

APPLICABILITY, COMPATIBILITY, AND CONSISTENCY OF SPENT FUEL STORAGE REQUIREMENTS AND GUIDANCE FOR SPECIFIC LICENSEES, GENERAL LICENSEES, AND CERTIFICATE OF COMPLIANCE HOLDERS

The purpose of this summary is to present information on the background and current U.S. Nuclear Regulatory Commission (NRC) staff considerations on this topic. This summary does not represent an official agency position or present an interpretation of the NRC requirements.

The NRC staff is conducting a review of the regulatory framework for spent fuel storage and transportation to identify potential enhancements to the efficiency and effectiveness of its licensing and inspection programs. This review is being conducted as part of the project plan more fully described in COMSECY-10-0007, "Project Plan for the Regulatory Program Review to Support Extended Storage and Transportation of Spent Nuclear Fuel" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML101390216). The staff will solicit stakeholder input in identifying enhancements to the current licensing and inspection programs at the August 16-17, 2012, public meeting, "Meeting to Obtain Stakeholder Feedback on Improvements in the Licensing and Inspection Programs for Spent Fuel Storage and Transportation Under 10 CFR Parts 71 and 72" (<http://www.nrc.gov/waste/spent-fuel-storage/public-involvement.html>). NRC staff will use the information obtained from this meeting, and future opportunities for stakeholder input, to inform the staff in its regulatory review.

BACKGROUND:

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 72 establishes the requirements for storage of spent nuclear fuel, high-level radioactive waste, and reactor-related greater than Class C waste. Part 72 establishes requirements for: (a) a specific license for an independent spent fuel storage installation (ISFSI); (b) a general license for an ISFSI; (c) Certificates of Compliance (CoCs) approving spent nuclear fuel storage cask designs; and (d) monitored retrievable storage (MRS) installation (applicable only to U.S. Department of Energy). These requirements in Part 72 address both dry and wet modes of storage. Because Part 72 addresses these various licensing and certification requirements, 10 CFR 72.13 ("Applicability") identifies which Part 72 requirements apply to a specifically-licensed ISFSI, a generally-licensed ISFSI, and a CoC.

Under Part 72, Subpart K, a general license is issued for storage of spent fuel in an ISFSI at power reactor sites to persons authorized to possess or operate a reactor via a 10 CFR Part 50 or Part 52 license. Thus, certain requirements for storage of spent fuel in a generally-licensed ISFSI are based in 10 CFR Part 50.

ISSUE DESCRIPTION:

Because requirements for specifically-licensed ISFSIs, generally-licensed ISFSIs, and CoCs are set forth in both Parts 72 and 50, there are questions regarding the applicability and consistency of these requirements. The U.S. Nuclear Regulatory Commission (NRC) staff plans to review Parts 72 and 50 to ensure that the requirements are clear and consistent for specific licensees, general licensees, and CoCs. The staff review of the "Applicability" section in 10 CFR 72.13 will identify appropriate requirements for specifically-licensed ISFSIs, generally-licensed ISFSIs, and CoCs. The staff will consider whether restructuring or reorganizing Part 72 would provide additional clarity and consistency in the various requirements.

Over the past 20 years, the staff and industry gained experience in the licensing, oversight, and operation of dry cask storage facilities at reactor sites. Based on the experience gained, the staff and industry identified issues regarding the interface between (e.g., the applicability of requirements in) the regulatory frameworks in Parts 50 and 72, in terms of the implementation of the general license and CoC requirements, primarily during cask loading, unloading, and handling operations in the Part 50 facility. One issue is how the safety analyses that support dry cask storage (Part 72) are related to, and should be considered in, the analyses that support safe operation of the reactor (Part 50). Another issue is what analyses should be conducted by the CoC holder in the CoC application, versus the analyses that should be conducted by the cask user (Part 50 licensee) to support cask loading and ISFSI operations and are subject to inspection. The staff will examine the Part 50/72 interface,¹ to determine whether clarification or changes are needed to ensure appropriate implementation and compliance with these regulatory frameworks.

CONSIDERATIONS:

A goal of the staff's regulatory program improvement review (as discussed in COMSECY-10-0007) is to identify efficiency and effectiveness improvements to the current regulatory framework for spent fuel storage in Part 72. The staff has identified the following areas where there may be an opportunity to improve the clarity and effectiveness of the existing regulatory framework for ISFSIs and CoCs. Note that this is not an exhaustive list, as the staff's review of the regulatory framework is in its early stages:

- Further align Part 72 requirements for specific licensees, general licensees, and CoCs:
 - Consider revising the language in 10 CFR 72.13 or cited regulations to enhance consistency in similar specific and general licensing requirements.
 - Consider restructuring Part 72 to group regulations according to type of license or facility, dry cask design requirements, and requirements only applicable to wet modes of storage. Consider the potential improvement in clarity and effectiveness versus the potential burden on licensees, vendors, and the NRC, which may arise from reorganizing Part 72.
- Review requirements, including related Statements of Consideration for Part 72 rulemakings, associated guidance, and staff interpretations, to determine if clarifications or improvements are warranted, including:
 - 10 CFR 72.32 – Section 72.32(a) emergency plan requirements are not applicable to general licensees (per 10 CFR 72.13). Additionally, 10 CFR 72.32(c) states that the Emergency Plan required by 10 CFR 50.47 shall be deemed to satisfy the requirements of this section when an ISFSI is located on an operating reactor site. Consider changing or restructuring 10 CFR 72.32(a) and (c) to address generally-licensed ISFSIs on non-operating reactor sites (where the reactor is shutdown or decommissioned).

¹ Although the Part 72, Subpart K, general license applies to both Part 50 and Part 52 licensees, we refer to the "Part 50/72 interface" because the technical requirements for reactor operation are set forth in Part 50, whereas Part 52 sets forth the procedural requirements for the combined licensing process.

- 10 CFR 72.54(c) – Section 72.54(c) provides that each specific license continues in effect, beyond the expiration date, with respect to possession of licensed material until the NRC terminates the license. That section requires a licensee to limit actions involving spent fuel, reactor-related greater than Class C waste, or other licensed material to those related to decommissioning; and continue to control entry to restricted areas until they are suitable for release in accordance with NRC requirements. To address the situation where a specific license expires and spent fuel remains onsite, consider including a provision in 10 CFR 72.54(c) to require the licensee to: continue to maintain the facility and store, control, and maintain spent fuel in safe condition; and conduct activities in accordance with NRC regulations and specific license provisions.
- 10 CFR 72.212(a)(3) – Section 72.212(a)(3) states that a general license commences *upon the date that the cask is first used* by the general licensee to store spent fuel. However, there are 10 CFR Part 72, Subpart K, requirements that a general licensee must meet *before use of the cask* (e.g., 10 CFR 72.212(b)(1) and (5)). The staff will consider clarifying 10 CFR 72.212(a)(3) language regarding commencement of the general license to enhance the clarity of requirements that must be met by the general licensee before use of the cask.
- 10 CFR 72.218 – Section 72.218 requires the 10 CFR 50.54(bb) spent fuel management program to include plans for removal of the spent fuel stored under the general license from the reactor site and for the plan to show how spent fuel will be managed before starting to decommission systems and components needed for moving, unloading, and shipping spent fuel. It also requires the 10 CFR 50.82 or 10 CFR 52.110 application for termination of license to describe how the spent fuel stored under the general license will be removed from the reactor site. The staff will consider adding a cross-reference to 10 CFR 72.218, in 10 CFR 50.54(bb), 10 CFR 50.82, and 10 CFR 52.110. The staff will also consider clarifying language in 10 CFR 50.54(bb) regarding final NRC review as part of any proceeding for continued licensing under Part 50 or 72, given the provisions in 10 CFR 50.51(b) (license continues in effect past expiration date) and the general license provisions in Part 72.
- 10 CFR 72.248(a) – Section 72.248(a)(1) requires a certificate holder to submit an original Final Safety Analysis Report (FSAR) to the NRC within 90 days after the cask design has been approved pursuant to 10 CFR 72.238. Because a CoC amendment does not necessarily encompass an earlier amendment and is in essence a “standalone” CoC, the staff will consider clarifying the applicability of the requirement in 10 CFR 72.248(a) (to submit the FSAR within 90-days after the spent fuel storage cask design has been approved) to CoC amendments.
- Develop guidance or update existing guidance to provide:
 - A discussion of the interface of Part 50 and Part 72 for the general license, including (1) the scope of Part 72 storage cask certification and what analyses are conducted as part of the certification versus how Part 50 programs are relied on to address certain safety aspects of cask loading operations, (2) a discussion of general license implementation and the need for the general licensee to understand the cask certification basis and how it relates to the Part 50 licensing basis, (3) the applicability of Part 72 requirements, such as 10 CFR 72.104, inside Part 50 facilities, and (4) a

discussion of where/when the Part 50 requirements and the Part 72 requirements apply during cask loading and transfer;

- An explanation of the general license framework and process, including updated information from the NRC website <http://www.nrc.gov/waste/spent-fuel-storage/sf-storage-licensing/license-considerations.html>, which includes guidance on general license considerations for spent fuel storage;
- A discussion of “commencement” of the general license and requirements for the general license that must be met before a certified cask is first used to store fuel;
- A discussion of considerations unique to generally-licensed ISFSIs at shutdown or decommissioned sites.

The staff expects to identify additional areas through systematic examination of regulations, guidance, and future interaction with stakeholders.