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## INSPECTION PROCEDURE 84100

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### SPECIAL NUCLEAR MATERIAL INSPECTIONS AT NEAR SURFACE LOW-LEVEL WASTE DISPOSAL FACILITIES IN AGREEMENT STATES

NOTE: This document was last reviewed on 10/05/01 (last revision was 05/29/92). Since NRC is not currently engaged in the activities addressed in this document, no revision is deemed necessary at this time. The document will be maintained in its original form until NRC program changes warrant an update of the document coincident with NRC requirements and policy for NRC use.

PROGRAM APPLICABILITY: MC 2401

This inspection procedure is applicable to the disposal of low-level radioactive waste (LLW) containing special nuclear material (SNM) at near-surface disposal facilities in Agreement States (AS's). The AS licenses the disposal of byproduct and source material, and the Nuclear Regulatory Commission (NRC) licenses only the disposal of SNM in quantities greater than those exempted by 10 CFR Part 150. The objectives of NRC in regulating SNM disposal are the maintenance of criticality safety and the safeguarding of SNM from diversion. The AS regulatory agency retains its responsibility for inspecting for all other aspects of radiological safety concerned with the near-surface disposal of LLW except for criticality safety and the safeguarding from diversion of SNM.

The inspector will carefully document all violations observed whether or not those violations are under enforcement by the AS: decisions by the region concerning issuance of Notice of Violation or imposition of civil penalty shall conform to Section 6.5.1 State Enforcement Action (Supplement V - Transportation) of the NRC Enforcement Manual for all documented violations whether or not related to transportation.

#### 84100-01 INSPECTION OBJECTIVES

This procedure addresses licensee staff qualifications and training, waste form and classification, site operations, radiation protection, accountability, criticality prevention, and procedures for near-surface disposal of SNM.

The objectives of this inspection procedure are to ensure that:

01.01 The licensee's activities are conducted safely, avoiding the possibility of a criticality accident;

01.02 The licensee has staff that are properly trained and qualified to comply with SNM criticality requirements and security provisions;

01.03 The licensee is providing accountability in accordance with license conditions for the types and quantities of SNM being held for disposal at the facility, and that records of previous disposals are being maintained properly;

01.04 The licensee has appropriate physical security and emergency planning in accordance with license conditions.

## 84100-02 INSPECTION REQUIREMENTS

02.01 SNM Safety Verification. Verify, by means of observations of operations, personnel interviews and records review, including reports of recent AS inspections, the means by which the licensee complies with license conditions directed at criticality safety, accountability, waste form, and waste classification of SNM. These include, but are not necessarily limited to:

- a. Licensee's means of verification that waste shipments entering the site comply with license requirements for maximum SNM content of packages and accumulations of packages.
- b. Licensee's procedures to ensure that SNM packages are off-loaded and handled in a manner to ensure compliance with criticality safety requirements of the license.
- c. Licensee's procedures to ensure that personnel, equipment and vehicles that have been used for SNM management have been radiologically surveyed and decontaminated properly before release from the facility.
- d. Licensee's means of ensuring that any stored waste packages containing SNM are stored in a configuration and location necessary to ensure criticality safety consistent with requirements of the license.
- e. Licensee's methods of emplacement for disposal and of disposal of SNM waste are consistent with license conditions for criticality safety.
- f. Licensee's means of safely handling SNM packages that have been damaged, tampered with, improperly packaged or are of improper waste form, and the means by which the licensee provides timely and effective notification of such events to NRC and the waste generator.
- g. Status and organization of licensee's records related to criticality safety and accountability, including records related to disposition of SNM packages, and accumulations of SNM in disposal units.
- h. Licensee's means of tracking shipments to identify lost SNM shipments, including notification to NRC and the shipper.

The inspector should ensure that SNM containers accepted by the licensee meet the general packaging conditions of the license, along with the requirements of 10 CFR 20.311 (Appendix F to 10 CFR 20.1001 - 20.2401, as appropriate). The inspection should include, but need not be limited to, the examinations described below.

Undisposed containers of SNM waste should be examined and compared to their manifests, to ensure that wastes have been classified and labeled properly, according to 10 CFR 61.55 and 10 CFR 61.57, and that the shipper's classification has been verified by the licensee before acceptance of the waste for disposal. A random sampling of records on file should likewise confirm the licensee's continuing practice of verifying waste classification and labeling before acceptance of shipments for disposal. Containers should also be examined

to determine their conformance with waste-form requirements of regulations and license conditions, and records should be examined to confirm the licensee's practice of verifying waste-form requirements before acceptance of a shipment for disposal. Containers containing SNM waste should be intact and tightly covered. The inspector should randomly check SNM containers awaiting disposal to ensure that they are intact and that the container or accumulation of containers contain quantities of SNM less than the authorization limits contained in the license conditions. The inspector should also ensure that the placement of the containers complies with license conditions and other requirements for criticality safety.

02.02 Procedures and Training. Verify that management-approved procedures conforming to license conditions are available to all personnel handling SNM and that the procedures containing criticality safety and security requirements are available for operations. Discuss procedural requirements with selected operations personnel to ascertain their familiarity with the procedure. Determine that the operating procedures have been prepared or revised and reviewed by the licensee management, and that the licensee has an approved method for establishing, revising, and reviewing operating procedures that incorporate criticality safety limits and security requirements.

Also verify that the procedures cover both normal operations and accidents or other potential abnormal conditions. Examine records to verify that the operators have been trained and periodically retrained in the procedures in accordance with license conditions for the conduct of training. Observe operations to ascertain that procedures are being followed. If operations are not underway at the time of inspection, select operations personnel to walk through some operations activities.

02.03 Audits. Review any audits done by the licensee on its operations of the facility since the prior inspection. Discuss with the licensee any abnormal occurrences that may have had an impact on criticality safety. Verify that corrective actions were taken and that they were effective in those areas of interest at the facility. Discuss with the licensee any breach of procedures found during audits of operations. Failure to follow SNM-oriented procedures may include, but not be limited to improper handling and placement for disposal, or improper storage before disposal. Verify that corrective actions are indicated in the audit reports and that open items from previous audits have been attended to. Examine procedures to determine if any changes were made as a result of deficiencies found, and if the lessons learned have been incorporated in the training program.

02.04 Physical Security. The inspector should determine if the physical security of SNM at the site complies with the license conditions, is subjected to periodic review, and that revisions are promptly communicated to NRC Headquarters and to the region in accordance with license conditions.

## 84100-03 INSPECTION GUIDANCE

03.01 SNM Safety Verification. Criticality safety is not likely to be a major safety issue at LLW facilities, given the quantities and concentrations of SNM that a licensee will receive, in accordance with the license limitations. However, the licensee must be capable of confirming criticality safety within constraints of the SNM license and of confirming that license constraints are being met by waste generators. To the extent practicable, implementation of procedures pertinent to SNM should be physically examined or observed.

03.02 Procedures and Training. Operating procedures should be written so that the operators can easily understand them. The procedures should provide clear directions for the various process steps and must include criticality safety considerations, as appropriate, for the processes. In addition, the procedures should clearly indicate to operators how to recover from accidents or other abnormalities. Management should ensure proper

employee training in accordance with license conditions in the use of approved procedures. The inspector should pay particular attention to the qualifications and training of newly hired licensee personnel and should interview these personnel to ascertain the adequacy of their knowledge and understanding of safety and operating procedures. The inspector should also verify that when licensee personnel trained in SNM procedures are absent, only licensee employees comparably trained in SNM procedures are substituted in the place of the absent employees.

03.03 Physical Security. The review of security plans and procedures should be limited to actions related to the SNM on site and should be concerned with any degradation of the required physical security. The adequacy of site security should be subjected to periodic review, preferably on an annual basis, and revisions made to security procedures should be promptly communicated to NRC Headquarters and to the Region in accordance with license conditions.

#### 84100-04 REFERENCES

##### 04.01 Regulations

10 CFR Part 19

10 CFR Part 20

10 CFR Part 61

10 CFR Part 70

10 CFR Part 71

10 CFR Part 73

10 CFR Part 150

##### 04.02 Other References

Federal Register, Vol. 56, No. 18, January 28, 1991, p. 3123, Notice of Availability, "Technical Position on Waste Form (Revision 1).

Federal Register, Vol. 48, No. 175, Sept. 8, 1983, NRC Notice, "Topical Reports in Support of the Implementation of Waste Form and Waste Classification Requirements."

Federal Register, Vol. 48, No. 110, June 7, 1983, NRC Notice, "Low-Level Waste Licensing Branch Technical Position Papers on Radioactive Waste Classification and Waste Form; Availability."

"Final Waste Classification and Waste Form Technical Position Papers," mailed to all NRC licensees on May 11, 1983, by NMSS, Low-Level Waste Licensing Branch.

Approach for NRC Licensing of Special Nuclear Material Waste Disposal at Agreement State Licensed Low-Level Waste Disposal Facilities, Malcolm R. Knapp, Director, Office of Nuclear Material Safety and Safeguards. Proposed August 8, 1988; approved September 30, 1988.

NRC Enforcement Manual, 6.5 Supplement V - Transportation, 6.5.1 State Enforcement Action.

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