

NRC INSPECTION MANUAL

INSPECTION PROCEDURE 60501

FUEL RECEIPT AND STORAGE

PROGRAM APPLICABILITY:

60501-01 INSPECTION OBJECTIVE

Ascertain whether fuel received at the construction site is properly accepted, and safeguarded; and whether it is stored in accordance with the NRC license requirements.

60501-02 INSPECTION REQUIREMENTS

02.01 License Requirements

- a. Review the Special Nuclear Material (SNM) license issued under 10 CFR 70 provisions and identify all specific storage requirements.
- b. Inspect the area in which the fuel is stored to assure that all license requirements have been implemented.
- c. Inspect the integrity of the security controls exercised, especially the following:
 - Fence or wall continuity
 - Access control
 - Storage area lighting (if applicable)
 - Security force awareness
 - Security force procedures

02.02 Environmental Protection. Inspect the provisions for control of the environment of the fuel storage area. Specific provisions should include:

- a. Inside storage
 - Dust and debris control
 - Flooding protection (unless in a seismically adequate safe array)
 - Physical damage protection

- b. Outside storage
 - Rain, dust and debris protection
 - Flooding protection
 - Wind protection for containers
 - Weed control
 - Physical damage protection

02.03 Verification of Documentation/Records. Establish that the license receiving inspection includes review of records/documents:

- a. Fuel manufacturer shipping documents
- b. Documents required by applicable regulations such as DOT, NRC, etc.
- c. Quality assurance and other documents as agreed in the procurement documents for transmittal to licensee.

02.04 Inspection of Shipping Containers. Verify that the licensee visually inspects fuel assembly shipping containers for the items listed below as applicable:

- a. External damage
- b. Security seal integrity
- c. Shock indicator integrity
- d. Loose material or parts

02.05 Reportable Events. Discuss with the licensee the reporting provisions of 10 CFR 70.52.

60501-03 INSPECTION GUIDANCE

03.01 License Requirements

- a. Fuel will normally arrive on-site up to a year before issuance of the 10 CFR 50 operating license under authority of a 10 CFR 70 SNM license. The SNM license will define:
 - Custodian
 - Physical storage facility
 - Security plans
 - Criticality monitoring
 - Amount and composition
- b. Inspection of the storage area should be restricted to physical inspection. Accountability for SNM will be inspected under separate procedures.

- c. Security inspection should confirm implementation of the licensee's security plan. Note that 10 CFR 70.32(e) precludes reduction of security protection without prior NRC approval.

03.02 Environmental Control. Provisions should be maintained to assure that the fuel is not exteriorly contaminated with dust, chlorides, or other debris; and that it is protected from physical damage caused by construction activities or weather conditions.

03.03 & 03.04 Fuel Receipt and Storage. ANSI N45.2.2, "Packaging, Shipping, Receiving, Storage, and Handling of items for Nuclear Power Plants (during the construction phase)," is generally applicable to fuel receipt and storage with the following clarifications or exceptions:

- a. Special temperature and humidity controls of ANSI N45.2.2, Section 3.2.1, Item 1 and Section 6. Unless specified otherwise by the fuel manufacturer, no specific control of temperature or humidity is required.
- b. The serial number of the fuel assembly constitutes adequate item identification as required by Section 3.2.1, Item 9 of ANSI N45.2.2.
- c. A physical protection plan implemented for a Special Nuclear Materials License or Reactor Operating License will generally be adequate to meet the requirements of Section 6.2.2, "Access to Storage Areas."
- d. The provisions of Section 6.4.2(3) regarding pressurization applies to pressurization of shipping containers and not internally pressurized rods.

03.05 Reportable Events. 10 CFR 70.52 requires immediate reporting of accidental criticality, loss, theft or attempted theft to the regional office.

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