

# NRC INSPECTION PROGRAM

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## INSPECTION PROCEDURE 60854.1

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### PREOPERATIONAL TESTING OF INDEPENDENT SPENT FUEL STORAGE FACILITY INSTALLATIONS AT OPERATING PLANTS

PROGRAM APPLICABILITY: **IMC 2515C**

#### 60854.1-01 INSPECTION OBJECTIVE

To provide for NRR funding for those portions of IP 60854, "Preoperational Testing of an Independent Spent Fuel Storage Installation," that are applicable to an operating nuclear power plant.

#### 60854.1-02 INSPECTION REQUIREMENTS

The following are the prioritized sections from IP 60854 that are to be performed at operating plants:

- 02.02 Verify that the preoperational test procedures for the dry cask storage system (DCSS) loading, unloading, and transfer activities and their acceptance criteria meet the commitments and requirements specified in the DCSS Safety Analysis Report (SAR), Safety Evaluation Report (SER), Certificate of Compliance (CoC), 10 CFR Part 72, the site-specific license and technical specifications (TS) as applicable, any related 10 CFR 50.59 and 72.48 evaluations, and 10 CFR 72.212(b) evaluations for general licensed independent spent fuel storage installations (ISFSIs).
- 02.03 Verify that preoperational test procedures, for the activities listed below, have been prepared, reviewed, and initially approved in accordance with the licensee's administrative programs. Determine if the licensee has completed a verification and validation of the procedures. If the licensee has used multiple procedures, then verify that sufficient overlap has been maintained to ensure all required critical activities, such as those listed below, will be performed.
  - a. For transferring spent fuel from the spent fuel pool (SFP) to the ISFSI:
    - 1. Moving the empty cask or canister into the SFP area.
    - 2. Placing the cask or canister in the SFP.
    - 3. Verification of selected fuel and movement of fuel from SFP into the cask or canister.
    - 4. Documenting the parameters and characteristics of spent fuel placed in the cask or canister per the license or CoC.

5. Lifting the cask or canister from the SFP.
  6. Sealing the cask or canister.
  7. Evacuating water from the cask or canister and vacuum drying.
  8. Gas backfilling the cask or canister and decontaminating.
  9. Transferring the loaded cask or canister to the transport vehicle.
  10. Transporting the cask or canister to the ISFSI.
  11. Placing the cask or canister in the ISFSI.
- b. For retrieving spent fuel from a loaded DCSS in the ISFSI and returning it to the SFP:
1. Retrieving of the cask or canister from the ISFSI.
  2. Transporting the cask or canister from the ISFSI to the reactor or fuel building.
  3. Sampling the cover gas for indications of fuel damage such as radioactivity or air in leakage, and directing operator response if the sample indicates fuel damage.
  4. Venting of the cover gas and backfilling of the cask or canister with water.
  5. Unsealing the cask or canister for access.
  6. Transferring the cask or canister to the SFP.
  7. Transporting the fuel from the cask or canister to the SFP.
  8. Removing the cask or canister from the SFP and decontaminating.
  9. Storing or disposing of the cask or canister.
- c. For inspection guidance on retrieving spent fuel from a loaded DCSS in the ISFSI and performing a dry transfer to a different DCSS component, contact **Nuclear Material Safety and Safeguards/Spent Fuel Storage and Transportation (NMSS/SFST)** for assistance.
- 02.04 Verify, through interviews and reviews of selected records, that licensee personnel conducting preoperational test activities have a clear understanding of their duties and responsibilities, and that:
- a. Oversight and command and control responsibilities have been clearly established, including notification requirements
  - b. Specific radiological hazards are identified and controls implemented.
- 02.05 Verify that equipment used during preoperational test activities has been tested and/or evaluated for its impact on plant structures, systems and components before performance of the preoperational tests.

02.06 Determine by review of selected licensee procedures, that responsibilities for specific activities relating to the ISFSI (i.e., design, component fabrication, construction, preoperational testing, operations, maintenance, and surveillance testing) have been defined and the licensee has integrated responsibilities for these activities into the appropriate plant programs listed below. Verify that these procedures fulfill the commitments and requirements specified in the SAR, SER, CoC, 10 CFR Part 72, the site-specific license and TS as applicable, any related 10 CFR 50.59 and 72.48 evaluations, and 10 CFR 72.212(b) evaluations for general licensed ISFSIs.

- a. Plant Operations;
- b. Radwaste Storage and Handling;
- c. Control of Heavy Loads;
- d. Radiation Protection;
- e. Security and Safeguards;
- f. Emergency Preparedness;
- g. Maintenance;
- h. Surveillance;
- i. Fire Protection;
- j. Training;
- k. Environmental Monitoring;
- l. QA Activities; and
- m. Administrative Procedures

02.08 Evaluate the effectiveness of the licensee's plans and preparations for controlling radiological activities, by reviewing documents and interviewing individuals. Evaluate the effectiveness of radiological controls and monitoring and the effectiveness of security controls during preoperational testing.

02.09 If the procedures used by the licensee during the dry run had not received final approval, then re-perform the reviews described in Section 02.03 after the licensee has issued the procedures for use. Similarly, prior to ISFSI operation, ensure that plant programs and procedures reviewed in Section 02.06 have been finalized, any outstanding issues have been resolved, and the programs and procedures have received the appropriate reviews and approval.

02.10 By direct observation and evaluation of selected activities, such as those listed in Section 02.03.a, independently assess whether the licensee has adequately demonstrated its readiness to safely transfer spent fuel from the SFP to the ISFSI.

02.11 By direct observation and evaluation of selected activities, such as those listed in Section 02.03.b, independently assess whether the licensee has adequately demonstrated its readiness to safely retrieve spent fuel from the ISFSI and transfer it to the SFP or to another DCSS component.

60854.1-03 INSPECTION GUIDANCE

Guidance is located in IP 60854 for applicable sections.

60854.1-04 RESOURCES

Starting in FY 2004 (to account for NRR funding), this IP should be used in time reporting IP 60854 inspections at operating plants. Estimated hours for the above prioritized sections are:

Initial Inspection  
New ISFSI, General Licensee  
227

Initial Inspection  
New ISFSI, Site Specific Licensee  
227

60854.1-05 REFERENCES

Boger / Branch memorandum dated February 20, 2002, "Response to Regional Input on ISFSI Resources," Table 1, lists the prioritized ISFSI IP sections required to be performed at operating plants and the estimated resources for these sections.

IMC 2515 Appendix C, "Special and Infrequently Performed Inspections"

END

ATTACHMENT 1

Revision History for IP 60854.1

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional, Non-Public Information)
N/A	06/27/06	Revision history reviewed for the last four years.	N/A	N/A
N/A	ML0624401440 9/05/06 CN 06-022	IP 60854.1 is revised to correct the steps to be funded by NRR.	None	Not necessary because the revision makes the IP 60854.1 consistent with guidance being implemented by regions.
N/A	ML19092A340 05/16/19 CN 19-015	Periodic review of procedure. No substantive revision to this procedure was wanted at this time.	None	N/A