

**NUCLEAR REGULATORY COMMISSION**

**10 CFR Parts 72, 150, and 171**

**[Docket No. PRM-72-2]**

**RIN 3150-AG33**

**Interim Storage for Greater Than Class C Waste**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Proposed rule.

**SUMMARY:** The Nuclear Regulatory Commission (NRC) is proposing to grant in part and deny in part a petition for rulemaking submitted by Portland General Electric Company (PRM-72-2) by amending its regulations dealing with greater than class C (GTCC) waste. The proposed amendments would only apply to the interim storage of GTCC waste generated or used by commercial nuclear power plants. The proposed amendments would allow licensing for interim storage of GTCC waste in a manner that is consistent with licensing the interim storage of spent fuel and would maintain Federal jurisdiction for storage of reactor-related GTCC waste. These proposed amendments would also simplify and clarify the licensing process.

**DATE:** The comment period expires (75 days after publication). Comments received after this date will be considered if it is practical to do so, but the Commission is able to assure consideration only for comments received on or before this date.

**ADDRESSES:** Submit comments to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Attention: Rulemakings and Adjudications Staff.

Deliver comments to 11555 Rockville Pike, Rockville, Maryland, between 7:30 am and 4:15 pm on Federal workdays.

You may also provide comments via the NRC's interactive rulemaking website (<http://ruleforum.llnl.gov>). This site provides the capability to upload comments as files (any format), if your web browser supports that function. For information about the interactive rulemaking site, contact Ms. Carol Gallagher, (301) 415-5905 (e-mail [cag@nrc.gov](mailto:cag@nrc.gov)).

Certain documents related to this rulemaking, including comments received, may be examined at the NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC. These same documents also may be viewed and downloaded electronically via the rulemaking website.

Documents created or received at the NRC after November 1, 1999, are also available electronically at the NRC's Public Electronic Reading Room on the Internet at <http://www.nrc.gov/NRC/ADAMS/index.html>. From this site, the public can gain entry into the NRC's Agency wide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. For more information, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, 202-634-3273, or by email to [pdr@nrc.gov](mailto:pdr@nrc.gov).

**FOR FURTHER INFORMATION CONTACT:** Mark Haisfield [telephone (301) 415-6196, e-mail [MFH@nrc.gov](mailto:MFH@nrc.gov)] or Francis Young, [telephone (301) 415-3207, e-mail [FIY@nrc.gov](mailto:FIY@nrc.gov)] of the Office

of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

**SUPPLEMENTARY INFORMATION:**

BACKGROUND

The Petition for Rulemaking

The Nuclear Regulatory Commission received a petition for rulemaking dated November 2, 1995, submitted by Portland General Electric Company. The petition was docketed as PRM-72-2 and published in the Federal Register, with a 75-day comment period, on February 1, 1996 (61 FR 3619).

The petitioner requested that the NRC amend 10 CFR Part 72 to add the authority to store radioactive waste that exceeds the concentration limits of radionuclides established for Class C waste in 10 CFR 61.55<sup>1</sup>. This material is commonly referred to as "greater than class C" waste or GTCC waste. GTCC waste is generally unsuitable for near-surface disposal as low-level waste (LLW), even though it is legally defined as LLW. 10 CFR 61.55(a)(2)(iv) requires that this type of waste be disposed of in a geologic repository unless approved for an alternative disposal method on a case-specific basis by the NRC.

The petitioner is an NRC-licensed utility responsible for the Trojan Nuclear Plant (Trojan). In the petition, the petitioner anticipated that it would need to dispose of GTCC waste during decommissioning. The decommissioning plan specifies the transfer of spent reactor

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<sup>1</sup> In 10 CFR Part 61.55, "Waste Classification," the NRC codifies disposal requirements for three classes of low-level waste which are considered generally suitable for near-surface disposal. These are Class A, B, and C. Class C waste is required to meet the most rigorous disposal requirements.

fuel, currently being stored in the spent fuel pool, to an onsite Independent Spent Fuel Storage Installation (ISFSI) licensed under 10 CFR Part 72. The petitioner requested that 10 CFR Part 72 be revised to permit GTCC waste to be stored at the ISFSI pending transfer to a permanent disposal facility. The petitioner suggested that, because the need to provide interim storage for GTCC waste is not specific to Trojan but is generic, the regulations in 10 CFR Part 72 should be amended to explicitly provide for storage of GTCC waste in a licensed ISFSI<sup>2</sup>.

The petitioner believes that storage of GTCC waste under 10 CFR Part 72 will ensure safe interim storage. This storage would provide for public health and safety and environmental protection as required for spent fuel located at an ISFSI or spent fuel and high-level waste stored at a Monitored Retrievable Storage Installation (MRS).

The specific changes proposed in the petition would explicitly include interim storage of GTCC waste within the Purpose, Scope, and Definitions sections of 10 CFR Part 72 in order to treat GTCC waste in a manner similar to that for spent nuclear fuel. The revised definitions would only apply to the interim storage of GTCC waste under the authority of 10 CFR Part 72.

If this rule is adopted in final form, the petition would be granted in part and denied in part. This proposed rule would grant the petitioner's request to authorize GTCC waste storage under a 10 CFR Part 72 license, but as discussed later, uses a different approach.

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<sup>2</sup> Although the proposal to grant this petition is no longer needed for Trojan since the GTCC waste was shipped to the Hanford LLW site within the reactor vessel, the NRC believes that this rulemaking, if promulgated, will be useful for other reactor operators that need to store their GTCC waste.

## Public Comments on the Petition

The notice of receipt of the petition for rulemaking invited interested persons to submit written comments concerning the petition. The NRC received six comment letters. Five comment letters were received from nuclear facilities and one from the Nuclear Energy Institute (NEI). NEI provided another letter on this subject directly to the NRC Chairman on February 2, 1999, and the NRC responded on March 25, 1999. The comments were reviewed and considered in the development of NRC's decision on this petition. These comments are available in the NRC Public Document Room.

All six commenters supported the petition. Two of the commenters (Sacramento Municipal Utility District and Yankee Atomic Electric Company) are currently decommissioning their reactors.

## Draft Rulemaking Plan

As a result of the petition and the comment letters, the NRC developed a draft rulemaking plan to further consider the development of a rule that would meet the intent of the petition. In SECY-97-056, dated March 5, 1997, the NRC staff provided a draft rulemaking plan to the Commission outlining a rule that would modify 10 CFR Part 72 to allow storage of material, which when disposed of would be classified as GTCC waste, under the authority of 10 CFR Part 72 using the performance criteria of this part. As discussed in this draft rulemaking plan, currently, licensees are authorized to store GTCC waste under the regulations in 10 CFR Part 30 and/or Part 70. Therefore, the draft rulemaking plan discussed adding an option to store GTCC waste under 10 CFR Part 72 while maintaining the existing option to store this waste using the authority of 10 CFR Parts 30 and 70. This plan was sent to the Agreement

States for their comments on April 18, 1997. Four States provided comments -- Illinois, New York, Texas, and Utah.

The draft rulemaking plan did not require that the licensing jurisdiction for GTCC waste remain with NRC, but did suggest that Agreement States could voluntarily relinquish their licensing authority for GTCC waste stored at an ISFSI. The draft rulemaking plan requested Agreement State input relative to their likelihood of relinquishing authority for licensing when an ISFSI or an MRS is used for storing GTCC waste. Three of the four state commenters indicated that they were opposed to voluntarily relinquishing their authority and preferred to maintain their licensing authority for GTCC waste.

#### Discussion

Current NRC regulations are not clear on the acceptability of storing reactor-related GTCC waste co-located at an ISFSI or an MRS. Co-location is the storage of spent fuel and other radioactive material in their respective separate containers. This situation has created confusion and uncertainty on the part of decommissioning reactor licensees and may create inefficiency and inconsistency in the way the NRC handles GTCC waste licensing matters.

Currently, 10 CFR Part 50 licensees (Domestic Licensing of Production and Utilization Facilities) are authorized to store all types of reactor-related radioactive materials, including material that, when disposed of, would be classified as GTCC waste. The GTCC waste portion is currently being stored either within the reactor vessel, in the spent fuel pool, or in a radioactive material storage area, pending development of a suitable permanent disposal facility. Reactor-related GTCC waste is typically in a solid form (i.e., mostly activated metals) such as reactor vessel internals, nozzles, and in-core instrumentation. A small amount of GTCC waste may also be in the form of a sealed source that was used during the operation of

the reactor. GTCC waste may consist of either byproduct material or special nuclear material. The authority to license the possession and storage of GTCC waste is contained within 10 CFR Part 30 for byproduct material and in 10 CFR Part 70 for special nuclear material. Under 10 CFR 50.52, the Commission may combine multiple licensing activities of an applicant that would otherwise be licensed individually in single licenses. Thus, the 10 CFR Part 50 license authorizing operation of production and utilization facilities currently includes, within it, the authorization to possess byproduct and special nuclear material that would otherwise need to be separately licensed under 10 CFR Parts 30 or 70.

Under current regulations, while a 10 CFR Part 50 license is in effect, a reactor licensee can store spent fuel generated at the reactor site under either a general license pursuant to 10 CFR 72.210 or a specific license pursuant to 10 CFR Part 72. In addition, the reactor licensee who has a 10 CFR Part 50 license, can store GTCC waste generated at the reactor site under the 10 CFR Parts 30 and 70 authority included in the 10 CFR Part 50 license.

Under current regulations, when the 10 CFR Part 50 license terminates, a reactor licensee can continue to store spent fuel generated at the reactor site under a specific license pursuant to 10 CFR Part 72. However, a general license under 10 CFR 72.210 would terminate because the 10 CFR Part 50 license has terminated, and the reactor licensee would need to apply for a specific license under 10 CFR Part 72 in order to continue to store spent fuel at the reactor site. Furthermore, the 10 CFR Parts 30 and 70 licenses included in the 10 CFR Part 50 licenses are also terminated when the 10 CFR Part 50 license terminates and the reactor licensee can only store GTCC waste by applying for a specific NRC license under 10 CFR Parts 30 and/or 70, or an equivalent Agreement State license if the facility is located in an Agreement State.

Under the proposed regulations, when a 10 CFR Part 50 license is terminated, the reactor licensee will only apply for an NRC license, but will have the option to store GTCC

waste under either 10 CFR Part 72 or under 10 CFR Parts 30 and 70. This proposed regulation maintains Federal jurisdiction for GTCC waste under either approach (10 CFR Part 72 or 10 CFR Parts 30 and 70).

The proposed changes in this rulemaking would allow a 10 CFR Part 72 specific licensee to co-locate reactor-related GTCC waste within an ISFSI or an MRS. Applicants for a specific license would be required to provide a Safety Analysis Report (SAR) which would describe how the GTCC waste would be stored. The SAR would describe how structures, systems, and components that are important to safety are properly designed to allow the storage of GTCC waste within an ISFSI or MRS. There are no separate design criteria for GTCC waste storage containers. Safe storage of GTCC waste will be governed by the provisions of 10 CFR Part 20 existing requirements. The applicant shall ensure that the co-location of this radioactive material does not have an adverse affect on the safe storage of spent fuel and the operation of the ISFSI. Based on an acceptable review of the SAR, the NRC would issue a 10 CFR Part 72 specific license. Current 10 CFR Part 72 specific license holders would be required to submit an application to amend their 10 CFR Part 72 license, if they desire to store GTCC waste at their ISFSI.

Under existing regulations, storage of GTCC waste at an ISFSI after termination of the reactor licensee's 10 CFR Part 50 license could lead to (1) NRC regulating the spent fuel at an ISFSI and (2) Agreement States regulating GTCC waste at the same location. The NRC has exclusive regulatory authority over a reactor licensee's storage of all radioactive material both spent fuel and of GTCC waste during the term of the 10 CFR Part 50 license. Once the 10 CFR Part 50 license is terminated an Agreement State would have authority for any GTCC waste stored by the utility.

The NRC believes that decommissioning activities at commercial nuclear power plants will generate relatively small volumes of GTCC waste relative to the amount of spent fuel that



exists at these sites. GTCC waste exceeds the concentration limits of radionuclides established for Class C in §§ 61.55(a)(3)(ii), 61.55(a)(4)(iii), or 61.55(a)(5)(ii). GTCC waste is not generally acceptable for near-surface disposal at licensed low-level radioactive waste disposal facilities. There currently are no routine disposal options for GTCC waste. Because GTCC waste is unlikely to be disposed of at a LLW disposal site regulated under 10 CFR Part 61, the GTCC waste must be stored in the interim.

In general, reactor-related GTCC wastes can be grouped into two categories. The first is activated metals, irradiated metal components from nuclear reactors such as core shrouds, support plates, and core barrels. The second is process wastes such as filters and resins resulting from the operation and decommissioning of reactors. In addition, there may be a small amount of GTCC waste generated from other activities associated with the reactor's operation (e.g., reactor start-up sources).

The Low-Level Radioactive Waste Policy Amendments Act of 1985 gave the Federal Government (U.S. Department of Energy (DOE)) the primary responsibility for developing a national strategy for disposal of GTCC waste. The Act also gave the NRC the licensing responsibility for a disposal facility for GTCC waste. Until a disposal facility is licensed, there is a need for interim storage of GTCC waste.

In the development of the proposed rule, the NRC has identified a potential policy issue associated with DOE's responsibility for the disposal of GTCC waste. Because DOE has not yet identified criteria or technical regulations for a disposal package for spent fuel or GTCC waste, the NRC is concerned that the commingling of spent fuel and GTCC waste (i.e., the two types of waste stored within the same cask) may be unacceptable for permanent disposal in the geologic repository. In such a case, the spent fuel and GTCC waste would need to be removed from the storage container before the spent fuel is placed in the geologic repository.

The NRC desires to formulate regulations which both reduce radiological exposure and costs associated with repackaging the spent fuel and GTCC waste into two separate containers. Therefore, information from DOE on disposal policies will be helpful in developing storage criteria for 10 CFR Part 72 (and enable the NRC to preclude a storage option that would be unacceptable for permanent disposal). Allowing commingling may be a technically safe and economical use of spent fuel storage cask space. The NRC staff has already reviewed and concluded, on a case-by-case basis, that certain specific components associated with, and integral to, spent fuel (e.g., burnable poison rod assemblies, control rod assemblies, and thimble plugs) can be safely stored in the same cask with spent fuel. For current and future reviews, the NRC has developed guidance for the storage of these specific components. As discussed later, the position in the proposed rule is to preclude commingling of other reactor-related GTCC waste not integral to the spent fuel assemblies and to preclude storage of liquid GTCC waste.

However, and as discussed below, the NRC is specifically requesting additional input from stakeholders, including DOE, to develop a more effective rulemaking with respect to commingling of GTCC waste and spent fuel (in an ISFSI) or spent fuel, high-level waste, and GTCC waste (in an MRS).

#### Request for Public Input on Specific Issues

The Commission is seeking input from stakeholders on various technical topics associated with the storage of GTCC waste. Submit responses to these questions as identified in the ADDRESSES section listed above.

The storage of GTCC waste at an ISFSI or MRS presents safety and technical issues that differ from those previously addressed by the NRC for the storage of spent fuel. For

example, some forms of GTCC waste may be susceptible to radiolytic or thermal decomposition. Consequently, the design of a container for the storage of GTCC waste would need to consider the generation of gas or other products. Furthermore, chemical, galvanic, or thermal interactions may occur between GTCC waste, spent fuel, and the cask internals for GTCC waste and spent fuel stored in the same cask (i.e., commingled).

Accordingly, the Commission is requesting comments from interested stakeholders on the following safety, technical or licensing issues. The Commission may use this information to assist in the development of future regulations on the storage of GTCC waste under 10 CFR Part 72. Comments are not limited to the safety and technical issues listed below. Comments on proposed performance criteria for storage of GTCC waste are particularly requested. The performance criteria should ensure that systems, structures, and components (SSCs) which are important to safety will retain their ability to perform design functions during GTCC waste normal storage operations, anticipated occurrences, and accidents.

1. Should the storage of certain forms of GTCC waste and spent fuel in the same cask be prohibited? Or, should storage be permitted if performance criteria can be established? If so, what criteria should be used?

Note: As previously discussed, the NRC has already approved the storage of certain types of GTCC waste and spent fuel in the same cask on a case-by-case basis. The approved GTCC waste has typically been reactor core components, (e.g., thimble plugs, burnable poison rod assemblies, and control rod assemblies). In addition, the Commission is separately requesting information from DOE regarding DOE's position on the final disposal of commingled spent fuel and GTCC waste.

2. Should the storage of explosive, pyrophoric, combustible, or chemically reactive GTCC waste be prohibited in either commingled or separate GTCC casks? Or should storage be permitted if performance criteria can be established? If so, what criteria should be used?

3. Should the storage of GTCC that may generate or release gases via radiolytic or thermal decomposition, including flammable gases, be prohibited in either commingled or separate GTCC casks? Or should storage be permitted if performance criteria can be established? If so, what criteria should be used?

4. Should the storage of solid GTCC waste that may contain free liquid (e.g., dewatered resin) be prohibited in either commingled or separate GTCC casks? Or should storage be permitted if performance criteria can be established? If so, what criteria should be used?

5. Should the storage of liquid GTCC waste be prohibited in either commingled or separate GTCC casks? Or should storage be permitted if performance criteria can be established? If so, what criteria should be used?

6. If reactor licensees, after termination of their 10 CFR Part 50 license, elect to store reactor-related GTCC waste under the provisions of 10 CFR Parts 30/70, is additional guidance needed to provide a more efficient licensing process?

## Proposed Regulatory Action

The NRC is proposing to modify 10 CFR Parts 72, 150, and 171. The proposed changes to these parts are necessary to allow the interim storage of NRC-licensed reactor-related GTCC waste within an ISFSI or an MRS and to require that the licensing responsibility for this waste remain under Federal jurisdiction. This proposed action deals only with GTCC waste used or generated by a commercial power reactor licensed under 10 CFR Part 50 (i.e., not a research reactor) and does not include any other sources of GTCC waste. Because reactor-related GTCC waste is initially under Federal jurisdiction while the reactor facility is operated and the ultimate disposal of GTCC waste is also under Federal jurisdiction, the NRC believes that the interim period between termination of a reactor license and ultimate disposal should also remain under Federal jurisdiction. GTCC waste could become eligible for disposal in a geologic repository in the future. Spent fuel can be stored in an ISFSI or a MRS pending ultimate disposal. Therefore, for efficiency and consistency of licensing, the NRC believes that 10 CFR Part 72 should be modified to also allow the storage of GTCC waste within these facilities under NRC's jurisdiction. The existing regulatory scheme, which would allow for Federal-State-Federal jurisdiction over the generation, interim storage, and disposal of GTCC, waste is an inefficient approach. It is inefficient for NRC and an Agreement State to both spend scarce resources to license and inspect an ISFSI that stores both spent fuel and GTCC waste. 10 CFR Parts 150 and 171 would also require conforming changes.

This proposed rule would allow storage of reactor-related GTCC waste under a 10 CFR Part 72 specific license. The proposed changes would modify 10 CFR Part 72 to allow storage of GTCC waste under this part using the performance criteria of 10 CFR Part 72 (General Design Criteria in Subpart F). This would provide a more efficient means of implementing what is essentially already permitted by the regulations (storage of GTCC waste co-located at an

ISFSI or an MRS). When storing spent fuel and GTCC waste within an ISFSI or MRS, the licensee or applicant must provide a description of how storage of the GTCC waste will not have an adverse effect on the ISFSI or MRS or on public health and safety and the environment.

The proposed rule would not eliminate the current availability of storing GTCC waste under the authority of a 10 CFR Part 30 or 70 license. Neither 10 CFR Parts 30 nor 70 include explicit criteria for storage of GTCC waste. Therefore, a licensing process conducted under these regulations would be more complicated and resource intensive because the licensee would need to develop new proposed storage criteria and the NRC would then need to review and approve these criteria within the licensing process. If this approach is followed, the NRC is proposing that Federal jurisdiction would be retained over the reactor-related GTCC waste stored under 10 CFR Parts 30 and 70.

Comparing these two approaches, the NRC recognizes that the licensing process will be simpler with less regulatory burden if all the radioactive waste to be stored at an ISFSI or MRS is stored under the authority of one 10 CFR Part 72 license. 10 CFR Part 72 was developed specifically for storage of spent fuel at an ISFSI and spent fuel and high-level waste at an MRS. The general storage criteria of 10 CFR Part 72 will be applied to GTCC waste storage. Under 10 CFR Parts 30 and 70, GTCC waste storage criteria would need to be developed on a case-by-case basis to support licensing under these parts. Also, using 10 CFR Part 72 to store reactor-related GTCC waste would eliminate the need for multiple licenses for the storage of spent fuel and GTCC waste.

Moreover, the NRC is still evaluating technical issues arising from the commingling of spent fuel and reactor-related GTCC waste in the same storage container and issues arising from the storage of reactor-related liquid GTCC waste, under a 10 CFR Part 72 specific license. Therefore, this proposed rule would permit the co-locating of spent fuel and solid

reactor-related GTCC waste in different casks and containers within an ISFSI or MRS. However, the proposed rule is not structured to permit the commingling of spent fuel and GTCC waste in the same storage cask. Additionally, this proposed rule is not structured to permit the storage of liquid reactor-related GTCC waste. However, a licensee or applicant may submit an exemption request pursuant to § 72.7 for approval for commingling of spent fuel and solid reactor-related GTCC waste in the same storage cask, or storing liquid reactor-related GTCC waste. The NRC will review and approve these types of requests on a case-by-case basis. As stated above, the NRC is still evaluating these technical issues and as noted earlier is asking for additional input during the public comment period for use in the development of the final rule.

Without this change, after termination of the 10 CFR Part 50 license, a licensee would need multiple licenses -- 10 CFR Part 72 for spent fuel and 10 CFR Part 30 or 70 (or both) for GTCC waste. Having one license for the ISFSI (or MRS) under 10 CFR Part 72 will be simpler for both licensees and the NRC, relative to approval and management.

The NRC believes that the concept proposed in the petition of storing GTCC waste under the provisions of 10 CFR Part 72 is valid. However, the NRC also believes that the method proposed by the petitioner, that is modifying the definition of spent fuel to include GTCC waste, could lead to confusion. Modifying the definition of spent fuel would only apply to spent fuel as defined under 10 CFR Part 72 and would not be technically accurate.

Therefore, the NRC is proposing to add a definition of GTCC waste within § 72.3 that would be consistent with 10 CFR 61.55. The NRC has evaluated 10 CFR Part 72 to determine which sections need to be modified to accommodate storage of solid GTCC waste co-located with spent fuel within an ISFSI or an MRS. The majority of the changes to 10 CFR Part 72 would simply add the term "GTCC waste" to the appropriate sections and paragraphs (typically

immediately after the terms “spent fuel” or “high-level waste”). Section 72.120 would be revised to require that GTCC waste be in a solid form. Reviewer guidance will be developed.

10 CFR Parts 150 and 171 would be modified to be consistent with the changes proposed for 10 CFR Part 72. The proposed change to 10 CFR Part 150 (Exemptions and Continued Regulatory Authority in Agreement States and in Offshore Waters Under Section 274) would specify that any GTCC waste stored in an ISFSI or an MRS is under NRC jurisdiction. This part would also be modified to indicate that licensing the storage of any GTCC waste that originates in, or is used by, a facility licensed under 10 CFR Part 50 (a production utilization facility) is the responsibility of the NRC.

The proposed change to 10 CFR Part 171 (Annual Fees for Reactor Licenses and Fuel Cycle Licenses and Materials Licenses, Including Holders of Certificates of Compliance, Registrations, and Quality Assurance Program Approvals and Government Agencies Licensed by NRC) would include an annual fee for receipt and storage for GTCC waste, within the fee schedule for spent fuel at an ISFSI, under the license fee schedule. There would be no additional charge to the spent fuel annual fee to include GTCC waste.

#### NRC to Maintain Authority for Reactor-Related GTCC Waste

Section 274(c)1 of the Atomic Energy Act of 1954, as amended, provides that no agreement entered into by the NRC with a State “shall provide for discontinuance of any authority and the Commission shall retain authority and responsibility with respect to regulation of -- (1) the construction and operation of any production or utilization facility or any uranium enrichment facility.” The NRC has incorporated this statutory prohibition into its regulations in 10 CFR 150.15(a) and (a)(1) which states that:



(a) Persons in Agreement States are not exempt from the Commission's licensing and regulatory requirements with respect to the following activities:

(1) The construction and operation of any production or utilization facility. As used in this subparagraph, operation of a facility includes, but is not limited to

(i) the storage and handling of radioactive wastes at the facility site by the person licensed to operate the facility, and (ii) the discharge of radioactive effluents from the facility site.

Specifically, with regard to the storage of reactor-related GTCC waste, the NRC proposes continued Federal authority over the GTCC waste after termination of the 10 CFR Part 50 license. Thus, under the option of obtaining 10 CFR Part 30 and/or 70 licenses, the GTCC waste would remain under Federal authority. If the option of obtaining a specific license under 10 CFR Part 72 is chosen, the GTCC waste would also remain under Federal authority. This licensing authority would be irrespective of the physical location of the storage facility (either on or off the originating reactor site).

However, this proposed rule is not intended to change other current responsibilities for Class A, B, and C reactor-related LLW after termination of the 10 CFR Part 50 license. In addition, under 10 CFR 72.128(b), any LLW generated by the ISFSI (or an MRS) must be treated and stored onsite awaiting transfer to a disposal site. The licensing authority for treatment and storage of ISFSI or MRS generated LLW would be under 10 CFR Part 72, and therefore, reserved to the NRC.

From a practical matter, the NRC believes that because, under section 3(b)(1)(D) of the Low-Level Radioactive Waste Policy Amendments Act of 1985, the NRC must license the facility selected by DOE for disposal of GTCC waste, and because the NRC has jurisdiction over GTCC waste while the 10 CFR Part 50 facility is operated, it makes little sense for

Agreement States to assume regulatory authority and responsibility over reactor-related GTCC waste that is surrounded on all sides by Federal regulatory authority and responsibility.

### Specific Changes in Regulatory Text

The following section is provided to assist the reader in understanding the specific changes made to each section or paragraph in 10 CFR Parts 72, 150, and 171. For clarity of content in reading a section, much of that particular section may be repeated, although only a minor change would be made. Using this section should allow the reader to effectively review the specific changes without reviewing existing material that has been included for content, but has not been significantly changed.

The title to 10 CFR Part 72 would be revised to include GTCC waste.

The following sections or paragraphs would be revised to specify the inclusion of GTCC waste, for clarity, or for completeness: §§ 72.1, 72.2(a) and (c), 72.6(a) and (c), 72.8, 72.16(d), 72.22(e)(3), 72.24 introductory text and (i), 72.28(d), 72.30(a), 72.40(b), 72.44(b)(4), (c)(3)(i), (c)(5), (d) and (g)(2), 72.52(b)(2), (c), and (e), 72.54(c)(1), 72.60(c), 72.72(a), (b), and (d), 72.75(b), (c), (d)(1)(iv), and (d)(2)(iv)(L), 72.76(a), 72.78(a), 72.80(g), 72.82(a) and (b), 72.106(b), 72.108 title and text, 72.122(b)(2), (h)(2), (h)(4), (h)(5), (i), and (l), 72.128 title and (a), and 72.140(c)(2).

Section 72.3: The definition for GTCC waste would be added to 10 CFR Part 72 and the definitions of Design capacity, Independent spent fuel storage installation or ISFSI, Monitored Retrievable Storage Installation or MRS, Spent fuel storage cask or cask, and Structures, systems, and components important to safety, would be revised to specify the inclusion of GTCC waste.

Paragraph 72.24(r): This new paragraph would specify compatibility and suitability of storage of reactor-related GTCC waste at an ISFSI or MRS. This requirement would ensure that the co-location of this radioactive material does not have an adverse affect on the safe storage of spent fuel and the operation of the facility.

Section 72.120: This section has been modified to provide some general considerations for the storage of GTCC waste within an ISFSI or MRS.

Paragraph 150.15(a)(7)(i) and (ii): This essentially repeats the existing paragraphs, but would be revised for consistency with the new § 150.15(a)(7)(iii).

Paragraph 150.15(a)(7)(iii): This new paragraph would specify that the storage of reactor-related GTCC waste within an ISFSI or an MRS licensed pursuant to 10 CFR Part 50 and/or Part 72 is exempt from Agreement State authority.

Paragraph 150.15(a)(8): This new paragraph would specify that the storage of reactor-related GTCC waste licensed under 10 CFR Part 30 and/or Part 70 is exempt from Agreement State authority.

Section 171.16, Category 1B: This category, under “Schedule of Materials Annual Fees and Fees for Government Agencies Licensed by NRC,” would be revised to include a license fee for receipt and storage of GTCC waste within the annual fee for spent fuel receipt and storage.

In the NRC’s proposed rule, “Clarification and Addition of Flexibility to Part 72” (64 FR 59677; November 3, 1999), additional changes are being proposed to 10 CFR Part 72. Some of the sections being revised by the “Clarification” rulemaking may also be changed to specify the inclusion of GTCC waste depending upon how this rule is finalized. The changes proposed in this rulemaking are based upon the current 10 CFR Part 72 text. The final GTCC rulemaking will incorporate necessary conforming changes based on the final “Clarification” rulemaking.

## Compatibility of Agreement State Regulations

Under the “Policy Statement on Adequacy and Compatibility of Agreement State Programs” approved by the Commission on June 30, 1997, and published in the Federal Register on September 3, 1997 (62 FR 46517), 10 CFR Part 72 and §§ 150.15, and 171.16 continue to be classified as compatibility Category “NRC.” The NRC program elements in this category are those that relate directly to areas of regulation reserved to the NRC by the Atomic Energy Act of 1954, as amended, or provisions of Title 10 of the Code of Federal Regulations.

The Commission is particularly interested in the position of the Agreement States on issues raised in this proposed rule. Specifically, the Commission would like Agreement State comment on the following questions:

1. What is the position of the Agreement States on NRC assuming jurisdiction of storage of GTCC waste generated during the operation of a 10 CFR Part 50 license after termination of the 10 CFR Part 50 license?

2. What controls and regulatory framework would the Agreement States envision assuming they have jurisdiction over GTCC waste generated during the operation under a 10 CFR Part 50 license after termination of the 10 CFR Part 50 license? How would the Agreement States plan to ensure consistency with a national regulatory scheme?

## Plain Language

The Presidential Memorandum dated June 1, 1998, entitled, “Plain Language in Government Writing,” directed that the Federal government’s writing be in plain language. This memorandum was published June 10, 1998 (63 FR 31883). In complying with this directive, editorial changes have been made in the proposed revision to improve the organization and

readability of the existing language of paragraphs being revised. These types of changes are not discussed further in this document. The NRC requests comments on the proposed rule specifically with respect to the clarity and effectiveness of the language used. Comments should be sent to the address listed under the "ADDRESSES" heading.

### Voluntary Consensus Standards

The National Technology Transfer and Advancement Act of 1995, Pub. L. 104-113, requires that agencies use technical standards that are developed or adopted by voluntary consensus standard bodies unless the use of such a standard is inconsistent with applicable law or otherwise impractical. In this proposed rule, the NRC is presenting amendments to its regulations that would allow the licensing of interim storage of GTCC waste. This action does not constitute the establishment of a standard that establishes generally-applicable requirements and the use of a voluntary consensus standard is not applicable.

### Finding of No Significant Environmental Impact: Availability

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in Subpart A of 10 CFR Part 51, that this rule, if adopted, would not be a major Federal action significantly affecting the quality of the human environment, and therefore, an environmental impact statement is not required. The proposed rule would provide reactor licensees an additional option of storing GTCC waste under a 10 CFR Part 72 license using spent fuel storage criteria of that part. Storage of GTCC waste at an ISFSI or an MRS would be in a passive mode with no human intervention needed for safe

storage. The draft Environmental Assessment determined that there is no significant environmental impact as a result of the proposed changes.

The NRC has sent a copy of the draft environmental assessment and this proposed rule to every State Liaison Officer and every Agreement State and requested their comments on the environmental assessment. The draft environmental assessment and finding of no significant impact on which this determination is based are available for inspection at the NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC. Single copies of the environmental assessment and the finding of no significant impact are available from Mark Haisfield, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-6196.

#### Paperwork Reduction Act Statement

This proposed rule amends information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq). This rule has been submitted to the Office of Management and Budget for review and approval of the information collection requirements.

The public reporting burden for this information collection is estimated to average 120 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. The U.S. Nuclear Regulatory Commission is seeking public comment on the potential impact of the information collections contained in the proposed rule and on the following issues:

1. Is the proposed information collection necessary for the proper performance of the functions of the NRC, including whether the information will have practical utility?
2. Is the estimate of burden accurate?
3. Is there a way to enhance the quality, utility, and clarity of the information to be collected?
4. How can the burden of the information collection be minimized, including the use of automated collection techniques?

Send comments on any aspect of this proposed information collection, including suggestions for reducing the burden, to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet electronic mail at BJS1@NRC.GOV; and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0132), Office of Management and Budget, Washington, DC 20503.

Comments to OMB on the information collections or on the above issues should be submitted by (insert date 30 days after publication in the Federal Register). Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given to comments received after this date.

#### Public Protection Notification

If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

## Regulatory Analysis

The Commission has prepared a draft regulatory analysis on this proposed regulation. The analysis examines the costs and benefits of the alternatives considered by the Commission. The draft analysis is available for inspection in the NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC. Single copies of the draft analysis may be obtained from Mark Haisfield, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-6196.

The Commission requests public comment on the draft regulatory analysis. Comments on the draft analysis may be submitted to the NRC as indicated under the ADDRESSES heading.

## Regulatory Flexibility Certification

As required by the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the Commission certifies that this rule, if adopted, will not have a significant economic impact upon a substantial number of small entities. The proposed amendments would apply to reactor licensees, ISFSI licensees, certificate holders, applicants for a Certificate of Compliance, and DOE. The majority, if not all, of these licensees would not qualify as small entities under the NRC's size standards (10 CFR 2.810).

Any small entity subject to this regulation which determines that, because of its size, it is likely to bear a disproportionate adverse economic impact should notify the Commission of this in a comment that indicates the following:

(a) The licensee's size and how the proposed regulation would result in a significant economic burden upon the licensee as compared to the economic burden on a larger licensee.



(b) How the proposed regulations could be modified to take into account the licensee's differing needs or capabilities.

(c) The benefits that would accrue, or the detriments that would be avoided, if the proposed regulations were modified as suggested by the licensee.

(d) How the proposed regulation, as modified, would more closely equalize the impact of regulations or create more equal access to the benefits of Federal programs as opposed to providing special advantages to any individual or group.

(e) How the proposed regulation, as modified, would still adequately protect public health and safety.

#### Backfit Analysis

The NRC has determined that the backfit rule, 10 CFR 50.109 and 72.62, do not apply to this proposed rule, and therefore, a backfit analysis is not required because these amendments do not involve any provisions that would impose backfits as defined in 10 CFR 50.109(a)(1) or 72.62(a). This proposed rule would not require licensees to use 10 CFR Part 72 to store GTCC waste. It provides a practical option with criteria that licensees may use. It does not preclude, or change, use of 10 CFR Parts 30 and 70 as a licensing mechanism to store GTCC waste. The NRC anticipates that storage of GTCC waste licensed under 10 CFR Part 72 can simplify the licensing process, for both licensees and the NRC, with no significant impact to public health and safety or the environment.

## List of Subjects

### 10 CFR Part 72

Criminal penalties, Manpower training programs, Nuclear materials, Occupational safety and health, Reporting and recordkeeping requirements, Security measures, Spent fuel.

### 10 CFR Part 150

Criminal penalties, Hazardous materials transportation, Intergovernmental relations, Nuclear materials, Reporting and recordkeeping requirements, Security measures, Source material, Special nuclear material.

### 10 CFR Part 171

Annual charges, Byproduct material, Holders of certificates, registrations, approvals, Intergovernmental relations, Non-payment penalties, Nuclear materials, Nuclear power plants and reactors, Source material, Special nuclear material.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, the NRC is proposing to adopt the following amendments to 10 CFR Parts 72, 150, and 171.

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

1. The heading of Part 72 is revised to read as presented above:

2. The authority citation for Part 72 continues to read as follows:

**Authority:** Secs. 51, 53, 57, 62, 63, 65, 69, 81, 161, 182, 183, 184, 186, 187, 189, 68 Stat. 929, 930, 932, 933, 934, 935, 948, 953, 954, 955, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2071, 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2201, 2232, 2233, 2234, 2236, 2237, 2238, 2282); sec. 274, Pub. L. 86-373, 73 Stat. 688, as amended (42 U.S.C. 2021); sec. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846); Pub. L. 95 - 601, sec. 10, 92 Stat. 295 as amended by Pub. L. 102-486, sec. 7902, 106 Stat. 3123 (42 U.S.C. 5851); sec. 102, Pub. L. 91-190, 83 Stat. (42 U.S.C. 4332); secs. 131, 132, 133, 135, 137, 141, Pub. L. 97-425, 96 Stat. 2229, 2230, 2232, 2241, sec. 148, Pub. L. 100-203, 101 Stat. 1330 - 235 (42 U.S.C. 10151, 10152, 10153, 10155, 10157, 10161, 10168).

Section 72.44(g) also issued under secs. 142(b) and 148(c), (d), Pub. L. 100-203, 101 Stat. 1330 - 232, 1330 - 236 (42 U.S.C. 10162(b), 10168(c), (d)). Section 72.46 also issued under sec. 189, 68 Stat. 935 (42 U.S.C. 2239); sec. 134, Pub. L. 97-425, 96 Stat. 2230 (42 U.S.C. 10154). Section 72.96(d) also issued under sec. 145(g), Pub. L. 100-203; 101 Stat. 1330 -235 (42 U.S.C. 10165(g)). Subpart J also issued under secs. 2(2), 2(15), 2(19), 117(a), 141(h), Pub. L. 97-425, 96 Stat. 2202, 2203, 2204, 2222, 2244 (42 U.S.C. 10101, 10137(a), 10161(h)). Subparts K and L are also issued under sec. 133, 96 Stat. 2230 (42 U.S.C. 10153) and sec. 218(a), 96 Stat. 2252 (42 U.S.C. 10198).

3. Section 72.1 is revised to read as follows:

§ 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 § 72.3, is derived from the 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.

4. Section 72.2 is amended by revising paragraphs (a) and (c) to read as follows:

§ 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 and power reactor-related GTCC waste 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, reactor-related GTCC waste in a solid form, and other radioactive materials associated with spent fuel storage in an independent spent fuel storage installation (ISFSI); or

(2) Power reactor spent fuel and power reactor-related GTCC waste 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, reactor-related GTCC waste that is in a solid form, and other radioactive materials associated with storage of these materials.

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(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).

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5. Section 72.3 is amended by adding a definition, in its proper alphabetic order, of the term Greater than class C waste, and revising the definitions of Design capacity, Independent spent fuel storage installation or ISFSI, Monitored Retrievable Storage Installation or MRS, Spent fuel storage cask or cask, and Structures, systems, and components important to safety, to read as follows:

§ 72.3 Definitions.

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*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.

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*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.

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*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.

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*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.

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

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*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.

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6. Section 72.6 is amended by revising paragraphs (a) and (c) to read as follows:

§ 72.6 License required; types of licenses.

(a) Licenses for the receipt, handling, storage, and transfer of spent fuel, high-level radioactive waste, or reactor-related GTCC waste are of two types: general and specific. 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 under the regulations in this part.

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(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 or reactor-related GTCC waste for the purpose of storage in an ISFSI; or

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

7. Section 72.8 is revised to read as follows:

§ 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.

8. Section 72.16 is amended by revising paragraph (d) to read as follows:

§ 72.16 Filing of application for specific license.

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

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9. Section 72.22 is amended by revising paragraph (e)(3) to read as follows:

§ 72.22 Contents of application: General and financial information.

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(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.

10. Section 72.24 is amended by revising the introductory paragraph and paragraph (i) and adding a new paragraph (r) to read as follows:

§ 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:

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(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.

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(r) A description of the compatibility and suitability of the reactor-related GTCC waste with the ISFSI or MRS.

11. Section 72.28 is amended by revising paragraph (d) to read as follows:

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

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(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.

12. Section 72.30 is amended by revising paragraph (a) to read as follows:

§ 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 has 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.

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13. Section 72.40 is amended by revising paragraph (b) to read as follows:

§ 72.40 Issuance of license.

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(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.

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14. Section 72.44 is amended by revising paragraphs (b)(4), (c)(3)(i), (c)(5), the introductory text of paragraph (d), and (g)(2) to read as follows:

§ 72.44 License conditions.

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(b) ★ ★ ★

(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.

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(3) ★ ★ ★

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

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(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:

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(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.

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15. Section 72.52 is amended by revising paragraphs (b)(2), (c), and (e) to read as follows:

§ 72.52 Creditor regulations.

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(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).

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(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.

16. Section 72.54 is amended by revising paragraph (c)(1) to read as follows:

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

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

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17. Section 72.60 is amended by revising paragraph (c) to read as follows:

§ 72.60 Modification, revocation, and suspension of license.

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(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.

18. Section 72.72 is amended by revising paragraphs (a), (b), and (d) to read as follows:

§ 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 spent fuel, high-level radioactive waste, and reactor-related GTCC waste containing special nuclear material in storage. 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 five 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 in storage 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.

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(d) Records of spent fuel, high-level radioactive waste, and reactor-related GTCC waste containing special nuclear material in storage 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.

19. Section 72.75 is amended by revising the introductory text of paragraphs (b) and (c) paragraphs (b)(2), (b)(3), (b)(6), (d)(1)(iv), and (d)(2)(iv)(L) to read as follows:

§ 72.75 Reporting requirements for specific events and conditions.

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(b) Non-emergency notifications: Four-hour reports. Each licensee shall notify the NRC as soon as possible but not later than 4 hours after the discovery of any of the following events or conditions involving spent fuel, HLW, or reactor-related GTCC waste:

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(2) A defect in any storage structure, system, or component which is important to safety.

(3) A significant reduction in the effectiveness of any storage confinement system during use.

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(6) An unplanned fire or explosion damaging any spent fuel, HLW, and/or reactor-related GTCC waste, or any device, container, or equipment containing spent fuel, HLW, and/or reactor-related GTCC waste when the damage affects the integrity of the material or its container.

(c) Non-emergency notifications: Twenty-four 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:

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

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(2) ★ ★ ★

(iv) ★ ★ ★

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

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20. Section 72.76 is amended by revising paragraph (a) to read as follows:

§ 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 status report in accordance with instructions (NUREG/BR-0007 and NMMSS Report D-24 "Personal Computer Data Input for NRC Licensees"). Copies of these instructions may be obtained from the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555 -0001. These reports provide information concerning the special nuclear material contained in the spent fuel and reactor-related GTCC waste possessed, received, transferred, disposed of, or lost by the licensee. Material status reports must be made as of March 31 and September 30 of each year and filed within 30 days after the end of the period covered by the report. The Commission may, when good cause is shown, permit a licensee to submit material status reports at other times. 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 Form 742 which has been previously submitted in paper form.



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21. Section 72.78 is amended by revising paragraph (a) to read as follows:

§ 72.78 Nuclear material transfer reports.

(a) Except as provided in paragraph (b) of this section, whenever the licensee transfers or receives spent fuel or GTCC waste containing special nuclear material, the licensee shall complete in computer-readable format a Nuclear Material Transaction Report in accordance with instructions (NUREG/BR-0006 and NMMSS Report D-24, "Personal Computer Data Input for NRC Licensees"). Copies of these instructions may be obtained from the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555-0001. Each ISFSI licensee who receives spent fuel from a foreign source shall complete both the supplier's and 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 has been previously submitted in paper form.

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22. Section 72.80 is amended by revising paragraph (g) to read as follows:

§ 72.80 Other records and reports.

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(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 MRS.

23. Section 72.82 is amended by revising paragraphs (a) and (b) to read as follows:

§ 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.

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24. Section 72.106 is amended by revising paragraph (b) to read as follows:

§ 72.106 Controlled area of an ISFSI or MRS.

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(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.

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25. Section 72.108 is revised to read as follows:

§ 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.

26. Section 72.120 is revised to read as follows:

§ 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 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. Liquid reactor-related GTCC wastes may not be received or stored in an ISFSI. 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. Liquid high-level radioactive wastes or liquid reactor-related GTCC wastes may not be received or stored in an MRS. If the MRS is a water-pool

type facility, the high-level waste and reactor GTCC waste must be a durable solid 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.

27. Section 72.122 is amended by revising paragraphs (b)(2), (h)(2), (h)(4), (h)(5), (i) and (l) to read as follows:

§ 72.122 Overall requirements.

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(b)	★	★	★		

(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, tsunamis, 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 should also 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.

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(h) ★ ★ ★

(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.

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(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.

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(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.

28. Section 72.128 is amended by revising the heading and the introductory text of paragraph (a) to read as follows:

§ 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 --

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29. Section 72.140 is amended by revising paragraph (c)(2) to read as follows:

§ 72.140 Quality assurance requirements.

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(c) ★ ★ ★ ★ ★

(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.

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PART 150--EXEMPTIONS AND CONTINUED REGULATORY AUTHORITY IN AGREEMENT STATES AND IN OFFSHORE WATERS UNDER SECTION 274

30. The authority citation for Part 150 continues to read as follows:

**AUTHORITY:** Sec. 161, 68 Stat. 948, as amended, sec. 274, 73 Stat. 688 (42 U.S.C. 2201, 2021); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841).

Sections 150.3, 150.15, 150.15a, 150.31, 150.32 also issued under secs. 11e(2), 81, 68 Stat. 923, 935, as amended, secs. 83, 84, 92 Stat. 3033, 3039 (42 U.S.C. 2014e(2), 2111, 2113, 2114). Section 150.14 also issued under sec. 53, 68 Stat. 930, as amended (42 U.S.C. 2073). Section 150.15 also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161). Section 150.17a also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Section 150.30 also issued under sec. 234, 83 Stat. 444 (42 U.S.C. 2282).

31. Section 150.15 is amended by revising paragraph (a)(7) and adding a new paragraph (a)(8) to read as follows:

§ 150.15 Persons not exempt.

(a) ★ ★ ★

(7) The storage of:

(i) Spent fuel in an independent spent fuel storage installation (ISFSI) licensed under Part 72 of this chapter,

(ii) Spent fuel and high-level radioactive waste in a monitored retrievable storage installation (MRS) licensed under Part 72 of this chapter, or

(iii) Greater than class C waste, as defined in Part 72 of this chapter. In an ISFSI or MRS licensed under Part 72 of this chapter, the GTCC waste must originate in, or be used by, a facility licensed under Part 50 of this chapter.

(8) Greater than class C waste, as defined in Part 72 of this chapter, that originates in, or be used by, a facility licensed under Part 50 of this chapter and is licensed under Part 30 and/or Part 70 of this chapter.

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PART 171--ANNUAL FEES FOR REACTOR LICENSES AND FUEL CYCLE LICENSES AND MATERIALS LICENSES, INCLUDING HOLDERS OF CERTIFICATES OF COMPLIANCE, REGISTRATIONS, AND QUALITY ASSURANCE PROGRAM APPROVALS AND GOVERNMENT AGENCIES LICENSED BY NRC

32. The authority citation for Part 171 continues to read as follows:

**AUTHORITY:** 31 U.S.C. 9701, sec. 301, Pub. L. 92-314, 86 Stat. 222 (42 U.S.C. 2201w); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841); sec 205, Pub I. 101-576, 104 Stat 2842, (31 U.S.C. 902).

33. Section 171.16 is amended by revising the text of Category 1B of the Schedule of Materials Annual Fees and Fees for Government Agencies Licensed by NRC to read as follows:



§ 171.16 Annual Fees: Material licensees, Holders of Certificates of Compliance, Holders of Sealed Source and Device Registrations, Holders of Quality Assurance Program Approvals and Government Agencies Licensed by the NRC.

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SCHEDULE OF MATERIALS ANNUAL FEES AND FEES FOR GOVERNMENT AGENCIES  
LICENSED BY NRC

1. Special nuclear material:

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B. Licenses for receipt and storage of spent fuel and/or reactor-related greater than class C waste at an independent spent fuel storage installation (ISFSI). See 10 CFR Part 171.15(c).

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Dated at Rockville, Maryland, this \_\_\_\_\_ day of \_\_\_\_\_, 2000.

For the Nuclear Regulatory Commission.

\_\_\_\_\_  
Annette L. Vietti-Cook,  
Secretary of the Commission.