seismic activity east of the Rocky Mountain Front, seismicity must be evaluated by the techniques presented in paragraph (f) of this section. If an ISFSI or MRS is located on an NPP site, the existing geological and seismological design criteria for the NPP may be used. If the existing design criteria for the NPP is used and the site has multiple NPPs, then the criteria for the most recent NPP must be used.

(c) Sites other than bedrock sites must be evaluated for their liquefaction potential or other soil instability due to vibratory ground motion.

(d) Site-specific investigations and laboratory analyses must show that soil conditions are adequate for the proposed foundation loading.

(e) In an evaluation of alternative sites, those which require a minimum of engineered provisions to correct site deficiencies are preferred. Sites with

unstable geologic characteristics should be avoided.

(f) Except as provided in paragraphs (a)(2) and (b) of this section, the DE for use in the design of structures, systems, and components must be determined as follows:

(1) *Geological, seismological, and engineering characteristics.* The geological, seismological, and engineering characteristics of a site and its environs must be investigated in sufficient scope and detail to permit an adequate evaluation of the proposed site, to provide sufficient information to support evaluations performed to arrive at estimates of the DE, and to permit adequate engineering solutions to actual or potential geologic and seismic effects at the proposed site. The size of the region to be investigated and the type of data pertinent to the investigations must be determined based on the nature of the region surrounding the proposed site. Data on the vibratory ground motion, tectonic surface deformation, nontectonic deformation, earthquake recurrence rates, fault geometry and slip rates, site foundation material, and seismically induced floods and water waves must be obtained by reviewing pertinent literature and carrying out field investigations. However, each applicant shall investigate all geologic and seismic factors (for example, volcanic activity) that may affect the design and operation of the proposed ISFSI or MRS facility irrespective of whether these factors are explicitly included in this section.

(2) *Geologic and seismic siting factors.* The geologic and seismic siting factors considered for design must include a determination of the DE for the site, the potential for surface tectonic and nontectonic deformations, the design bases for seismically induced floods and water waves, and other design conditions as stated in paragraph (f)(2)(iv) of this section.

(i) Determination of the Design Earthquake Ground Motion (DE). The DE for the site is characterized by both horizontal and vertical free-field ground motion response spectra at the free ground surface. In view of the limited data available on vibratory ground motions for strong earthquakes, it usually will be appropriate that the design response spectra be smoothed spectra. The DE for the site is determined considering the results of the investigations required by paragraph (f)(1) of this section. Uncertainties are inherent in these estimates and must be addressed through an appropriate analysis, such as a probabilistic seismic hazard analysis (PSHA) or suitable sensitivity analyses.

(ii) Determination of the potential for surface tectonic and nontectonic deformations. Sufficient geological, seismological, and geophysical data must be provided to clearly establish if there is a potential for surface deformation.

(iii) Determination of design bases for seismically induced floods and water waves. The size of seismically induced floods and water waves that could affect a site from either locally or distantly generated seismic activity must be determined.

(iv) Determination of siting factors for other design conditions. Siting factors for other design conditions that must be evaluated include soil and rock stability, liquefaction potential, and natural and artificial slope stability. Each applicant shall evaluate all siting factors and potential causes of failure, such as, the physical properties of the materials underlying the site, ground disruption, and the effects of vibratory ground motion that may affect the design and operation of the proposed ISFSI or MRS.

(3) Regardless of the results of the investigations anywhere in the continental U.S., the DE must have a value for the horizontal ground motion of no less than 0.10 *g* with the appropriate response spectrum.

[68 FR 54159, Sept. 16, 2003]

§ 72.104 Criteria for radioactive materials in effluents and direct radiation from an ISFSI or MRS.

(a) During normal operations and anticipated occurrences, the annual dose equivalent to any real individual who is located beyond the controlled area must not exceed 0.25 mSv (25 mrem) to the whole body, 0.75 mSv (75 mrem) to the thyroid and 0.25 mSv (25 mrem) to any other critical organ as a result of exposure to:

(1) Planned discharges of radioactive materials, radon and its decay products excepted, to the general environment,

(2) Direct radiation from ISFSI or MRS operations, and

(3) Any other radiation from uranium fuel cycle operations within the region.

(b) Operational restrictions must be established to meet as low as is reasonably achievable objectives for radioactive materials in effluents and direct radiation levels associated with ISFSI or MRS operations.

(c) Operational limits must be established for radioactive materials in effluents and direct radiation levels associated with ISFSI or MRS operations to meet the limits given in paragraph (a) of this section.

[53 FR 31658, Aug. 19, 1988, as amended at 63 FR 54562, Oct. 13, 1998]

§ 72.106 Controlled area of an ISFSI or MRS.

(a) For each ISFSI or MRS site, a controlled area must be established.

(b) Any individual located on or beyond the nearest boundary of the controlled area may not receive from any design basis accident the more limiting of a total effective dose equivalent of 0.05 Sv (5 rem), or the sum of the deep-dose equivalent and the committed dose equivalent to any individual organ or tissue (other than the lens of the eye) of 0.5 Sv (50 rem). The lens dose equivalent may not exceed 0.15 Sv (15 rem) and the shallow dose equivalent to skin or any extremity may not exceed 0.5 Sv (50 rem). The minimum distance from the spent fuel, high-level radioactive waste, or reactor-related GTCC waste handling and storage facilities to the nearest boundary of the controlled area must be at least 100 meters.

(c) The controlled area may be traversed by a highway, railroad or waterway, so long as appropriate and effective arrangements are made to control traffic and to protect public health and safety.

[53 FR 31658, Aug. 19, 1988, as amended at 63 FR 54562, Oct. 13, 1998; 66 FR 51842, Oct. 11, 2001]

§ 72.108 Spent fuel, high-level radioactive waste, or reactor-related greater than Class C waste transportation.

The proposed ISFSI or MRS must be evaluated with respect to the potential impact on the environment of the transportation of spent fuel, high-level radioactive waste, or reactor-related GTCC waste within the region.

[66 FR 51842, Oct. 11, 2001]

Subpart F—General Design Criteria

§ 72.120 General considerations.

(a) As required by §72.24, an application to store spent fuel or reactor-related GTCC waste in an ISFSI or to store spent fuel, high-level radioactive waste, or reactor-related GTCC waste in an MRS must include the design criteria for the proposed storage installation. These design criteria establish the design, fabrication, construction, testing, maintenance and performance requirements for structures, systems, and components important to safety as defined in §72.3. The general design criteria identified in this subpart establish minimum requirements for the design criteria for an ISFSI or an MRS. Any omissions in these general design criteria do not relieve the applicant from the requirement of providing the necessary safety features in the design of the ISFSI or MRS.

(b) The ISFSI must be designed to store spent fuel and/or solid reactor-related GTCC waste.

(1) Reactor-related GTCC waste may not be stored in a cask that also contains spent fuel. This restriction does not include radioactive materials that are associated with fuel assemblies (e.g., control rod blades or assemblies, thimble plugs, burnable poison rod assemblies, or fuel channels);

(2) Liquid reactor-related GTCC wastes may not be received or stored in an ISFSI; and

(3) If the ISFSI is a water-pool type facility, the reactor-related GTCC waste must be in a durable solid form with demonstrable leach resistance.

(c) The MRS must be designed to store spent fuel, solid high-level radioactive waste, and/or solid reactor-related GTCC waste.

(1) Reactor-related GTCC waste may not be stored in a cask that also contains spent fuel. This restriction does not include radioactive materials associated with fuel assemblies (e.g., control rod blades or assemblies, thimble plugs, burnable poison rod assemblies, or fuel channels);

(2) Liquid high-level radioactive wastes or liquid reactor-related GTCC wastes may not be received or stored in an MRS; and

(3) If the MRS is a water-pool type facility, the high-level waste and reactor-related GTCC waste must be in a durable solid form with demonstrable leach resistance.

(d) The ISFSI or MRS must be designed, made of materials, and constructed to ensure that there will be no significant chemical, galvanic, or other reactions between or among the storage system components, spent fuel, reactor-related GTCC waste, and/or high level waste including possible reaction with water during wet loading and unloading operations or during storage in a water-pool type ISFSI or MRS. The behavior of materials under irradiation and thermal conditions must be taken into account.

(e) The NRC may authorize exceptions, on a case-by-case basis, to the restrictions in paragraphs (b) and (c) of this section regarding the commingling of spent fuel and reactor-related GTCC waste in the same cask.

[66 FR 51842, Oct. 11, 2001]

§ 72.122 Overall requirements.

(a) *Quality Standards.* Structures, systems, and components important to safety must be designed, fabricated, erected, and tested to quality standards commensurate with the importance to safety of the function to be performed.

(b) *Protection against environmental conditions and natural phenomena.* (1) Structures, systems, and components important to safety must be designed to accommodate the effects of, and to be compatible with, site characteristics and environmental conditions associated with normal operation, maintenance, and testing of the ISFSI or MRS and to withstand postulated accidents.

(2)(i) Structures, systems, and components important to safety must be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, lightning, hurricanes, floods, tsunami, and seiches, without impairing their capability to perform their intended design functions. The design bases for these structures, systems, and components must reflect:

(A) Appropriate consideration of the most severe of the natural phenomena reported for the site and surrounding area, with appropriate margins to take into account the limitations of the data and the period of time in which the data have accumulated, and

(B) Appropriate combinations of the effects of normal and accident conditions and the effects of natural phenomena.

(ii) The ISFSI or MRS also should be designed to prevent massive collapse of building structures or the dropping of heavy objects as a result of building structural failure on the spent fuel, high-level radioactive waste, or reactor-related GTCC waste or on to structures, systems, and components important to safety.

(3) Capability must be provided for determining the intensity of natural phenomena that may occur for comparison with design bases of structures, systems, and components important to safety.

(4) If the ISFSI or MRS is located over an aquifer which is a major water resource, measures must be taken to preclude the transport of radioactive materials to the environment through this potential pathway.

(c) *Protection against fires and explosions.* Structures, systems, and components important to safety must be designed and located so that they can continue to perform their safety functions effectively under credible fire and explosion exposure conditions. Noncombustible and heat-resistant materials must be used wherever practical throughout the ISFSI or MRS, particularly in locations vital to the control of radioactive materials and to the

maintenance of safety control functions. Explosion and fire detection, alarm, and suppression systems shall be designed and provided with sufficient capacity and capability to minimize the adverse effects of fires and explosions on structures, systems, and components important to safety. The design of the ISFSI or MRS must include provisions to protect against adverse effects that might result from either the operation or the failure of the fire suppression system.

(d) *Sharing of structures, systems, and components.* Structures, systems, and components important to safety must not be shared between an ISFSI or MRS and other facilities unless it is shown that such sharing will not impair the capability of either facility to perform its safety functions, including the ability to return to a safe condition in the event of an accident.

(e) *Proximity of sites.* An ISFSI or MRS located near other nuclear facilities must be designed and operated to ensure that the cumulative effects of their combined operations will not constitute an unreasonable risk to the health and safety of the public.

(f) *Testing and maintenance of systems and components.* Systems and components that are important to safety must be designed to permit inspection, maintenance, and testing.

(g) *Emergency capability.* Structures, systems, and components important to safety must be designed for emergencies. The design must provide for accessibility to the equipment of onsite and available offsite emergency facilities and services such as hospitals, fire and police departments, ambulance service, and other emergency agencies.

(h) *Confinement barriers and systems.* (1) The spent fuel cladding must be protected during storage against degradation that leads to gross ruptures or the fuel must be otherwise confined such that degradation of the fuel during storage will not pose operational safety problems with respect to its removal from storage. This may be accomplished by canning of consolidated fuel rods or unconsolidated assemblies or other means as appropriate.

(2) For underwater storage of spent fuel, high-level radioactive waste, or reactor-related GTCC waste in which the pool water serves as a shield and a confinement medium for radioactive materials, systems for maintaining water purity and the pool water level must be designed so that any abnormal operations or failure in those systems from any cause will not cause the water level to fall below safe limits. The design must preclude installations of drains, permanently connected systems, and other features that could, by abnormal operations or failure, cause a significant loss of water. Pool water level equipment must be provided to alarm in a continuously manned location if the water level in the storage pools falls below a predetermined level.

(3) Ventilation systems and off-gas systems must be provided where necessary to ensure the confinement of airborne radioactive particulate materials during normal or off-normal conditions.

(4) Storage confinement systems must have the capability for continuous monitoring in a manner such that the licensee will be able to determine when corrective action needs to be taken to maintain safe storage conditions. For dry spent fuel storage, periodic monitoring is sufficient provided that periodic monitoring is consistent with the dry spent fuel storage cask design requirements. The monitoring period must be based upon the spent fuel storage cask design requirements.

(5) The high-level radioactive waste and reactor-related GTCC waste must be packaged in a manner that allows handling and retrievability without the release of radioactive materials to the environment or radiation exposures in excess of part 20 limits. The package must be designed to confine the high-level radioactive waste for the duration of the license.

(i) *Instrumentation and control systems.* Instrumentation and control systems for wet spent fuel and reactor-related GTCC waste storage must be provided to monitor systems that are important to safety over anticipated ranges for normal operation and off-normal operation. Those instruments and control systems that must remain operational under accident conditions must be identified in the Safety Analysis Report. Instrumentation systems for dry

storage casks must be provided in accordance with cask design requirements to monitor conditions that are important to safety over anticipated ranges for normal conditions and off-normal conditions. Systems that are required under accident conditions must be identified in the Safety Analysis Report.

(j) *Control room or control area.* A control room or control area, if appropriate for the ISFSI or MRS design, must be designed to permit occupancy and actions to be taken to monitor the ISFSI or MRS safely under normal conditions, and to provide safe control of the ISFSI or MRS under off-normal or accident conditions.

(k) *Utility or other services.* (1) Each utility service system must be designed to meet emergency conditions. The design of utility services and distribution systems that are important to safety must include redundant systems to the extent necessary to maintain, with adequate capacity, the ability to perform safety functions assuming a single failure.

(2) Emergency utility services must be designed to permit testing of the functional operability and capacity, including the full operational sequence, of each system for transfer between normal and emergency supply sources; and to permit the operation of associated safety systems.

(3) Provisions must be made so that, in the event of a loss of the primary electric power source or circuit, reliable and timely emergency power will be provided to instruments, utility service systems, the central security alarm station, and operating systems, in amounts sufficient to allow safe storage conditions to be maintained and to permit continued functioning of all systems essential to safe storage.

(4) An ISFSI or MRS which is located on the site of another facility may share common utilities and services with such a facility and be physically connected with the other facility; however, the sharing of utilities and services or the physical connection must not significantly:

(i) Increase the probability or consequences of an accident or malfunction of components, structures, or systems that are important to safety; or

(ii) Reduce the margin of safety as defined in the basis for any technical specifications of either facility.

(l) *Retrievability.* Storage systems must be designed to allow ready retrieval of spent fuel, high-level radioactive waste, and reactor-related GTCC waste for further processing or disposal.

[53 FR 31658, Aug. 19, 1988, as amended at 64 FR 33184, June 22, 1999; 66 FR 51842, Oct. 11, 2001]

§ 72.124 Criteria for nuclear criticality safety.

(a) *Design for criticality safety.* Spent fuel handling, packaging, transfer, and storage systems must be designed to be maintained subcritical and to ensure that, before a nuclear criticality accident is possible, at least two unlikely, independent, and concurrent or sequential changes have occurred in the conditions essential to nuclear criticality safety. The design of handling, packaging, transfer, and storage systems must include margins of safety for the nuclear criticality parameters that are commensurate with the uncertainties in the data and methods used in calculations and demonstrate safety for the handling, packaging, transfer and storage conditions and in the nature of the immediate environment under accident conditions.

(b) *Methods of criticality control.* When practicable, the design of an ISFSI or MRS must be based on favorable geometry, permanently fixed neutron absorbing materials (poisons), or both. Where solid neutron absorbing materials are used, the design must provide for positive means of verifying their continued efficacy. For dry spent fuel storage systems, the continued efficacy may be confirmed by a demonstration or analysis before use, showing that significant degradation of the neutron absorbing materials cannot occur over the life of the facility.

(c) *Criticality monitoring.* A criticality monitoring system shall be maintained in each area where special nuclear material is handled, used, or stored which will energize clearly audible alarm signals if accidental criticality occurs. Underwater monitoring is not required when special nuclear material is handled or stored beneath water shielding.

Monitoring of dry storage areas where special nuclear material is packaged in its stored configuration under a license issued under this subpart is not required.

[53 FR 31658, Aug. 19, 1988, as amended at 64 FR 33184, June 22, 1999]

§ 72.126 Criteria for radiological protection.

(a) *Exposure control.* Radiation protection systems must be provided for all areas and operations where onsite personnel may be exposed to radiation or airborne radioactive materials. Structures, systems, and components for which operation, maintenance, and required inspections may involve occupational exposure must be designed, fabricated, located, shielded, controlled, and tested so as to control external and internal radiation exposures to personnel. The design must include means to:

(1) Prevent the accumulation of radioactive material in those systems requiring access;

(2) Decontaminate those systems to which access is required;

(3) Control access to areas of potential contamination or high radiation within the ISFSI or MRS;

(4) Measure and control contamination of areas requiring access;

(5) Minimize the time required to perform work in the vicinity of radioactive components; for example, by providing sufficient space for ease of operation and designing equipment for ease of repair and replacement; and

(6) Shield personnel from radiation exposure.

(b) *Radiological alarm systems.* Radiological alarm systems must be provided in accessible work areas as appropriate to warn operating personnel of radiation and airborne radioactive material concentrations above a given setpoint and of concentrations of radioactive material in effluents above control limits. Radiation alarm systems must be designed with provisions for calibration and testing their operability.

(c) *Effluent and direct radiation monitoring.* (1) As appropriate for the handling and storage system, effluent systems must be provided. Means for measuring the amount of radionuclides in effluents during normal operations and under accident conditions must be provided for these systems. A means of measuring the flow of the diluting medium, either air or water, must also be provided.

(2) Areas containing radioactive materials must be provided with systems for measuring the direct radiation levels in and around these areas.

(d) *Effluent control.* The ISFSI or MRS must be designed to provide means to limit to levels as low as is reasonably achievable the release of radioactive materials in effluents during normal operations; and control the release of radioactive materials under accident conditions. Analyses must be made to show that releases to the general environment during normal operations and anticipated occurrences will be within the exposure limit given in § 72.104. Analyses of design basis accidents must be made to show that releases to the general environment will be within the exposure limits given in § 72.106. Systems designed to monitor the release of radioactive materials must have means for calibration and testing their operability.

§ 72.128 Criteria for spent fuel, high-level radioactive waste, reactor-related greater than Class C waste, and other radioactive waste storage and handling.

(a) *Spent fuel, high-level radioactive waste, and reactor-related GTCC waste storage and handling systems.* Spent fuel storage, high-level radioactive waste storage, reactor-related GTCC waste storage and other systems that might contain or handle radioactive materials associated with spent fuel, high-level radioactive waste, or reactor-related GTCC waste, must be designed to ensure adequate safety under normal and accident conditions. These systems must be designed with—

(1) A capability to test and monitor components important to safety,

(2) Suitable shielding for radioactive protection under normal and accident conditions,

(3) Confinement structures and systems,

(4) A heat-removal capability having testability and reliability consistent with its importance to safety, and

(5) means to minimize the quantity of radioactive wastes generated.

(b) *Waste treatment.* Radioactive waste treatment facilities must be provided. Provisions must be made for the packing of site-generated low-level wastes in a form suitable for storage onsite awaiting transfer to disposal sites.

[53 FR 31658, Aug. 19, 1988, as amended at 66 FR 51843, Oct. 11, 2001]

§ 72.130 Criteria for decommissioning.

The ISFSI or MRS must be designed for decommissioning. Provisions must be made to facilitate decontamination of structures and equipment, minimize the quantity of radioactive wastes and contaminated equipment, and facilitate the removal of radioactive wastes and contaminated materials at the time the ISFSI or MRS is permanently decommissioned.

Subpart G—Quality Assurance

SOURCE: 64 FR 56122, Oct. 15, 1999, unless otherwise noted.

§ 72.140 Quality assurance requirements.

(a) *Purpose.* This subpart describes quality assurance requirements that apply to design, purchase, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair, modification of structures, systems, and components, and decommissioning that are important to safety. As used in this subpart, ''quality assurance'' comprises all those planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service. Quality assurance includes quality control, which comprises those quality assurance actions related to control of the physical characteristics and quality of the material or component to predetermined requirements. The certificate holder and applicant for a CoC are responsible for the quality assurance requirements as they apply to the design, fabrication, and testing of a spent fuel storage cask until possession of the spent fuel storage cask is transferred to the licensee. The licensee and the certificate holder are also simultaneously responsible for these quality assurance requirements through the oversight of contractors and subcontractors.

(b) *Establishment of program.* Each licensee, applicant for a license, certificate holder, applicant for a CoC shall establish, maintain, and execute a quality assurance program satisfying each of the applicable criteria of this subpart, and satisfying any specific provisions which are applicable to the licensee's, applicant's for a license, certificate holder's, and applicant's for a CoC activities. The licensee, applicant for a license, certificate holder, and applicant for a CoC shall execute the applicable criteria in a graded approach to an extent that is commensurate with the quality assurance requirements' importance to safety. The quality assurance program must cover the activities identified in this subpart throughout the life of the activity. For licensees, this includes activities from the site selection through decommissioning prior to termination of the license. For certificate holders, this includes activities from development of the spent fuel storage cask design through termination of the CoC.

(c) *Approval of program.* (1) Each licensee, applicant for a license, certificate holder, or applicant for a CoC shall file a description of its quality assurance program, including a discussion of which requirements of this subpart are applicable and how they will be satisfied, in accordance with § 72.4.

(2) Each licensee shall obtain Commission approval of its quality assurance program prior to receipt of spent fuel and/or reactor-related GTCC waste at the ISFSI or spent fuel, high-level radioactive waste, and/or reactor-related GTCC waste at the MRS. Each licensee or applicant for a specific license shall obtain Commission approval of its quality assurance program before commencing fabrication or testing of a spent fuel storage cask.

(3) Each certificate holder or applicant for a CoC shall obtain Commission approval of its quality assurance program before commencing fabrication or testing of a spent fuel storage cask.

(d) *Previously-approved programs.* A quality assurance program previously

approved by the Commission as satisfying the requirements of Appendix B to part 50 of this chapter, subpart H to part 71 of this chapter, or subpart G to this part will be accepted as satisfying the requirements of paragraph (b) of this section, except that a licensee, applicant for a license, certificate holder, and applicant for a CoC who is using an Appendix B or subpart H quality assurance program shall also meet the recordkeeping requirements of §72.174. In filing the description of the quality assurance program required by paragraph (c) of this section, each licensee, applicant for a license, certificate holder, and applicant for a CoC shall notify the NRC, in accordance with §72.4, of its intent to apply its previously-approved quality assurance program to ISFSI activities or spent fuel storage cask activities. The notification shall identify the previously-approved quality assurance program by date of submittal to the Commission, docket number, and date of Commission approval.

[53 FR 31658, Aug. 19, 1988, as amended at 65 FR 50617, Aug. 21, 2000; 66 FR 51843, Oct. 11, 2001]

§ 72.142 Quality assurance organization.

(a) The licensee, applicant for a license, certificate holder, and applicant for a CoC shall be responsible for the establishment and execution of the quality assurance program. The licensee and certificate holder may delegate to others, such as contractors, agents, or consultants, the work of establishing and executing the quality assurance program, but the licensee and the certificate holder shall retain responsibility for the program. The licensee, applicant for a license, certificate holder, and applicant for a CoC shall clearly establish and delineate in writing the authority and duties of persons and organizations performing activities affecting the functions of structures, systems, and components which are important to safety. These activities include performing the functions associated with attaining quality objectives and the quality assurance functions.

(b) The quality assurance functions are—

(1) Assuring that an appropriate quality assurance program is established and effectively executed; and

(2) Verifying, by procedures such as checking, auditing, and inspection, that activities affecting the functions that are important to safety have been correctly performed. The persons and organizations performing quality assurance functions shall have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions.

(c) The persons and organizations performing quality assurance functions shall report to a management level that ensures that the required authority and organizational freedom, including sufficient independence from cost and schedule considerations when these considerations are opposed to safety considerations, are provided. Because of the many variables involved, such as the number of personnel, the type of activity being performed, and the location or locations where activities are performed, the organizational structure for executing the quality assurance program may take various forms, provided that the persons and organizations assigned the quality assurance functions have the required authority and organizational freedom. Irrespective of the organizational structure, the individual(s) assigned the responsibility for assuring effective execution of any portion of the quality assurance program, at any location where activities subject to this section are being performed, must have direct access to the levels of management necessary to perform this function.

§ 72.144 Quality assurance program.

(a) The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish, at the earliest practicable time consistent with the schedule for accomplishing the activities, a quality assurance program which complies with the requirements of this subpart. The licensee, applicant for a license, certificate holder, and applicant for a CoC shall document the quality assurance program by written procedures or instructions and shall carry out the program in accordance

with these procedures throughout the period during which the ISFSI or MRS is licensed or the spent fuel storage cask is certified. The licensee, applicant for a license, certificate holder, and applicant for a CoC shall identify the structures, systems, and components to be covered by the quality assurance program, the major organizations participating in the program, and the designated functions of these organizations.

(b) The licensee, applicant for a license, certificate holder, and applicant for a CoC, through their quality assurance program(s), shall provide control over activities affecting the quality of the identified structures, systems, and components to an extent commensurate with the importance to safety and, as necessary, to ensure conformance with the approved design of each ISFSI, MRS, or spent fuel storage cask. The licensee, applicant for a license, certificate holder, and applicant for a CoC shall ensure that activities affecting quality are accomplished under suitably controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanliness; and assurance that all prerequisites for the given activity have been satisfied. The licensee, applicant for a license, certificate holder, and applicant for a CoC shall take into account the need for special controls, processes, test equipment, tools and skills to attain the required quality and the need for verification of quality by inspection and test.

(c) The licensee, applicant for a license, certificate holder, and applicant for a CoC shall base the requirements and procedures of their quality assurance program(s) on the following considerations concerning the complexity and proposed use of the structures, systems, or components:

(1) The impact of malfunction or failure of the item on safety;

(2) The design and fabrication complexity or uniqueness of the item;

(3) The need for special controls and surveillance over processes and equipment;

(4) The degree to which functional compliance can be demonstrated by inspection or test; and

(5) The quality history and degree of standardization of the item.

(d) The licensee, applicant for a license, certificate holder, and applicant for a CoC shall provide for indoctrination and training of personnel performing activities affecting quality as necessary to ensure that suitable proficiency is achieved and maintained.

(e) The licensee, applicant for a license, certificate holder, and applicant for a CoC shall review the status and adequacy of the quality assurance program at established intervals. Management of other organizations participating in the quality assurance program must regularly review the status and adequacy of that part of the quality assurance program which they are executing.

§ 72.146 Design control.

(a) The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish measures to ensure that applicable regulatory requirements and the design basis, as specified in the license or CoC application for those structures, systems, and components to which this section applies, are correctly translated into specifications, drawings, procedures, and instructions. These measures must include provisions to ensure that appropriate quality standards are specified and included in design documents and that deviations from standards are controlled. Measures must be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the functions of the structures, systems, and components which are important to safety.

(b) The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish measures for the identification and control of design interfaces and for coordination among participating design organizations. These measures must include the establishment of written procedures among participating design organizations for the review, approval, release, distribution, and revision of documents involving design interfaces. The design

control measures must provide for verifying or checking the adequacy of design by methods such as design reviews, alternate or simplified calculational methods, or by a suitable testing program. For the verifying or checking process, the licensee and certificate holder shall designate individuals or groups other than those who were responsible for the original design, but who may be from the same organization. Where a test program is used to verify the adequacy of a specific design feature in lieu of other verifying or checking processes, the licensee and certificate holder shall include suitable qualification testing of a prototype or sample unit under the most adverse design conditions. The licensee, applicant for a license, certificate holder, and applicant for a CoC shall apply design control measures to items such as the following: criticality physics, radiation, shielding, stress, thermal, hydraulic, and accident analyses; compatibility of materials; accessibility for inservice inspection, maintenance, and repair; features to facilitate decontamination; and delineation of acceptance criteria for inspections and tests.

(c) The licensee, applicant for a license, certificate holder, and applicant for a CoC shall subject design changes, including field changes, to design control measures commensurate with those applied to the original design. Changes in the conditions specified in the license or CoC require prior NRC approval.

§ 72.148 Procurement document control.

The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish measures to assure that applicable regulatory requirements, design bases, and other requirements which are necessary to assure adequate quality are included or referenced in the documents for procurement of material, equipment, and services, whether purchased by the licensee, certificate holder, or by their contractors and subcontractors. To the extent necessary, the licensee, applicant for a license, certificate holder, and applicant for a CoC, shall require contractors or subcontractors to provide a quality assurance program consistent with the applicable provisions of this subpart.

§ 72.150 Instructions, procedures, and drawings.

The licensee, applicant for a license, certificate holder, and applicant for a CoC shall prescribe activities affecting quality by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall require that these instructions, procedures, and drawings be followed. The instructions, procedures, and drawings must include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

§ 72.152 Document control.

The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish measures to control the issuance of documents such as instructions, procedures, and drawings, including changes, which prescribe all activities affecting quality. These measures must assure that documents, including changes, are reviewed for adequacy, approved for release by authorized personnel, and distributed and used at the location where the prescribed activity is performed. These measures must ensure that changes to documents are reviewed and approved.

§ 72.154 Control of purchased material, equipment, and services.

(a) The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish measures to ensure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents. These measures must include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection at the contractor or subcontractor source, and examination of products upon delivery.

(b) The licensee, applicant for a license, certificate holder, and applicant for a CoC shall have available documentary evidence that material and

equipment conform to the procurement specifications prior to installation or use of the material and equipment. The licensee and certificate holder shall retain or have available this documentary evidence for the life of the ISFSI, MRS, or spent fuel storage cask. The licensee and certificate holder shall ensure that the evidence is sufficient to identify the specific requirements met by the purchased material and equipment.

(c) The licensee, applicant for a license, certificate holder, and applicant for a CoC, or a designee of either, shall assess the effectiveness of the control of quality by contractors and subcontractors at intervals consistent with the importance, complexity, and quantity of the product or services.

§ 72.156 Identification and control of materials, parts, and components.

The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish measures for the identification and control of materials, parts, and components. These measures must ensure that identification of the item is maintained by heat number, part number, serial number, or other appropriate means, either on the item or on records traceable to the item as required, throughout fabrication, installation, and use of the item. These identification and control measures must be designed to prevent the use of incorrect or defective materials, parts, and components.

§ 72.158 Control of special processes.

The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish measures to ensure that special processes, including welding, heat treating, and nondestructive testing, are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements.

§ 72.160 Licensee and certificate holder inspection.

The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish and execute a program for inspection of activities affecting quality by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity. The inspection must be performed by individuals other than those who performed the activity being inspected. Examinations, measurements, or tests of material or products processed must be performed for each work operation where necessary to assure quality. If direct inspection of processed material or products cannot be carried out, indirect control by monitoring processing methods, equipment, and personnel must be provided. Both inspection and process monitoring must be provided when quality control is inadequate without both. If mandatory inspection hold points that require witnessing or inspecting by the licensee's or certificate holder's designated representative, and beyond which work should not proceed without the consent of its designated representative, are required, the specific hold points must be indicated in appropriate documents.

§ 72.162 Test control.

The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish a test program to ensure that all testing, required to demonstrate that the structures, systems, and components will perform satisfactorily in service, is identified and performed in accordance with written test procedures that incorporate the requirements of this part and the requirements and acceptance limits contained in the ISFSI, MRS, or spent fuel storage cask license or CoC. The test procedures must include provisions to ensure that all prerequisites for the given test are met, that adequate test instrumentation is available and used, and that the test is performed under suitable environmental conditions. The licensee, applicant for a license, certificate holder, and applicant for a CoC shall document and evaluate the test results to ensure that test requirements have been satisfied.

§ 72.164 Control of measuring and test equipment.

The licensee, applicant for a license, certificate holder, and applicant for a

CoC shall establish measures to ensure that tools, gauges, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits.

§ 72.166 Handling, storage, and shipping control.

The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish measures to control, in accordance with work and inspection instructions, the handling, storage, shipping, cleaning, and preservation of materials and equipment to prevent damage or deterioration. When necessary for particular products, special protective environments, such as inert gas atmosphere, and specific moisture content and temperature levels must be specified and provided.

§ 72.168 Inspection, test, and operating status.

(a) The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish measures to indicate, by the use of markings such as stamps, tags, labels, routing cards, or other suitable means, the status of inspections and tests performed upon individual items of the ISFSI, MRS, or spent fuel storage cask. These measures must provide for the identification of items which have satisfactorily passed required inspections and tests where necessary to preclude inadvertent bypassing of the inspections and tests.

(b) The licensee shall establish measures to identify the operating status of structures, systems, and components of the ISFSI or MRS, such as tagging valves and switches, to prevent inadvertent operation.

§ 72.170 Nonconforming materials, parts, or components.

The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish measures to control materials, parts, or components that do not conform to their requirements in order to prevent their inadvertent use or installation. These measures must include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations. Nonconforming items must be reviewed and accepted, rejected, repaired, or reworked in accordance with documented procedures.

§ 72.172 Corrective action.

The licensee, applicant for a license, certificate holder, and applicant for a CoC shall establish measures to ensure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances, are promptly identified and corrected. In the case of a significant condition identified as adverse to quality, the measures must ensure that the cause of the condition is determined and corrective action is taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken must be documented and reported to appropriate levels of management.

§ 72.174 Quality assurance records.

The licensee, applicant for a license, certificate holder, and applicant for a CoC shall maintain sufficient records to furnish evidence of activities affecting quality. The records must include the following: design records, records of use, and the results of reviews, inspections, tests, audits, monitoring of work performance, and materials analyses. The records must include closely related data such as qualifications of personnel, procedures, and equipment. Inspection and test records must, at a minimum, identify the inspector or data recorder, the type of observation, the results, the acceptability, and the action taken in connection with any noted deficiencies. Records must be identifiable and retrievable. Records pertaining to the design, fabrication, erection, testing, maintenance, and use of structures, systems, and components important to safety must be maintained by or under the control of the licensee or certificate holder until the NRC terminates the license or CoC.

§ 72.176 Audits.

The licensee, applicant for a license, certificate holder, and applicant for a

CoC shall carry out a comprehensive system of planned and periodic audits to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program. The audits must be performed in accordance with written procedures or checklists by appropriately trained personnel not having direct responsibilities in the areas being audited. Audited results must be documented and reviewed by management having responsibility in the area audited. Follow-up action, including reaudit of deficient areas, must be taken where indicated.

Subpart H—Physical Protection

§ 72.180 Physical protection plan.

The licensee shall establish, maintain, and follow a detailed plan for physical protection as described in § 73.51 of this chapter. The licensee shall retain a copy of the current plan as a record until the Commission terminates the license for which the procedures were developed and, if any portion of the plan is superseded, retain the superseded material for 3 years after each change or until termination of the license. The plan must describe how the applicant will meet the requirements of § 73.51 of this chapter and provide physical protection during onsite transportation to and from the proposed ISFSI or MRS and include within the plan the design for physical protection, the licensee's safeguards contingency plan, and the security organization personnel training and qualification plan. The plan must list tests, inspections, audits, and other means to be used to demonstrate compliance with such requirements.

[63 FR 26961, May 15, 1998]

§ 72.182 Design for physical protection.

The design for physical protection must show the site layout and the design features provided to protect the ISFSI or MRS from sabotage. It must include:

(a) The design criteria for the physical protection of the proposed ISFSI or MRS;

(b) The design bases and the relation of the design bases to the design criteria submitted pursuant to paragraph (a) of this section; and

(c) Information relative to materials of construction, equipment, general arrangement, and proposed quality assurance program sufficient to provide reasonable assurance that the final security system will conform to the design bases for the principal design criteria submitted pursuant to paragraph (a) of this section.

§ 72.184 Safeguards contingency plan.

(a) The requirements of the licensee's safeguards contingency plan for responding to threats and radiological sabotage must be as defined in appendix C to part 73 of this chapter. This plan must include Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix, the first four categories of information relating to nuclear facilities licensed under part 50 of this chapter. (The fifth and last category of information, Procedures, does not have to be submitted for approval.)

(b) The licensee shall prepare and maintain safeguards contingency plan procedures in accordance with appendix C to 10 CFR part 73 for effecting the actions and decisions contained in the Responsibility Matrix of the licensee's safeguards contingency plan. The licensee shall retain a copy of the current procedures as a record until the Commission terminates the license for which the procedures were developed and, if any portion of the procedures is superseded, retain the superseded material for three years after each change.

[53 FR 31658, Aug. 19, 1988, as amended at 57 FR 33429, July 29, 1992]

§ 72.186 Change to physical security and safeguards contingency plans.

(a) The licensee shall make no change that would decrease the safeguards effectiveness of the physical security plan, guard training plan or the first four categories of information (Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix) contained in the licensee safeguards contingency plan without prior approval of the Commission. A licensee desiring to make a change must

submit an application for a license amendment pursuant to § 72.56.

(b) The licensee may, without prior Commission approval, make changes to the physical security plan, guard training plan, or the safeguards contingency plan, if the changes do not decrease the safeguards effectiveness of these plans. The licensee shall maintain records of changes to any such plan made without prior approval for a period of three years from the date of the change, and shall, within two months after the change is made, submit a report addressed to Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, in accordance with § 72.4, containing a description of each change. A copy of the report must be sent to the Regional Administrator of the appropriate NRC Regional Office specified in appendix A to part 73 of this chapter.

[53 FR 31658, Aug. 19, 1988, as amended at 67 FR 3586, Jan. 25, 2002; 68 FR 58819, Oct. 10, 2003; 75 FR 73945, Nov. 30, 2010; 79 FR 75741, Dec. 19, 2014; 83 FR 58723, Nov. 21, 2018]

Subpart I—Training and Certification of Personnel

§ 72.190 Operator requirements.

Operation of equipment and controls that have been identified as important to safety in the Safety Analysis Report and in the license must be limited to trained and certified personnel or be under the direct visual supervision of an individual with training and certification in the operation. Supervisory personnel who personally direct the operation of equipment and controls that are important to safety must also be certified in such operations.

§ 72.192 Operator training and certification program.

The applicant for a license under this part shall establish a program for training, proficiency testing, and certification of ISFSI or MRS personnel. This program must be submitted to the Commission for approval with the license application.

§ 72.194 Physical requirements.

The physical condition and the general health of personnel certified for the operation of equipment and controls that are important to safety must not be such as might cause operational errors that could endanger other in-plant personnel or the public health and safety. Any condition that might cause impaired judgment or motor coordination must be considered in the selection of personnel for activities that are important to safety. These conditions need not categorically disqualify a person, if appropriate provisions are made to accommodate such defect.

Subpart J—Provision of MRS Information to State Governments and Indian Tribes

§ 72.200 Provision of MRS information.

(a) The Director, Office of Nuclear Material Safety and Safeguards, or the Director's designee shall provide to the Governor and legislature of any State in which an MRS authorized under the Nuclear Waste Policy Act of 1982, as amended, is or may be located, to the Governors of any contiguous States, to each affected unit of local government and to the governing body of any affected Indian Tribe, timely and complete information regarding determinations or plans made by the Commission with respect to siting, development, design, licensing, construction, operation, regulation or decommissioning of such monitored retrievable storage facility.

(b) Notwithstanding paragraph (a) of this section, the Director or the Director's designee is not required to distribute any document to any entity if, with respect to such document, that entity or its counsel is included on a service list prepared pursuant to part 2 of this chapter.

(c) Copies of all communications by the Director or the Director's designee under this section must be made available at the NRC Web site, *http://www.nrc.gov*, and/or at the NRC Public Document Room, and must be furnished to DOE.

[53 FR 31658, Aug. 19, 1988, as amended at 64 FR 48954, Sept. 9, 1999]

§ 72.202 Participation in license reviews.

States, local governmental bodies and affected, Federally-recognized Indian Tribes may participate in license reviews as provided in Subpart C of Part 2 of this chapter.

[69 FR 2280, Jan. 14, 2004]

§ 72.204 Notice to States.

If the Governor and legislature of a State have jointly designated on their behalf a single person or entity to receive notice and information from the Commission under this part, the Commission will provide such notice and information to the jointly designated person or entity instead of the Governor and the legislature separately.

§ 72.206 Representation.

Any person who acts under this subpart as a representative for a State (or for the Governor or legislature thereof) or for an affected Indian Tribe shall include in the request or other submission, or at the request of the Commission, a statement of the basis of his or her authority to act in such representative capacity.

Subpart K—General License for Storage of Spent Fuel at Power Reactor Sites

SOURCE: 55 FR 29191, July 18, 1990, unless otherwise noted.

§ 72.210 General license issued.

A general license is hereby issued for the storage of spent fuel in an independent spent fuel storage installation at power reactor sites to persons authorized to possess or operate nuclear power reactors under 10 CFR part 50 or 10 CFR part 52.

[72 FR 49561, Aug. 28, 2007]

§ 72.212 Conditions of general license issued under § 72.210.

(a)(1) The general license is limited to that spent fuel which the general licensee is authorized to possess at the site under the specific license for the site.

(2) This general license is limited to storage of spent fuel in casks approved under the provisions of this part.

(3) The general license for the storage of spent fuel in each cask fabricated under a Certificate of Compliance shall commence upon the date that the particular cask is first used by the general licensee to store spent fuel, shall continue through any renewals of the Certificate of Compliance, unless otherwise specified in the Certificate of Compliance, and shall terminate when the cask's Certificate of Compliance expires. For any cask placed into service during the final renewal term of a Certificate of Compliance, or during the term of a Certificate of Compliance that was not renewed, the general license for that cask shall terminate after a storage period not to exceed the length of the term certified by the cask's Certificate of Compliance. Upon expiration of the general license, all casks subject to that general license must be removed from service.

(b) The general licensee must:

(1) Notify the Nuclear Regulatory Commission using instructions in § 72.4 at least 90 days before first storage of spent fuel under this general license. The notice may be in the form of a letter, but must contain the licensee's name, address, reactor license and docket numbers, and the name and means of contacting a person responsible for providing additional information concerning spent fuel under this general license. A copy of the submittal must be sent to the administrator of the appropriate Nuclear Regulatory Commission regional office listed in appendix D to part 20 of this chapter.

(2) Register use of each cask with the Nuclear Regulatory Commission no later than 30 days after using that cask to store spent fuel. This registration may be accomplished by submitting a letter using instructions in § 72.4 containing the following information: the licensee's name and address, the licensee's reactor license and docket numbers, the name and title of a person responsible for providing additional information concerning spent fuel storage under this general license, the cask

certificate number, the CoC amendment number to which the cask conforms, unless loaded under the initial certificate, cask model number, and the cask identification number. A copy of each submittal must be sent to the administrator of the appropriate Nuclear Regulatory Commission regional office listed in appendix D to part 20 of this chapter.

(3) Ensure that each cask used by the general licensee conforms to the terms, conditions, and specifications of a CoC or an amended CoC listed in § 72.214.

(4) In applying the changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC, register each such cask with the Nuclear Regulatory Commission no later than 30 days after applying the changes authorized by the amended CoC. This registration may be accomplished by submitting a letter using instructions in § 72.4 containing the following information: the licensee's name and address, the licensee's reactor license and docket numbers, the name and title of a person responsible for providing additional information concerning spent fuel storage under this general license, the cask certificate number, the CoC amendment number to which the cask conforms, cask model number, and the cask identification number. A copy of each submittal must be sent to the administrator of the appropriate Nuclear Regulatory Commission regional office listed in appendix D to part 20 of this chapter.

(5) Perform written evaluations, before use and before applying the changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC, which establish that:

(i) The cask, once loaded with spent fuel or once the changes authorized by an amended CoC have been applied, will conform to the terms, conditions, and specifications of a CoC or an amended CoC listed in § 72.214;

(ii) Cask storage pads and areas have been designed to adequately support the static and dynamic loads of the stored casks, considering potential amplification of earthquakes through soil-structure interaction, and soil liquefaction potential or other soil instability due to vibratory ground motion; and

(iii) The requirements of § 72.104 have been met. A copy of this record shall be retained until spent fuel is no longer stored under the general license issued under § 72.210.

(6) Review the Safety Analysis Report referenced in the CoC or amended CoC and the related NRC Safety Evaluation Report, prior to use of the general license, to determine whether or not the reactor site parameters, including analyses of earthquake intensity and tornado missiles, are enveloped by the cask design bases considered in these reports. The results of this review must be documented in the evaluation made in paragraph (b)(5) of this section.

(7) Evaluate any changes to the written evaluations required by paragraphs (b)(5) and (b)(6) of this section using the requirements of § 72.48(c). A copy of this record shall be retained until spent fuel is no longer stored under the general license issued under § 72.210.

(8) Before use of the general license, determine whether activities related to storage of spent fuel under this general license involve a change in the facility Technical Specifications or require a license amendment for the facility pursuant to § 50.59(c) of this chapter. Results of this determination must be documented in the evaluations made in paragraph (b)(5) of this section.

(9) Protect the spent fuel against the design basis threat of radiological sabotage in accordance with the same provisions and requirements as are set forth in the licensee's physical security plan pursuant to § 73.55 of this chapter with the following additional conditions and exceptions:

(i) The physical security organization and program for the facility must be modified as necessary to assure that activities conducted under this general license do not decrease the effectiveness of the protection of vital equipment in accordance with § 73.55 of this chapter;

(ii) Storage of spent fuel must be within a protected area, in accordance with § 73.55(e) of this chapter, but need not be within a separate vital area. Existing protected areas may be expanded or new protected areas added for the

purpose of storage of spent fuel in accordance with this general license;

(iii) For the purpose of this general license, personnel searches required by § 73.55(h) of this chapter before admission to a new protected area may be performed by physical pat-down searches of persons in lieu of firearms and explosives detection equipment;

(iv) The observational capability required by § 73.55(i)(3) of this chapter as applied to a new protected area may be provided by a guard or watchman on patrol in lieu of video surveillance technology;

(v) For the purpose of this general license, the licensee is exempt from requirements to interdict and neutralize threats in § 73.55 of this chapter; and

(vi) Each general licensee that receives and possesses power reactor spent fuel and other radioactive materials associated with spent fuel storage shall protect Safeguards Information against unauthorized disclosure in accordance with the requirements of § 73.21 and the requirements of § 73.22 or § 73.23 of this chapter, as applicable.

(10) Review the reactor emergency plan, quality assurance program, training program, and radiation protection program to determine if their effectiveness is decreased and, if so, prepare the necessary changes and seek and obtain the necessary approvals.

(11) Maintain a copy of the CoC and, for those casks to which the licensee has applied the changes of an amended CoC, the amended CoC, and the documents referenced in such Certificates, for each cask model used for storage of spent fuel, until use of the cask model is discontinued. The licensee shall comply with the terms, conditions, and specifications of the CoC and, for those casks to which the licensee has applied the changes of an amended CoC, the terms, conditions, and specifications of the amended CoC, including but not limited to, the requirements of any AMP put into effect as a condition of the NRC approval of a CoC renewal application in accordance with § 72.240.

(12) Accurately maintain the record provided by the CoC holder for each cask that shows, in addition to the information provided by the CoC holder, the following:

(i) The name and address of the CoC holder or lessor;

(ii) The listing of spent fuel stored in the cask; and

(iii) Any maintenance performed on the cask.

(13) Conduct activities related to storage of spent fuel under this general license only in accordance with written procedures.

(14) Make records and casks available to the Commission for inspection.

(c) The record described in paragraph (b)(12) of this section must include sufficient information to furnish documentary evidence that any testing and maintenance of the cask has been conducted under an NRC-approved quality assurance program.

(d) In the event that a cask is sold, leased, loaned, or otherwise transferred to another registered user, the record described in paragraph (b)(12) of this section must also be transferred to and must be accurately maintained by the new registered user. This record must be maintained by the current cask user during the period that the cask is used for storage of spent fuel and retained by the last user until decommissioning of the cask is complete.

(e) Fees for inspections related to spent fuel storage under this general license are those shown in § 170.31 of this chapter.

[55 FR 29191, July 18, 1990, as amended at 64 FR 53616, Oct. 4, 1999; 68 FR 54160, Sept. 16, 2003; 73 FR 63573, Oct. 24, 2008; 74 FR 13970, Mar. 27, 2009; 76 FR 8890, Feb. 16, 2011]

§ 72.214 List of approved spent fuel storage casks.

The following casks are approved for storage of spent fuel under the conditions specified in their Certificates of Compliance.

Certificate Number: 1004.

Initial Certificate Effective Date: January 23, 1995, superseded by Initial Certificate, Revision 1, on April 25, 2017, superseded by Renewed Initial Certificate, Revision 1, on December 11, 2017.

Renewed Initial Certificate, Revision 1, Effective Date: December 11, 2017.

Amendment Number 1 Effective Date: April 27, 2000, superseded by Amendment Number 1, Revision 1, on April 25, 2017, superseded by Renewed Amendment Number 1, Revision 1, on December 11, 2017.

Renewed Amendment Number 1, Revision 1, Effective Date: December 11, 2017.

Amendment Number 2 Effective Date: September 5, 2000, superseded by Amendment Number 2, Revision 1, on April 25, 2017, superseded by Renewed Amendment Number 2, Revision 1, on December 11, 2017.

Renewed Amendment Number 2, Revision 1, Effective Date: December 11, 2017.

Amendment Number 3 Effective Date: September 12, 2001, superseded by Amendment Number 3, Revision 1, on April 25, 2017, superseded by Renewed Amendment Number 3, Revision 1, on December 11, 2017.

Renewed Amendment Number 3, Revision 1, Effective Date: December 11, 2017.

Amendment Number 4 Effective Date: February 12, 2002, superseded by Amendment Number 4, Revision 1, on April 25, 2017, superseded by Renewed Amendment Number 4, Revision 1, on December 11, 2017.

Renewed Amendment Number 4, Revision 1, Effective Date: December 11, 2017.

Amendment Number 5 Effective Date: January 7, 2004, superseded by Amendment Number 5, Revision 1, on April 25, 2017, superseded by Renewed Amendment Number 5, Revision 1, on December 11, 2017.

Renewed Amendment Number 5, Revision 1, Effective Date: December 11, 2017.

Amendment Number 6 Effective Date: December 22, 2003, superseded by Amendment Number 6, Revision 1, on April 25, 2017, superseded by Renewed Amendment Number 6, Revision 1, on December 11, 2017.

Renewed Amendment Number 6, Revision 1, Effective Date: December 11, 2017.

Amendment Number 7 Effective Date: March 2, 2004, superseded by Amendment Number 7, Revision 1, on April 25, 2017, superseded by Renewed Amendment Number 7, Revision 1, on December 11, 2017.

Renewed Amendment Number 7, Revision 1, Effective Date: December 11, 2017.

Amendment Number 8 Effective Date: December 5, 2005, superseded by Amendment Number 8, Revision 1, on April 25, 2017, superseded by Renewed Amendment Number 8, Revision 1, on December 11, 2017.

Renewed Amendment Number 8, Revision 1, Effective Date: December 11, 2017.

Amendment Number 9 Effective Date: April 17, 2007, superseded by Amendment Number 9, Revision 1, on April 25, 2017, superseded by Renewed Amendment Number 9, Revision 1, on December 11, 2017.

Renewed Amendment Number 9, Revision 1, Effective Date: December 11, 2017.

Amendment Number 10 Effective Date: August 24, 2009, superseded by Amendment Number 10, Revision 1, on April 25, 2017, superseded by Renewed Amendment Number 10, Revision 1, on December 11, 2017.

Renewed Amendment Number 10, Revision 1, Effective Date: December 11, 2017.

Amendment Number 11 Effective Date: January 7, 2014, superseded by Amendment Number 11, Revision 1, on April 25, 2017, superseded by Renewed Amendment Number 11, Revision 1, on December 11, 2017.

Renewed Amendment Number 11, Revision 1, Effective Date: December 11, 2017, as corrected (ADAMS Accession No. ML18018A043).

Amendment Number 12 Effective Date: Amendment not issued by the NRC.

Amendment Number 13 Effective Date: May 24, 2014, superseded by Amendment Number 13, Revision 1, on April 25, 2017, superseded by Renewed Amendment Number 13, Revision 1, on December 11, 2017.

Renewed Amendment Number 13, Revision 1, Effective Date: December 11, 2017, as corrected (ADAMS Accession No. ML18018A100).

Amendment Number 14 Effective Date: April 25, 2017, superseded by Renewed Amendment Number 14, on December 11, 2017.

Renewed Amendment Number 14 Effective Date: December 11, 2017.

Renewed Amendment Number 15 Effective Date: January 22, 2019.

Renewed Amendment Number 16 Effective Date: September 14, 2020.

Renewed Amendment Number 17 Effective Date: June 7, 2021.

Renewed Amendment Number 18 Effective Date: December 18, 2023.

SAR Submitted by: TN Americas LLC.

SAR Title: Final Safety Analysis Report for the Standardized NUHOMS® Horizontal Modular Storage System for Irradiated Nuclear Fuel.

Docket Number: 72–1004.

Certificate Expiration Date: January 23, 2015.

Renewed Certificate Expiration Date: January 23, 2055.

Model Number: NUHOMS®–24P, –24PHB, –24PTH, –32PT, –32PTH1, –37PTH, –52B, –61BT, –61BTH, and –69BTH.

Certificate Number: 1007.

Initial Certificate Effective Date: May 7, 1993, superseded by Renewed Initial Certificate, on September 20, 2017.

Renewed Initial Certificate Effective Date: September 20, 2017.

Amendment Number 1 Effective Date: May 30, 2000, superseded by Renewed Amendment Number 1, on September 20, 2017.

Renewed Amendment Number 1 Effective Date: September 20, 2017.

Amendment Number 2 Effective Date: September 5, 2000, superseded by Renewed Amendment Number 2, on September 20, 2017.

Renewed Amendment Number 2 Effective Date: September 20, 2017.

Amendment Number 3 Effective Date: May 21, 2001, superseded by Renewed Amendment Number 3, on September 20, 2017.

Renewed Amendment Number 3 Effective Date: September 20, 2017.

Amendment Number 4 Effective Date: February 3, 2003, superseded by Renewed Amendment Number 4, on September 20, 2017.

Renewed Amendment Number 4 Effective Date: September 20, 2017.

Amendment Number 5 Effective Date: September 13, 2005, superseded by Renewed Amendment Number 5, on September 20, 2017.

Renewed Amendment Number 5 Effective Date: September 20, 2017.

Amendment Number 6 Effective Date: June 5, 2006, superseded by Renewed Amendment Number 6, on September 20, 2017.

Renewed Amendment Number 6 Effective Date: September 20, 2017.

SAR Submitted by: EnergySolutions™ Corporation.

SAR Title: Final Safety Analysis Report for the VSC–24 Ventilated Storage Cask System.

Docket Number: 72–1007.

Renewed Certificate Expiration Date: May 7, 2053.

Model Number: VSC–24.

Certificate Number: 1008.

Initial Certificate Effective Date: October 4, 1999, superseded by Renewed Initial Certificate, on December 15, 2021.

Amendment Number 1 Effective Date: December 26, 2000, superseded by Renewed Amendment Number 1, on December 15, 2021.

Amendment Number 2 Effective Date: May 29, 2001, superseded by Renewed Amendment Number 2, on December 15, 2021.

Amendment Number 3 Effective Date: November 5, 2019, superseded by Renewed Amendment Number 3, on December 15, 2021.

SAR Submitted by: Holtec International.

SAR Title: Final Safety Analysis Report for the HI–STAR 100 Cask System.

Docket Number: 72–1008.

Certificate Expiration Date: October 4, 2019.

Renewed Certificate Expiration Date: October 4, 2059.

Model Number: HI–STAR 100 (MPC–24, MPC–32, MPC–68, MPC–68F).

Certificate Number: 1014.

Initial Certificate Effective Date: May 31, 2000, superseded by *Renewed Initial Certificate Effective Date:* August 2, 2023.

Amendment Number 1 Effective Date: July 15, 2002, superseded by *Renewed Amendment Number 1 Effective Date:* August 2, 2023.

Amendment Number 2 Effective Date: June 7, 2005, superseded by *Renewed Amendment Number 2 Effective Date:* August 2, 2023.

Amendment Number 3 Effective Date: May 29, 2007, superseded by *Renewed Amendment Number 3 Effective Date:* August 2, 2023.

Amendment Number 4 Effective Date: January 8, 2008, superseded by *Renewed Amendment Number 4 Effective Date:* August 2, 2023.

Amendment Number 5 Effective Date: July 14, 2008, superseded by *Renewed Amendment Number 5 Effective Date:* August 2, 2023.

Amendment Number 6 Effective Date: August 17, 2009, superseded by *Renewed Amendment Number 6 Effective Date:* August 2, 2023.

Amendment Number 7 Effective Date: December 28, 2009, superseded by *Renewed Amendment Number 7 Effective Date:* August 2, 2023.

Amendment Number 8 Effective Date: May 2, 2012, as corrected on November 16, 2012 (ADAMS Accession No. ML12213A170); superseded by *Amendment Number 8, Revision 1, Effective Date:* February 16, 2016; superseded by *Renewed Amendment Number 8, Revision 1 Effective Date:* August 2, 2023.

Amendment Number 9 Effective Date: March 11, 2014, superseded by *Amendment Number 9, Revision 1, Effective Date:* March 21, 2016, as corrected on August 25, 2017 (ADAMS Accession No. ML17236A451); superseded by *Renewed Amendment Number 9, Revision 1 Effective Date:* August 2, 2023.

Amendment Number 10 Effective Date: May 31, 2016, as corrected on August 25, 2017 (ADAMS Accession No. ML17236A452); superseded by *Renewed Amendment Number 10 Effective Date:* August 2, 2023.

Amendment Number 11 Effective Date: February 25, 2019, as corrected (ADAMS Accession No. ML19343B024); superseded by *Renewed Amendment Number 11 Effective Date:* August 2, 2023.

Amendment Number 12 Effective Date: February 25, 2019, as corrected on May 30, 2019 (ADAMS Accession No. ML19109A111); further corrected December 23, 2019 (ADAMS Accession No. ML19343A908); superseded by *Renewed Amendment Number 12 Effective Date:* August 2, 2023.

Amendment Number 13 Effective Date: May 13, 2019, as corrected on May 30, 2019 (ADAMS Accession No. ML19109A122); further corrected December 23, 2019 (ADAMS Accession No. ML19343B156); superseded by *Renewed Amendment Number 13 Effective Date:* August 2, 2023.

Amendment Number 14 Effective Date: December 17, 2019, as corrected (ADAMS Accession No. ML19343B287); superseded by *Renewed Amendment Number 14 Effective Date:* August 2, 2023.

Amendment Number 15 Effective Date: June 14, 2021, superseded by *Renewed Amendment Number 15 Effective Date:* August 2, 2023.

Renewed Amendment Number 16 Effective Date: September 9, 2024.

Renewed Amendment Number 17 Effective Date: January 16, 2024.

Renewed Amendment Number 18 Effective Date: November 19, 2024.

Renewed Amendment Number 19 Effective Date: May 27, 2025.

Safety Analysis Report (SAR) Submitted by: Holtec International.

SAR Title: Final Safety Analysis Report for the HI–STORM 100 Cask System.

Docket Number: 72–1014.
Certificate Expiration Date: May 31, 2020.
Renewed Certificate Expiration Date: May 31, 2060.
Model Number: HI–STORM 100.

Certificate Number: 1015.
Initial Certificate Effective Date: November 20, 2000, superseded by Renewed Initial Certificate on July 15, 2024.
Amendment Number 1 Effective Date: February 20, 2001, superseded by Renewed Amendment Number 1 on July 15, 2024.
Amendment Number 2 Effective Date: December 31, 2001, superseded by Renewed Amendment Number 2 on July 15, 2024.
Amendment Number 3 Effective Date: March 31, 2004, superseded by Renewed Amendment Number 3 on July 15, 2024.
Amendment Number 4 Effective Date: October 11, 2005, superseded by Renewed Amendment Number 4 on July 15, 2024.
Amendment Number 5 Effective Date: January 12, 2009, superseded by Renewed Amendment Number 5 on July 15, 2024.
Amendment Number 6 Effective Date: January 7, 2019, superseded by Renewed Amendment Number 6 on July 15, 2024.
Amendment Number 7 Effective Date: July 29, 2019, superseded by Renewed Amendment Number 7 on July 15, 2024.
Amendment Number 8 Effective Date: October 19, 2021, as corrected (ADAMS Accession No. ML21312A499); superseded by Renewed Amendment Number 8 on July 15, 2024.
Amendment Number 9 Effective Date: August 29, 2022, superseded by Renewed Amendment Number 9 on July 15, 2024.
SAR Submitted by: NAC International, Inc.
SAR Title: Final Safety Analysis Report for the NAC–UMS Universal Storage System.
Docket Number: 72–1015.
Renewed Certificate Expiration Date: November 20, 2060.
Model Number: NAC–UMS.

Certificate Number: 1021.
Initial Certificate Effective Date: April 19, 2000, superseded by Renewed Initial Certificate on January 19, 2022.
Amendment Number 1 Effective Date: February 20, 2001, superseded by Renewed Amendment Number 1 on January 19, 2022.
SAR Submitted by: Transnuclear, Inc., now TN Americas LLC.
Renewal SAR Submitted by: TN Americas LLC.
SAR Title: Final Safety Analysis Report for the TN–32 Dry Storage Cask.
Docket Number: 72–1021.
Certificate Expiration Date: April 19, 2020.
Renewed Certificate Expiration Date: April 19, 2060.
Model Number: TN–32, TN–32A, TN–32B.

Certificate Number: 1025.
Initial Certificate Effective Date: April 10, 2000, superseded by Renewed Initial Certificate Effective Date: October 17, 2023.
Amendment Number 1 Effective Date: November 13, 2001, superseded by Renewed Amendment Number 1 Effective Date: October 17, 2023.
Amendment Number 2 Effective Date: May 29, 2002, superseded by Renewed Amendment Number 2 Effective Date: October 17, 2023.
Amendment Number 3 Effective Date: October 1, 2003, superseded by Renewed Amendment Number 3 Effective Date: October 17, 2023.
Amendment Number 4 Effective Date: October 27, 2004, superseded by Renewed Amendment Number 4 Effective Date: October 17, 2023.
Amendment Number 5 Effective Date: July 24, 2007, superseded by Renewed Amendment Number 5 Effective Date: October 17, 2023.
Amendment Number 6 Effective Date: October 4, 2010, superseded by Renewed Amendment Number 6 Effective Date: October 17, 2023, superseded by Renewed Amendment Number 6, Revision 1 Effective Date May 13, 2025.
Amendment Number 7 Effective Date: March 4, 2019, superseded by Renewed Amendment Number 7 Effective Date: October 17, 2023, superseded by Renewed Amendment Number 7, Revision 1 Effective Date May 13, 2025.
Amendment Number 8 Effective Date: March 4, 2019, superseded by Renewed Amendment Number 8 Effective Date: October 17, 2023, superseded by Renewed Amendment Number 8, Revision 1 Effective Date May 13, 2025.
Renewed Amendment Number 9 Effective Date: May 13, 2025.
Safety Analysis Report (SAR) Submitted by: NAC International, Inc.
SAR Title: Final Safety Analysis Report for the NAC Multi-Purpose Canister System (NAC–MPC System).
Docket Number: 72–1025.
Certificate Expiration Date: May 31, 2020.
Renewed Certificate Expiration Date: April 10, 2060.
Model Number: NAC–MPC System.

Certificate Number: 1026.
Initial Certificate Effective Date: February 15, 2001, superseded by Renewed Initial Certificate on July 3, 2024.
Amendment Number 1 Effective Date: May 14, 2001, superseded by Renewed Amendment Number 1 on July 3, 2024.
Amendment Number 2 Effective Date: January 28, 2002, superseded by Renewed Amendment Number 2 on July 3, 2024.
Amendment Number 3 Effective Date: May 7, 2003, superseded by Renewed Amendment Number 3 on July 3, 2024.
Amendment Number 4 Effective Date: July 3, 2006, superseded by Renewed Amendment Number 4 on July 3, 2024.
SAR Submitted by: Westinghouse Electric Company LLC.
SAR Title: Final Safety Analysis Report for the FuelSolutions™ Spent Fuel Management System.
Docket Number: 72–1026.
Renewed Certificate Expiration Date: February 15, 2061.

Model Number: WSNF–220, WSNF–221, and WSNF–223 systems; W150 storage cask; W100 transfer cask; and the W21 and W74 canisters.

Certificate Number: 1027.
Initial Certificate Effective Date: May 30, 2000, superseded by Renewed Initial Certificate on February 22, 2022.
Amendment Number 1 Effective Date: October 30, 2007, superseded by RenewedAmendment Number 1 on February 22, 2022.
SAR Submitted by: Transnuclear, Inc., now TN Americas LLC.
Renewal SAR Submitted by: TN Americas LLC.
SAR Title: Final Safety Analysis Report for the TN–68 Dry Storage Cask.
Docket Number: 72–1027.
Certificate Expiration Date: May 28, 2020.
Renewed Certificate Expiration Date: May 28, 2060.
Model Number: TN–68.

Certificate Number: 1029.
Initial Certificate Effective Date: February 5, 2003, superseded by Renewed Initial Certificate on October 27, 2021.
Amendment Number 1 Effective Date: May 16, 2005, superseded by Renewed Amendment Number 1 on October 27, 2021.
Amendment Number 2 Effective Date: Amendment not issued by the NRC.
Amendment Number 3 Effective Date: February 23, 2015, superseded by Renewed Amendment Number 3 on October 27, 2021.
Amendment Number 4 Effective Date: March 12, 2019, superseded by Renewed Amendment Number 4 on October 27, 2021.
SAR Submitted by: Transnuclear, Inc., now TN Americas, LLC.
Renewal SAR Submitted by: TN Americas, LLC.
SAR Title: Final Safety Analysis Report for the Standardized Advanced NUHOMS® Horizontal Modular Storage System for Irradiated Nuclear Fuel.
Docket Number: 72–1029.
Certificate Expiration Date: February 5, 2023.
Renewed Certificate Expiration Date: February 5, 2063.
Model Number: Standardized Advanced NUHOMS®-24PT1, –24PT4, and –32PTH2.

Certificate Number: 1030.
Initial Certificate Effective Date: January 10, 2007.
Amendment Number 1 Effective Date: March 29, 2011.
Amendment Number 2 Effective Date: October 14, 2014.
SAR Submitted by: Transnuclear, Inc.
SAR Title: Final Safety Analysis Report for the NUHOMS® HD Horizontal Modular Storage System for Irradiated Nuclear Fuel.
Docket Number: 72–1030.
Certificate Expiration Date: January 10, 2027.
Model Number: NUHOMS® HD–32PTH.

Certificate Number: 1031.
Initial Certificate Effective Date: February 4, 2009, superseded by Initial Certificate, Revision 1, on February 1, 2016, superseded by Initial Certificate, Revision 2, on October 16, 2023, superseded by Initial Certificate, Revision 3, on March 19, 2025.
Amendment Number 1 Effective Date: August 30, 2010, superseded by Amendment Number 1, Revision 1, on February 1, 2016, superseded by Amendment Number 1, Revision 2, on October 16, 2023, superseded by Amendment Number 1, Revision 3, on March 19, 2025.
Amendment Number 2 Effective Date: January 30, 2012, superseded by Amendment Number 2, Revision 1, on February 1, 2016, superseded by Amendment Number 2, Revision 2, on October 16, 2023, superseded by Amendment Number 2, Revision 3, on March 19, 2025.
Amendment Number 3 Effective Date: July 25, 2013, superseded by Amendment Number 3, Revision 1, on February 1, 2016, superseded by Amendment Number 3, Revision 2, on October 16, 2023, superseded by Amendment Number 3, Revision 3, on March 19, 2025.
Amendment Number 4 Effective Date: April 14, 2015, superseded by Amendment Number 4, Revision 1, on October 16, 2023, superseded by Amendment Number 4, Revision 2, on March 19, 2025.
Amendment Number 5 Effective Date: June 29, 2015, superseded by Amendment Number 5, Revision 1, on October 16, 2023, superseded by Amendment Number 5, Revision 2, on March 19, 2025.
Amendment Number 6 Effective Date: December 21, 2016, superseded by Amendment Number 6, Revision 1, on October 16, 2023, superseded by Amendment Number 6, Revision 2, on March 19, 2025.
Amendment Number 7 Effective Date: August 21, 2017, as corrected (ADAMS Accession No. ML19045A346), superseded by Amendment Number 7, Revision 1, on October 16, 2023, superseded by Amendment Number 7, Revision 2, on March 19, 2025.
Amendment Number 8 Effective Date: March 24, 2020, superseded by Amendment Number 8, Revision 1, on October 16, 2023, superseded by Amendment Number 8, Revision 2, on March 19, 2025.
Amendment Number 9 Effective Date: December 7, 2020, superseded by Amendment Number 9, Revision 1, on October 16, 2023, superseded by Amendment Number 9, Revision 2, on March 19, 2025.
Amendment Number 10 Effective Date: January 18, 2023, superseded by Amendment Number 10, Revision 1, on March 19, 2025.
Amendment Number 11 Effective Date: October 16, 2023, superseded by Amendment Number 11, Revision 1, on March 19, 2025.

Amendment Number 12 Effective Date: October 16, 2023, superseded by Amendment Number 12, Revision 1, on March 19, 2025.

Amendment Number 13 Effective Date: November 19, 2024, superseded by Amendment Number 13, Revision 1, on March 19, 2025.

Amendment Number 14 Effective Date: March 19, 2025.

Amendment Number 15 Effective Date: June 3, 2025.

SAR Submitted by: NAC International, Inc.

SAR Title: Final Safety Analysis Report for the MAGNASTOR® System.

Docket Number: 72–1031.

Certificate Expiration Date: February 4, 2029.

Model Number: MAGNASTOR®.

Certificate Number: 1032.

Initial Certificate Effective Date: June 13, 2011, superseded by Amendment Number 0, Revision 1, on April 25, 2016.

Amendment Number 0, Revision 1, Effective Date: April 25, 2016.

Amendment Number 1 Effective Date: December 17, 2014, superseded by Amendment Number 1, Revision 1, on June 2, 2015.

Amendment Number 1, Revision 1, Effective Date: June 2, 2015.

Amendment Number 2 Effective Date: November 7, 2016.

Amendment Number 3 Effective Date: September 11, 2017.

Amendment Number 4 Effective Date: July 14, 2020.

Amendment Number 5 Effective Date: July 27, 2020.

Amendment Number 6 Effective Date: March 22, 2023.

Amendment Number 7 Effective Date: September 25, 2024.

Amendment Number 8 Effective Date: October 11, 2022.

SAR Submitted by: Holtec International.

SAR Title: Final Safety Analysis Report for the HI–STORM FW System.

Docket Number: 72–1032.

Certificate Expiration Date: June 12, 2031.

Model Number: HI–STORM FW MPC–32ML, MPC–37, MPC–37P, MPC–44, and MPC–89.

Certificate Number: 1040.

Initial Certificate Effective Date: April 6, 2015, superseded by Initial Certificate, Revision 1 Effective Date: April 21, 2025.

Amendment Number 1 Effective Date: September 8, 2015, superseded by Amendment Number 1, Revision 1 Effective Date: April 21, 2025.

Amendment Number 2 Effective Date: January 9, 2017, superseded by Amendment Number 2, Revision 1 Effective Date: April 21, 2025.

Amendment Number 3 [Reserved]

Amendment Number 4 Effective Date: January 25, 2021.

SAR Submitted by: Holtec International, Inc.

SAR Title: Final Safety Analysis Report for the Holtec International HI–STORM UMAX Canister Storage System.

Docket Number: 72–1040.

Certificate Expiration Date: April 6, 2035.

Model Number: MPC–37, MPC–89.

Certificate Number: 1042.

Initial Certificate Effective Date: June 7, 2017.

Amendment Number 1 Effective Date: June 17, 2020.

Amendment Number 2 Effective Date: October 26, 2021.

Amendment Number 3 Effective Date: July 17, 2023.

Amendment Number 4 Effective Date: October 14, 2025.

SAR Submitted by: TN Americas LLC.

SAR Title: Final Safety Analysis Report for the NUHOMS® EOS Dry Spent Fuel Storage System.

Docket Number: 72–1042.

Certificate Expiration Date: June 7, 2037.

Model Number: EOS–37PTH, EOS–89BTH, 61BTH Type 2.

[55 FR 29191, July 18, 1990]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 72.214, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.govinfo.gov*.

EFFECTIVE DATE NOTE: At 90 FR 56662, Dec. 8, 2025, § 72.214 was amended, effective Feb. 23, 2026.

§ 72.216 [Reserved]

§ 72.218 Termination of licenses.

(a) The notification regarding the program for the management of spent fuel at the reactor required by § 50.54(bb) of this chapter must include a plan for removal of the spent fuel stored under this general license from the reactor site. The plan must show how the spent fuel will be managed before starting to decommission systems and components needed for moving, unloading, and shipping this spent fuel.

(b) An application for termination of a reactor operating license issued under 10 CFR part 50 and submitted under § 50.82 of this chapter, or a combined license issued under 10 CFR part 52 and submitted under § 52.110 of this chapter, must contain a description of how the spent fuel stored under this general license will be removed from the reactor site.

(c) The reactor licensee shall send a copy of submittals under § 72.218(a) and

(b) to the administrator of the appropriate Nuclear Regulatory Commission regional office shown in appendix D to part 20 of this chapter.

[55 FR 29191, July 18, 1990, as amended at 72 FR 49561, Aug. 28, 2007; 86 FR 43403, Aug. 9, 2021]

§ 72.220 Violations.

This general license is subject to the provisions of § 72.84 for violation of the regulations under this part.

Subpart L—Approval of Spent Fuel Storage Casks

SOURCE: 55 FR 29193, July 18, 1990, unless otherwise noted.

§ 72.230 Procedures for spent fuel storage cask submittals.

(a) An application for approval of a spent fuel storage cask design must be submitted in accordance with the instructions contained in § 72.4. A safety analysis report describing the proposed cask design and how the cask should be used to store spent fuel safely must be included with the application.

(b) Casks that have been certified for transportation of spent fuel under part 71 of this chapter may be approved for storage of spent fuel under this subpart. An application must be submitted in accordance with the instructions contained in § 72.4, for a proposed term not to exceed 40 years. A copy of the CoC issued for the cask under part 71 of this chapter, and drawings and other documents referenced in the certificate, must be included with the application. A safety analysis report showing that the cask is suitable for storage of spent fuel, for the term proposed in the application, must also be included.

(c) *Public inspection.* An application for the approval of a cask for storage of spent fuel may be made available for public inspection under § 72.20.

(d) *Fees.* Fees for reviews and evaluations related to issuance of a spent fuel storage cask Certificate of Compliance and inspections related to storage cask fabrication are those shown in § 170.31 of this chapter.

[55 FR 29193, July 18, 1990, as amended at 76 FR 8891, Feb. 16, 2011]

§ 72.232 Inspection and tests.

(a) The certificate holder and applicant for a CoC shall permit, and make provisions for, the NRC to inspect the premises and facilities where a spent fuel storage cask is designed, fabricated, and tested.

(b) The certificate holder and applicant for a CoC shall make available to the NRC for inspection, upon reasonable notice, records kept by them pertaining to the design, fabrication, and testing of spent fuel storage casks.

(c) The certificate holder and applicant for a CoC shall perform, and make provisions that permit the NRC to perform, tests that the Commission deems necessary or appropriate for the administration of the regulations in this part.

(d) The certificate holder and applicant for a CoC shall submit a notification under § 72.4 at least 45 days prior to starting fabrication of the first spent fuel storage cask under a Certificate of Compliance.

[64 FR 56126, Oct. 15, 1999]

§ 72.234 Conditions of approval.

(a) The certificate holder and applicant for a CoC shall ensure that the design, fabrication, testing, and maintenance of a spent fuel storage cask comply with the requirements in § 72.236.

(b) The certificate holder and applicant for a CoC shall ensure that the design, fabrication, testing, and maintenance of spent fuel storage casks are conducted under a quality assurance program that meets the requirements of subpart G of this part.

(c) An applicant for a CoC may begin fabrication of spent fuel storage casks before the Commission issues a CoC for the cask; however, applicants who begin fabrication of casks without a CoC do so at their own risk. A cask fabricated before the CoC is issued shall be made to conform to the issued CoC before being placed in service or before spent fuel is loaded.

(d)(1) The certificate holder shall ensure that a record is established and maintained for each spent fuel storage cask fabricated under the CoC.

(2) This record must include:

(i) The NRC CoC number;

(ii) The spent fuel storage cask model number;

(iii) The spent fuel storage cask identification number;

(iv) Date fabrication was started;

(v) Date fabrication was completed;

(vi) Certification that the spent fuel storage cask was designed, fabricated, tested, and repaired in accordance with a quality assurance program accepted by NRC;

(vii) Certification that inspections required by §72.236(j) were performed and found satisfactory; and

(viii) The name and address of the licensee using the spent fuel storage cask.

(3) The certificate holder shall supply the original of this record to the licensees using the spent fuel storage cask. A current copy of a composite record of all spent fuel storage casks manufactured under a CoC, showing the information in paragraph (d)(2) of this section, must be initiated and maintained by the certificate holder for each model spent fuel storage cask. If the certificate holder permanently ceases production of spent fuel storage casks under a CoC, the certificate holder shall send this composite record to the Commission using instructions in §72.4.

(e) The certificate holder and the licensees using the spent fuel storage cask shall ensure that the composite record required by paragraph (d) of this section is available to the Commission for inspection.

(f) The certificate holder shall ensure that written procedures and appropriate tests are established prior to use of the spent fuel storage casks. A copy of these procedures and tests must be provided to each licensee using the spent fuel storage cask.

[64 FR 56126, Oct. 15, 1999, as amended at 65 FR 50617, Aug. 21, 2000]

§72.236 Specific requirements for spent fuel storage cask approval and fabrication.

The certificate holder and applicant for a CoC shall ensure that the requirements of this section are met.

(a) Specifications must be provided for the spent fuel to be stored in the spent fuel storage cask, such as, but not limited to, type of spent fuel (*i.e.*, BWR, PWR, both), maximum allowable enrichment of the fuel prior to any irradiation, burn-up (*i.e.*, megawatt-days/MTU), minimum acceptable cooling time of the spent fuel prior to storage in the spent fuel storage cask, maximum heat designed to be dissipated, maximum spent fuel loading limit, condition of the spent fuel (*i.e.*, intact assembly or consolidated fuel rods), the inerting atmosphere requirements.

(b) Design bases and design criteria must be provided for structures, systems, and components important to safety.

(c) The spent fuel storage cask must be designed and fabricated so that the spent fuel is maintained in a subcritical condition under credible conditions.

(d) Radiation shielding and confinement features must be provided sufficient to meet the requirements in §§72.104 and 72.106.

(e) The spent fuel storage cask must be designed to provide redundant sealing of confinement systems.

(f) The spent fuel storage cask must be designed to provide adequate heat removal capacity without active cooling systems.

(g) The spent fuel storage cask must be designed to store the spent fuel safely for the term proposed in the application, and permit maintenance as required.

(h) The spent fuel storage cask must be compatible with wet or dry spent fuel loading and unloading facilities.

(i) The spent fuel storage cask must be designed to facilitate decontamination to the extent practicable.

(j) The spent fuel storage cask must be inspected to ascertain that there are no cracks, pinholes, uncontrolled voids, or other defects that could significantly reduce its confinement effectiveness.

(k) The spent fuel storage cask must be conspicuously and durably marked with—

(1) A model number;

(2) A unique identification number; and

(3) An empty weight.

(l) The spent fuel storage cask and its systems important to safety must be evaluated, by appropriate tests or by other means acceptable to the NRC, to demonstrate that they will reasonably

maintain confinement of radioactive material under normal, off-normal, and credible accident conditions.

(m) To the extent practicable in the design of spent fuel storage casks, consideration should be given to compatibility with removal of the stored spent fuel from a reactor site, transportation, and ultimate disposition by the Department of Energy.

(n) Safeguards Information shall be protected against unauthorized disclosure in accordance with the requirements of § 73.21 and the requirements of § 73.22 or § 73.23 of this chapter, as applicable.

[64 FR 56126, Oct. 15, 1999, as amended at 65 FR 50617, Aug. 21, 2000; 73 FR 63573, Oct. 24, 2008; 76 FR 8891, Feb. 16, 2011]

§ 72.238 Issuance of an NRC Certificate of Compliance.

A Certificate of Compliance for a cask model will be issued by NRC for a term not to exceed 40 years on a finding that the requirements in § 72.236(a) through (i) are met.

[76 FR 8891, Feb. 16, 2011]

§ 72.240 Conditions for spent fuel storage cask renewal.

(a) The certificate holder may apply for renewal of the design of a spent fuel storage cask for a term not to exceed 40 years. In the event that the certificate holder does not apply for a cask design renewal, any licensee using a spent fuel storage cask, a representative of such licensee, or another certificate holder may apply for a renewal of that cask design for a term not to exceed 40 years.

(b) The application for renewal of the design of a spent fuel storage cask must be submitted not less than 30 days before the expiration date of the CoC. When the applicant has submitted a timely application for renewal, the existing CoC will not expire until the application for renewal has been determined by the NRC.

(c) The application must be accompanied by a safety analysis report (SAR). The SAR must include the following:

(1) Design bases information as documented in the most recently updated final safety analysis report (FSAR) as required by § 72.248;

(2) Time-limited aging analyses that demonstrate that structures, systems, and components important to safety will continue to perform their intended function for the requested period of extended operation; and

(3) A description of the AMP for management of issues associated with aging that could adversely affect structures, systems, and components important to safety.

(d) The design of a spent fuel storage cask will be renewed if the conditions in subpart G of this part and § 72.238 are met, and the application includes a demonstration that the storage of spent fuel has not, in a significant manner, adversely affected structures, systems, and components important to safety.

(e) In approving the renewal of the design of a spent fuel storage cask, the NRC may revise the CoC to include terms, conditions, and specifications that will ensure the safe operation of the cask during the renewal term, including but not limited to, terms, conditions, and specifications that will require the implementation of an AMP.

[76 FR 8891, Feb. 16, 2011]

§ 72.242 Recordkeeping and reports.

(a) Each certificate holder or applicant shall maintain any records and produce any reports that may be required by the conditions of the CoC or by the rules, regulations, and orders of the NRC in effectuating the purposes of the Act.

(b) Records that are required by the regulations in this part or by conditions of the CoC must be maintained for the period specified by the appropriate regulation or the CoC conditions. If a retention period is not specified, the records must be maintained until the NRC terminates the CoC.

(c) Any record maintained under this part may be either the original or a reproduced copy by any state-of-the-art method provided that any reproduced copy is duly authenticated by authorized personnel and is capable of producing a clear and legible copy after storage for the period specified by NRC regulations.

(d) Each certificate holder shall submit a written report to the NRC within

30 days of discovery of a design or fabrication deficiency, for any spent fuel storage cask which has been delivered to a licensee, when the design or fabrication deficiency affects the ability of structures, systems, and components important to safety to perform their intended safety function. The written report shall be sent to the NRC in accordance with the requirements of §72.4. The report shall include the following:

(1) A brief abstract describing the deficiency, including all component or system failures that contributed to the deficiency and corrective action taken or planned to prevent recurrence;

(2) A clear, specific, narrative description of what occurred so that knowledgeable readers familiar with the design of the spent fuel storage cask, but not familiar with the details of a particular cask, can understand the deficiency. The narrative description shall include the following specific information as appropriate for the particular event:

(i) Dates and approximate times of discovery;

(ii) The cause of each component or system failure, if known;

(iii) The failure mode, mechanism, and effect of each failed component, if known;

(iv) A list of systems or secondary functions that were also affected for failures of components with multiple functions;

(v) The method of discovery of each component or system failure;

(vi) The manufacturer and model number (or other identification) of each component that failed during the event;

(vii) The model and serial numbers of the affected spent fuel storage casks;

(viii) The licensees that have affected spent fuel storage casks;

(3) An assessment of the safety consequences and implications of the deficiency. This assessment shall include the availability of other systems or components that could have performed the same function as the components and systems that were affected;

(4) A description of any corrective actions planned as a result of the deficiency, including those to reduce the probability of similar occurrences in the future;

(5) Reference to any previous similar deficiencies at the same facility that are known to the certificate holder; and

(6) The name and telephone number of a person within the certificate holder's organization who is knowledgeable about the deficiency and can provide additional information.

[64 FR 56127, Oct. 15, 1999]

§ 72.244 Application for amendment of a certificate of compliance.

Whenever a certificate holder desires to amend the CoC (including a change to the terms, conditions or specifications of the CoC), an application for an amendment shall be filed with the Commission fully describing the changes desired and the reasons for such changes, and following as far as applicable the form prescribed for original applications.

[64 FR 53617, Oct. 4, 1999]

§ 72.246 Issuance of amendment to a certificate of compliance.

In determining whether an amendment to a CoC will be issued to the applicant, the Commission will be guided by the considerations that govern the issuance of an initial CoC.

[64 FR 53617, Oct. 4, 1999]

§ 72.248 Safety analysis report updating.

(a) Each certificate holder for a spent fuel storage cask design shall update periodically, as provided in paragraph (b) of this section, the final safety analysis report (FSAR) to assure that the information included in the report contains the latest information developed.

(1) Each certificate holder shall submit an original FSAR to the Commission, in accordance with §72.4, within 90 days after the spent fuel storage cask design has been approved pursuant to §72.238.

(2) The original FSAR shall be based on the safety analysis report submitted with the application and reflect any changes and applicant commitments developed during the cask design review process. The original FSAR shall

be updated to reflect any changes to requirements contained in the issued Certificate of Compliance (CoC).

(b) Each update shall contain all the changes necessary to reflect information and analyses submitted to the Commission by the certificate holder or prepared by the certificate holder pursuant to Commission requirement since the submission of the original FSAR or, as appropriate, the last update to the FSAR under this section. The update shall include the effects[1] of:

(1) All changes made in the spent fuel storage cask design or procedures as described in the FSAR;

(2) All safety analyses and evaluations performed by the certificate holder either in support of approved CoC amendments, or in support of conclusions that changes did not require a CoC amendment in accordance with §72.48; and

(3) All analyses of new safety issues performed by or on behalf of the certificate holder at Commission request. The information shall be appropriately located within the updated FSAR.

(c)(1) The update of the FSAR must be filed in accordance with §72.4. If the update is filed on paper, then it should be filed on a page-replacement basis; if filed electronically, it should be filed on a full replacement basis. See Guidance for Electronic Submissions to the Commission at *http://www.nrc.gov/site-help/e-submittals.html*.

(2) A paper update filed on a page-replacement basis must include a list that identifies the current pages of the FSAR following page replacement. If the update is filed electronically on a full replacement basis, it must include a list of changed pages.

(3) Each replacement page shall include both a change indicator for the area changed, e.g., a bold line vertically drawn in the margin adjacent to the portion actually changed, and a page change identification (date of change or change number or both);

(4) The update shall include:

(i) A certification by a duly authorized officer of the certificate holder that either the information accurately presents changes made since the previous submittal, or that no such changes were made; and

(ii) An identification of changes made by the certificate holder under the provisions of §72.48, but not previously submitted to the Commission;

(5) The update shall reflect all changes implemented up to a maximum of 6 months prior to the date of filing;

(6) Updates shall be filed every 24 months from the date of issuance of the CoC; and

(7) The certificate holder shall provide a copy of the updated FSAR to each general and specific licensee using its cask design.

(d) The updated FSAR shall be retained by the certificate holder until the Commission terminates the certificate.

(e) A certificate holder who permanently ceases operation, shall provide the updated FSAR to the new certificate holder or to the Commission, as appropriate, in accordance with §72.234(d)(3).

[64 FR 53617, Oct. 4, 1999, as amended at 68 FR 58819, Oct. 10, 2003; 74 FR 62684, Dec. 1, 2009]

[1] Effects of changes includes appropriate revisions of descriptions in the FSAR such that the FSAR (as updated) is complete and accurate.

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

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