
INSPECTION PROCEDURE 81335

PHYSICAL PROTECTION OF SHIPMENTS OF SPECIAL NUCLEAR MATERIAL OF MODERATE STRATEGIC SIGNIFICANCE

Effective Date: February 7, 2024

PROGRAM APPLICABILITY: IMCs 2600 and 2681

81335-01 INSPECTION OBJECTIVES

- 01.01 To verify and assess the licensee's implementation of its physical protection system for in-transit protection of Special Nuclear Material of Moderate Strategic Significance¹ (SNM-MSS).
- 01.02 To verify the licensee's implementation of its physical protection program in accordance with U.S. Nuclear Regulatory Commission (NRC) requirements, NRC approved security plans, and any additional NRC site-specific security measures.

81335-02 INSPECTION GUIDANCE

General Guidance

In preparing to complete this procedure, the inspector(s) will need to familiarize themselves with relevant documentation which may include, but is not limited to the licensee's security plan, safety evaluation report (SER), and any site-specific procedures. Specifically, the inspector(s) should apply additional attention to the NRC-approved SER and security plan. The SER and security plan may contain additional site-specific security measures that were added as license conditions to the licensee. Site-specific security measures that are added into the licensee's license are based on the type and quantity of SNM that is possessed by the licensee. Section 03.07 provides examples of site-specific security measures that might be added as a condition to the licensee's license. The inspector(s) will need to review the licensee's SER and security plan to identify if any site-specific security measures were assigned to the licensee.

The inspector(s) will conduct tests of security equipment as necessary to validate the effectiveness of the security system and to ensure compliance with the requirements. The inspector(s) may request that a test be conducted as long as it will not reduce facility safety or security, result in a violation of requirements or industry standards, or jeopardize the safety of the inspector(s) or licensee employees. Prior to conducting a test, the inspector(s) must request the test through licensee management and arrange to have a licensee employee conduct the test while the inspector(s) observes.

¹ Defined in 10 CFR 73.2 as less than a formula quantity of SNM but (1) more than 1000 grams of uranium (U)-235 (enrichment of 20 percent (%) or more), (2) more than 500 grams of U033 or plutonium, (3) more than 1000 g when computed by the formula "grams = (grams U-235) + 2 (grams U-233 + grams plutonium)," or (4) more than or equal to 10,000 grams of U-235 (enrichment between 10% and 20%).

Listed under some of the inspection requirements, the inspector(s) will find guidance on how to inspect the requirement. The guidance does not represent regulatory requirements but is intended to assist the inspector(s) in measuring the licensee's performance.

81335-03 INSPECTION REQUIREMENTS

03.01 Prohibitions

- a. Verify that no SNM is transported in passenger aircraft if it exceeds: (1) 20 grams (g) or 20 curies of plutonium or uranium-233; or (2) 350 g of high enriched uranium-235 (10 CFR 73.24(a)).

Specific Guidance

No inspection guidance.

- b. Verify that, unless otherwise authorized by the Commission, the licensee is not transporting more than one shipment at the same time if the combined quantities of these shipments could equal or exceed formula quantities, unless:
 1. The licensee confirms and logs the arrival at the final destination of each individual shipment, and schedules shipments to assure that the total quantity of the two or more shipments in transit at the same time do not equal or exceed formula quantities (10 CFR 73.24(b)(1)); or
 2. Physical protection measures are provided for some shipments such that the total quantity of the remaining, unprotected shipments does not equal or exceed formula quantities (10 CFR 73.24(b)(2)).

03.02 General Performance Objectives²

- a. Verify the licensee has established and maintains a physical protection system that will:
 1. Minimize the possibilities of unauthorized removal of SNM; and (10 CFR 73.67(a)(1)(i))
 2. Facilitate the location and recovery of the missing SNM (10 CFR 73.67(a)(1)(ii)).

Specific Guidance

No inspection guidance.

03.03 Arrangements for Physical Protection

- a. Verify the licensee, whether shipper or receiver, has arranged for physical protection of the shipment (see section 03.04c below) (10 CFR 73.67(e)(1)(iv) and 10 CFR 73.67(e)(2)(iii)).

² A licensee may be exempt from the requirements of 10 CFR 73.67 due to radiation dose rate, form of the material, or dispersal of the material among several buildings. See reasons set forth in 10 CFR 73.67(b).

Specific Guidance

The licensee that is shipping the material is responsible for arranging for the physical protection of the material in transit if the receiver is not a licensee. If the shipper and receiver are both licensees, the shipper may allow the receiver to accept this responsibility wholly or in part, provided there is appropriate documentation specifying their respective responsibilities. Where no such documentation exists, if both the shipper and receiver are licensees, they are held jointly responsible regardless of “shipper, received label.”

03.04 Specific Requirements

a. If the licensee is the shipper:

1. Verify the licensee has received confirmation from the receiver that they will be prepared to accept the shipment at the planned time and location and the mode of transport is acknowledged (10 CFR 73.67(e)(1)(ii)).

Specific Guidance

No inspection guidance.

2. Verify the licensee checks the integrity of the container and locks or seals prior to shipment³ (10 CFR 73.67(e)(1)(iii)).

Specific Guidance

For export shipments, verify that the licensee is checking the integrity of the container and locks or seals of the shipment at the point of departure from the United States. If there are no shipments to observe, ask the licensee to conduct a demonstration as to how they would check the integrity of the seals prior to shipment.

b. If the licensee is the receiver:

1. Verify the licensee checks the integrity of the containers and seals upon receipt of the shipment⁴ (10 CFR 73.67(e)(2)(i)).

Specific Guidance

If the licensee is expecting to receive any shipments during the inspection, the inspector(s) should observe the licensee checking the integrity of the container. If not, ask the licensee to conduct a demonstration or verbally explain how they check the integrity and seals of a container.

2. Verify the licensee notifies the shipper of the receipt of the material (10 CFR 73.67(e)(2)(ii)).

³ For export shipments, this should be accomplished at the point of departure from the United States.

⁴ For import shipments, this should be accomplished at the first point of arrival in the United States.

Specific Guidance

The inspector(s) should ask the licensee for past shipment notifications. The receiver should have sent the shipper a completed copy of standard Form NRC 741, "Nuclear Material Transaction Report," to the shipper within 10 days of receiving a shipment of material as required in 10 CFR 70.54.

- c. Verify the licensee, who has made arrangements for the physical protection of the shipment, whether shipper or the receiver, (See section 03.03):
 1. Has made arrangements for telephone or radio communications between the transport and the licensee or its designee, (10 CFR 73.67(e)(3)(i)),
 - (a) To periodically confirm status of shipment (10 CFR 73.67(e)(3)(i)(A)),
 - (b) For notification of delays, and (10 CFR 73.67(e)(3)(i)(B)),
 - (c) To request local law enforcement agency (LLEA) response in case of an emergency (10 CFR 73.67(e)(3)(i)(c)).

Specific Guidance

No inspection guidance.

2. Minimizes the time that the material is in transit by reducing the number and duration of the transfers and by routing the material in the safest and most direct manner (10 CFR 73.67(e)(3)(ii)).

Specific Guidance

No inspection guidance.

3. Conducts screening of all licensee employees involved in the transportation of SNM to obtain information on which to base a decision to permit them to have control over the material (10 CFR 73.67(e)(3)(iii)).

Specific Guidance

No inspection guidance.

4. Has response procedures for dealing with threats of thefts or thefts of SNM (10 CFR 73.67(e)(3)(iv)).

Specific Guidance

No inspection guidance.

5. Has arranged to be notified immediately of the arrival of the shipment at its destination, or of any shipment that is lost or unaccounted for after the estimated time of its arrival (10 CFR 73.67(e)(3)(v)).

Specific Guidance

No inspection guidance.

6. Immediately initiates a trace investigation of any shipment that is determined to be lost or unaccounted for after a reasonable time beyond the estimated arrival time (10 CFR 73.67(e)(3)(vi)).

Specific Guidance

No inspection guidance.

7. Transports the material either in a dedicated transport with no intermediate stops to load or unload other cargo and with no carrier or vehicle transfers or temporary storage in-transit, or under arrangements whereby the custody of the shipment and all custody transfers are acknowledged by signature (10 CFR 73.67(e)(4)(i)).

Specific Guidance

No inspection guidance.

8. Maintains the material under lock or under the control of an individual who has acknowledged acceptance of custody of the material by signature (10 CFR 73.67(e)(4)(ii)).
- d. Verify that when requested by the Commission, the licensee (as shipper) provides additional information regarding a planned shipment to allow the Commission to consider whether to delay the shipment (10 CFR 73.67(e)(7)(i)).

Specific Guidance

No inspection guidance.

- e. Verify that when requested by the Commission to do so, the licensee (as receiver) notifies the NRC Operations Center, within 24 hours of the arrival of the shipment at the final destination or after the shipment has left the U.S. as an export to ensure the integrity of the shipment at the time of receipt or exit from the U.S. (10 CFR 73.67(e)(7)(ii)).

03.05 Export/Import

- a. Verify that for exports of SNM, the licensee complies with the requirements of 10 CFR 73.67(c), (e)(1), (e)(3), and (e)(4) (10 CFR 73.67(e)(5)).

Specific Guidance

No inspection guidance.

- b. Verify that for imports of SNM, the licensee:
 1. Complies with the requirements of 10 CFR 73.67(c), (e)(2), (e)(3), and (e)(4); (10 CFR 73.67(e)(6)(i)).

Specific Guidance

The inspector(s) should be mindful that imports from other nations are not normally coming from an NRC licensee. As such, each NRC licensee who receives import shipments shall arrange for physical protection of the shipment from port of entry until such time it is received at the site.

2. Notifies the exporter who delivered the material to a carrier for transport of the arrival of the material (10 CFR 73.67(e)(6)(ii)).

Specific Guidance

No inspection guidance.

03.06 Reports

- a. Verify the licensee notifies the receiver in advance of the shipment, specifying the mode of transport, estimated time of arrival, location of the transfer point, name of carrier and transport identification (10 CFR 73.67(e)(1)(i)).

Specific Guidance

No inspection guidance.

- b. Advance Notifications

Verify the licensee notifies the NRC Operations Center by telephone and by mail and assure that the notification will be received at least 10 days before transport of the shipment commences (10 CFR 73.72). The notification shall include:

1. Names of the shipper, receiver, and carriers, estimated dates and times of departure and arrival, transfer points, and modes of shipment (10 CFR 72(a)(3)(i)).

- c. Trace Investigations

1. Verify the licensee notifies the NRC Operations Center as soon as possible, but within 4 hours after the discovery of the loss of shipment and within 4 hours after the recovery of or accounting for such lost shipment (10 CFR 73.67(e)(3)(vii) and (10 CFR 73.1200(f)(1)).

Specific Guidance

No inspection guidance.

- d. Notifications

1. Verify the licensee notifies the NRC Operations Center as soon as possible, and in all cases within one hour after time of discovery following significant transportation security events (10 CFR 73.1200(d)).

Specific Guidance

No inspection guidance.

2. Verify the licensee notifies the NRC Operations Center within four hours after time of discovery following transportation security events (10 CFR 73.1200(f)).

Specific Guidance

No inspection guidance.

3. Verify the licensee notifies the NRC Operations Center within 8 hours after time of discovery following transportation security program failures (10 CFR 73.1200(h)).

Specific Guidance

No inspection guidance.

4. Verify that within 60 days of making a report in accordance with 73.1200, the licensee submits a written report to the NRC (10 CFR 73.1205).

Specific Guidance

To inspect this requirement, the inspector(s) should review any written reports submitted by the licensee and ensure the report contains sufficient information for NRC analysis and evaluation.

e. Events

1. Verify the licensee maintains a current log and records the safeguards events within 24 hours of discovery (10 CFR 73.1210).

Specific Guidance

To inspect this requirement, the inspector(s) should review and evaluate licensee event reports and safeguards log entries since the last inspection.

03.07 Examples of Additional Site-Specific Security Measures

a. Access Controls

Specific Guidance

The loading and transfer of SNM must be performed in a Controlled Access Area (CAA). The licensee must control keys, locks, combinations, and passwords related to the transport of SNM.

b. Transportation Security Measures

SNM transport must be conducted in closed and locked conveyances, compartments, or freight containers. Packages weighing more than 1,000 kilograms that are locked or sealed may be transported in open vehicles. For air transport, SNM must be transported in a cargo aircraft. SNM must be shipped in containers that are protected by tamper indicating seals. The integrity of locks and seals must be checked before departure and upon arrival.

The licensee must develop and implement procedure for search of conveyance before loading or transfer. The conveyance must be searched for explosives, incendiary devices, or other items or conditions that have the potential of compromising the shipment. Following the search, the conveyance must remain inside a CAA area or under continuous surveillance.

Before transfer, the shipment must only be released when the individual who is in possession of the shipment has assured positive identification of all the persons assuming custody for the shipment.

c. Response

Licensees must establish, maintain, and implement a threat-warning system that identifies specific graduated protective measures and actions to be taken to increase licensee preparedness against a heightened security threat. Licensees must ensure that the specific protective measures and actions identified for each threat level are consistent with the security plan and other emergency plans and procedures. Upon notification by an authorized NRC representative, licensees must implement the specific protective measures based on the threat.

81335-04 RESOURCE ESTIMATE

The resource estimate for the completion of this procedure consists of approximately 8 hours for the inspections. The sample size for this procedure is one.

81335-05 PROCEDURE COMPLETION

The frequency of at which this inspection activity is to be conducted is triennially (once every 3 years).

81335-06 REFERENCES

RG 5.59, "Standard Format and Content for a Licensee Physical Security Plan for the Protection of Special Nuclear Material of Moderate or Low Strategic Significance"

RG 5.62, "Reporting of Physical Security Events"

END

Attachment 1: Revision History for IP 81335

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	12/02/09 CN 09-029	This document has been revised to: (1) emphasize the risk-informed, performance-based approach to inspection, (2) impose changes to inspection activities due to orders issued that have not been incorporated by rulemaking. Completed 4-year historical CN search.	N/A	N/A
	ML23172A265 02/07/24 CN 24-006	This document has been revised to ensure it is applicable to Category II fuel cycle facilities and up to date with current regulations and orders. Upon completion of a SUNSI review, the staff concluded that this document should be de-controlled. Consistent with the staff's SUNSI determination, this document has been de-controlled and the SUNSI markings have been removed.	N/A	ML23192A828