



NUCLEAR ENERGY INSTITUTE

**Lynnette Hendricks**  
DIRECTOR, PLANT SUPPORT  
NUCLEAR GENERATION

March 5, 2001

Mr. E. William Brach  
Director  
Spent Fuel Project Office  
U.S. Nuclear Regulatory Commission  
Mail Stop O13 D13  
Washington, DC 20555-0001

**SUBJECT: Standard Format and Content for Technical Specifications for  
10 CFR Part 72 Cask Certificates of Compliance**

Dear Mr. Brach:

Both the industry and the Spent Fuel Project Office (SFPO) staff have long recognized the need to develop consistent guidance for standard technical specifications for all certified fuel storage casks. The SFPO has reviewed the NEI Standard Technical Specifications (STS) proposal submitted October 1999 and concluded that although the staff agreed with some of the concepts in the NEI proposal, the proposal was not acceptable as drafted. As a result, the SFPO developed draft STS that could be used by applicants to model their applications. On December 21, 2000, the SFPO forwarded to NEI "Standard Format and Content for Technical Specifications for 10 CFR Part 72 Cask Certificates of Compliance," for review and comment.

On January 23, the NEI Dry Storage Standard Technical Specification Issue Task Force met with the SFPO in order to provide preliminary feedback on the draft STS. A follow-up meeting was held on February 21, 2001, in order to provide a more detailed review. The enclosure summarizes industry comments provided at the meeting.

In general, the industry is fully supportive of NRC efforts to develop STS for dry cask storage. STS reduce the number of amendments and associated rulemakings. NEI specifically concurs with the proposal to simplify approval of cask contents by moving approved contents from the certificate of compliance to the FSAR, thereby allowing for minor changes through the 10 CFR 72.48 process and other changes by approval by the Director of NMSS rather than through rulemaking.

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At the January 23 and February 21 meetings the industry recommended SFPO take a closer look at certain LCOs that would more appropriately be included under administrative programs. Industry also recommended that certain LCOs be reviewed for their logic. The entire draft STS package should be reviewed to insure consistency with Part 50 technical specifications.

The industry is in support of publishing a revised "Standard Format and Content for Technical Specifications for 10 CFR Part 72 Cask Certificates of Compliance," as a draft NUREG allowing for industry and SFPO to gain experience. Once this has been accomplished the industry welcomes the opportunity to revisit STS to assure that they are appropriately focused on safety. We believe there are a number of licensees that will take advantage of the STS either in part or as a total approach to technical specifications.

The industry is committed to work with NRC to develop dry cask storage standard technical specification guidance. If you have questions, please contact me at (202) 739-8109 or by e-mail (lxh@nei.org), or Alan Nelson at (202) 739-8110 or by e-mail apn@nei.org.

Sincerely,

A handwritten signature in cursive script, appearing to read "Lynnette Hendricks".

Lynnette Hendricks

Enclosure

Comments on Standardized Technical Specifications  
For the NRC Sample Storage Cask  
February 23, 2001

**Certificate of Compliance**

Paragraph 2 of the sample Certificate of Compliance, Operating Procedures, omits mention of the procedures for unloading, while Paragraph 8, Pre-Operational Testing and Training Exercise, requires a dry run of unloading operations. The two paragraphs should be consistent.

**Section 1.1 DEFINITIONS**

- a. Several terms are unique to the type of Dry Storage System being licensed (i.e., vendor used) and should be bracketed and left to be defined by the vendor. Examples are:

Overpack  
Canister  
Transfer Cask

- b. Some terms are already defined and used in 10 CFR 72 (e.g., SFSC) and should not be redefined in the Technical Specifications. A note stating this should be provided at the beginning of the **DEFINITIONS** Section.
- c. A definition for “**OPERABLE, OPERABILITY**” should be provided consistent with 10 CFR 50 STS.
- d. The definition for **INTACT FUEL ASSEMBLY** should be modified as follows to allow for those assemblies that never had fuel rods in certain locations (that appear to be missing fuel rods) to be considered intact fuel assemblies, and those fuel assemblies that are supposed to have fuel rods in a specific location but don't need the dummy rods:

“An **INTACT FUEL ASSEMBLY** is a fuel assembly ... means. A fuel assembly without fuel rods in fuel rod locations shall not be classified as an **INTACT FUEL ASSEMBLY** unless solid Zircaloy or stainless steel rods are used to displace an amount of water greater than or equal to that displaced by the fuel rod(s), or the missing rods have been properly and safely addressed.”

- e. The definition of **OVERPACK**, if used, should be revised to delete, "... ventilated air flow to promote ...," because not all overpacks are ventilated. The use of **OVERPACK** should be reconsidered since it is redundant with SFSC as discussed above.

## Section 2.0 APPROVED CONTENTS

This is a much more appropriate title for this section and much improved method for dealing with fuel parameters. The SAR is the correct document for specifying the fuel parameters, and permitting changes with NRC approval outside of rulemaking certainly improves the process. There are some concerns with this section that should be clarified. For example:

- a. It would be helpful if the basis for and level of detail of each parameter were provided as described by the Staff in the meeting on January 23, 2001. A detailed basis is not required, for example stating that the parameter is used in criticality analyses, source term determination, or thermal calculations would be appropriate. Examples are as follows:

A description of the fuel parameters to be listed in Appendix [X.X] is provided below:

Fissile Isotopes (UO<sub>2</sub> vs. MOX)  
Maximum Initial Planar Average Enrichment  
Fuel Array (e.g., 14x14, 15x15)  
    Number of Fuel Rods  
    Number of Water Rods (or holes)  
Maximum Assembly Average Enrichment  
Minimum Cooling Time after Reactor Shutdown  
Minimum Assembly Average Enrichment  
Cladding Material  
Non Fuel Hardware (e.g., BPRA/TPAs)  
Maximum Weight per Storage Location (including fuel channels, and non fuel hardware)  
Maximum Assembly Decay Heat  
Fuel Condition (intact, damaged or debris)

- b. Section 2.1 replace "table X.X," with Appendix [X.X].

## Section 3.0 LIMITING CONDITIONS FOR OPERATION (LCO) APPLICABILITY

Several of the **ACTION CONDITIONS B** state, "Required Action A.1 OR A.2 and associated Completion Time not met." In order to meet the goal of closely replicating the format of the Part 50 standard technical specifications (such as NUREG-1432 for CE plants), it is recommended that these **CONDITIONS** be reworded as follows: "Required Action and associated Completion Time not met" (as in the reactor STS). Most of the users of the cask technical specifications will be 10 CFR 50 licensees, and many of these licensees have converted to reactor standard technical specifications, and therefore a consistent format would enhance human performance.

### Section 3 LCOs

- a. In general, the LCOs present several difficulties in interpretation and implementation. Most requirements identified in the LCOs in the draft NUREG are design and/or fabrication endpoints, are not conducive to LCOs, and are more appropriately addressed by programs since corrective actions within an identified time frame are not necessary nor practical. Although there are notes at the beginning of many of the LCOs stating that they may be moved to programs, there is no discussion of the bases or criteria for such a relocation. In addition, many of the **SURVEILLANCE REQUIREMENTS (SRs)** can not be performed until the actions addressed by the LCO are completed which conflicts with **SR 3.0.4**. This would require a licensee to immediately enter an **ACTION CONDITION** whenever the **APPLICABILITY** was entered. A specific example follows:

**LCO 3.1.1 and LCO 3.1.2: SR 3.0.4** requires the LCO to be met prior to entry into the applicable mode (**APPLICABILITY**). Compliance with the LCO is demonstrated by performance of the SR. However, based upon the definition of **LOADING OPERATIONS**, the SR cannot be performed until **LOADING OPERATIONS** is well underway rather than before for both of these LCOs.

- b. The numbering of SRs 3.1.1 and 3.1.2 should be 3.1.1.1 and 3.1.2.1, respectively.
- c. The surveillance for **SR 3.1.1.1** and **3.1.2.1** should be changed from, "... shall not exceed [x] days," to, "... is ≤ [x] days."

- d. For LCOs **3.1.1**, **3.1.2**, **3.1.3**, **3.2.1**, and **3.3.2**, Required Actions B.1 should state "Place **CANISTER** in [the safe condition]" with a Completion Time of Immediately. As presently worded, the Required Actions imply that a licensee would only have to begin these actions immediately which may not result in a safe condition. In addition, the use of the phrase, "in a planned and orderly fashion," is redundant with the definition of immediately.
- e. Although LCO **3.3.1** is required only for those casks that take credit for boron for criticality control, there are several problems with the present wording.
- (1) The LCO contains the specific words, "During loading and while loaded, ..." which are duplicative of the **APPLICABILITY**. It is recommended these words be deleted from the LCO.
  - (2) Replace "at least" in the LCO with " $\leq$ " and replace "ppm" with "ppmb."
  - (3) The first **CONDITION** of the **ACTIONS** should be A, not B.
  - (4) Required Action A.1. should be broader, such as "Suspend fuel movement and other reactivity additions." Required Action A.2 should be "Restore boron concentration to within the limit" and the Completion Time should be "Immediately." Removal of fuel assemblies is not always the safe action; sometimes removal of a fuel assembly can add reactivity since it is replaced with water when it is removed.
  - (5) The Frequency for **SR 3.3.1.1** and **SR 3.3.1.2** should be revised to: "every 48 hours thereafter while water and at least one fuel assembly are in the canister."
  - (6) Replace the current Applicability with: "During **LOADING OPERATIONS and UNLOADING OPERATIONS** with water and at least one fuel assembly in the [**CANISTER**]."
- f. LCO **3.3.2** contains the words, "In a water filled condition, ..." which are duplicative of the **APPLICABILITY**. It is recommended these words be deleted from the LCO.

g. **LCO 3.3.2 ACTIONS:**

- (1) **REQUIRED ACTION A.1** contains two actions but only one is specified as a limit in the LCO, i.e., water temperature. If the water temperature is restored to within the limit, the LCO is met. It is recommended that “establish water circulation in the canister” be deleted.
- (2) **REQUIRED ACTION B.1** implies that the licensee only has to begin steps to return the canister to a safe condition when the action should be simply to return the canister to a safe condition. It is recommended that “Begin steps to” be deleted.

**Section 4.0 DESIGN FEATURES**

Items 4.1.1, 4.1.2, and 4.3 are inappropriate for the Technical Specifications and should be provided only in the SAR.

**Section 5.0 ADMINISTRATIVE CONTROLS**

Section 5.1.1 requires that a program shall be established that includes the implementation of the requirements of 10 CFR 72.44(d). However, according to 10 CFR 72.13, the requirements of 10 CFR 72.44(d) do not apply to general licensees. This proposed standard technical specification requirement should be bracketed and identified as only needed for a specific licensee's ISFSI technical specifications.