



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

June 25, 2018

ALL AGREEMENT STATES, VERMONT, WYOMING

OPPORTUNITY TO COMMENT ON THE PROPOSED REVISIONS TO INSPECTION  
PROCEDURE 87123: "WELL LOGGING PROGRAMS" AND INSPECTION PROCEDURE  
87137: "10 CFR PART 37 MATERIALS SECURITY PROGRAMS" (STC-18-044)

**Purpose:** To provide the Agreement States an opportunity to comment on the proposed revisions to the Inspection Procedure (IP) 87123: "Well Logging Programs" and IP 87137: "10 CFR Part 37 Materials Security Programs."

**Background:** The U.S. Nuclear Regulatory Commission (NRC) is revising IP 87123, "Well Logging Programs." The NRC originally issued IP 87123 in November 2003. The NRC is also revising IP 87137, which was originally issued on April 3, 2014.

In June 2014, the Government Accountability Office (GAO) issued its report titled "Nuclear Nonproliferation: Additional Actions Needed to Increase Security of U.S. Industrial Radiological Sources" (GAO-14-293). In response to the report, the NRC committed to evaluate the GAO's recommendation to consider whether the definition of collocation should be revised for well logging facilities that routinely keep radiological sources in a single storage area but secured in separate storage containers. The Title 10 of the *Code of Federal Regulations* (10 CFR) Part 37, "Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material," Program Review Team (PRT) determined that the definition of aggregation, previously referred to as collocation, is clear and does not need to be changed. In addition, the PRT determined that the security requirements in 10 CFR Part 37 provide adequate protection for well logging sources in storage. To enhance inspection oversight, the Part 37 Implementation Working Group recommended revisions to IP 87123 and IP 87137 to ensure inspectors assess the potential for licensees to aggregate materials as part of routine inspections.

In addition, IP 87137 is being revised to incorporate text regarding oversight of compliance with trustworthiness and reliability determinations for reviewing officials and correction of an error in existing text.

**Discussion:** Enclosed for your review and comment are the draft procedures. Comments of an editorial nature will be considered; however, the draft text may undergo additional technical editing and formatting by the NRC prior to publication.

Please provide any comments to the contact person listed below. We would appreciate receiving your comments<sup>1</sup> by July 28, 2018. This comment period was coordinated with the Organization of Agreement States.

If you have any questions regarding this correspondence, please contact me at (301) 415-3340 or the individual named below:

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**/RA/  
CEinberg for AKock**

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Division of Materials Safety, Security, State,  
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and Safeguards

Enclosures:

1. Revised Inspection Procedure  
87123: "Well Logging Programs"
2. Revised Inspection Procedure  
87137: "10 CFR Part 37 Materials  
Security Programs"

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<sup>1</sup> This information request has been approved by OMB 3150-0029 expiration 1/31/2019. The estimated burden per response to comply with this voluntary collection is approximately 2.5 hours. Send comments regarding the burden estimate to the Information Services Branch, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [infocollects.resource@nrc.gov](mailto:infocollects.resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0029), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

# NRC INSPECTION MANUAL MSST/MSLB/MNS/RGB

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## INSPECTION PROCEDURE 87123

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### WELL LOGGING PROGRAMS

PROGRAM APPLICABILITY: 2800

#### 87123-01 INSPECTION OBJECTIVES

01.01 To determine if licensed activities are being conducted in a manner that will protect the health and safety of workers and the general public.

01.02 To determine if licensed programs are being conducted in accordance with U.S. Nuclear Regulatory Commission (NRC) requirements.

#### 87123-02 INSPECTION REQUIREMENTS

The review of the licensed activities will be commensurate with the scope of the licensee's program. The inspector's evaluation of a licensee's program will be based on direct observation of work activities, interviews with workers, demonstrations by workers performing tasks regulated by NRC, and independent measurements of radiation conditions at the facility, rather than exclusive reliance on a review of records.

The structure and the emphasis of the inspection will be on the following Focus Elements (FE) that describe the outcomes of an effective well logging radiation safety program:

02.01 FE-1. The licensee should control access to and prevent loss of licensed material so as to limit radiation exposure to workers and members of the public to values below 10 CFR Part 20 limits.

02.02 FE-2. The licensee should maintain shielding of licensed materials in a manner consistent with operating procedures and design and performance criteria for devices and equipment.

02.03 FE-3. The licensee should implement comprehensive safety measures to limit other hazards from compromising the safe use and storage of licensed material.

02.04 FE-4. The licensee should implement a radiation dosimetry program to accurately measure and record radiation doses received by workers or members of the public as a result of licensed operations.

02.05 FE-5. The licensee should provide radiation instrumentation in sufficient number, condition, and location to accurately monitor radiation levels in areas where licensed material is used and stored.

02.06 FE-6. The licensee should ensure that workers are:

- a. knowledgeable of radiation uses and safety practices;
- b. skilled in radiation safety practices under normal and accident conditions; and,
- c. empowered to implement the radiation safety program.

02.07 FE-7. The licensee's management system should be appropriate for the scope of use and should ensure:

- a. awareness of the radiation protection program;
- b. that audits for ALARA practices are performed; and,
- c. that assessments of past performance, present conditions and future needs are performed and that appropriate action is taken when needed.

Usually the inspector's evaluation will examine licensee activities back to the date of the previous inspection. However, issues preceding the last inspection should be reviewed, if warranted by circumstances, such as incidents, repetitive violations, or high radiation exposures.

## 87123-03 INSPECTION GUIDANCE

### General Guidance

The following inspection guidance is designed to assist the inspector in evaluating the performance of the licensee's radiation safety program. The guidance is organized by the individual focus elements described above. The timing and sequence of inspection activities are left to the inspector's discretion based on the circumstances and conditions at the time of the actual inspection. Furthermore, inspectors should not feel constrained by the guidance in this procedure. If an inspector obtains information that indicates that a problem may exist in an area within the NRC's jurisdiction that is not specifically addressed in this procedure, the inspector should redirect, or otherwise expend, inspection effort to address that problem. For additional information relating to the evaluation of radiation safety programs, inspectors should refer to Inspection Procedure (IP) 83822, "Radiation Protection."

Some of the requirement and guidance sections of this procedure instruct the inspector to "verify" the adequacy of certain aspects of the licensee's program. Whenever possible, verification should be accomplished through discussions, observations, and demonstrations rather than exclusive reliance on review of records. An examination of the licensee's records should not be considered the primary part of the inspection program.

In the records reviewed, look for trends such as increasing doses. Records such as surveys, waste disposal, receipt and transfer of licensed materials, training, and utilization logs, may be examined randomly until the inspector is satisfied that the records are being maintained and are complete. Other records that are more closely related to health and safety (such as personnel dose-monitoring records and incident reports) should be examined in detail.

Common elements to all inspections include preparation, entrance and exit meetings with appropriate licensee management, including the radiation safety officer (RSO), observations of facilities and work in progress, independent confirmatory surveys, and the evaluation of program scope and any special license conditions. Specific guidance regarding these common elements can be found in IMC 2800.

Each of the following Focus Elements should be reviewed during each inspection of all well logging licensees. Inspectors should select sub-elements for review that are representative of the licensee's scope of use. If the licensee is using byproduct material at a temporary job site, then the inspector should consider those activities for the review of each Focus Element.

### Specific Guidance

03.01 FE-1: The licensee should control access to and prevent loss of licensed material so as to limit radiation exposure to workers and members of the public to values below 10 CFR Part 20 limits

### Facilities

- a. Through direct observation, verify that all entrances to licensee facilities are normally closed, locked or otherwise secured to prevent unauthorized entry. This should include main facility gates, main building entrances, doors to waste storage facilities (if the licensee has used unsealed materials for subsurface tracer studies), etc. The inspector should review the licensee's process for preventing and identifying when radioactive material will be aggregated to category 1 and 2 and must be stored within a licensee-established security zone.
  1. If any entrance or area is unsecured, determine, through questioning of licensee staff, the reason for the area or entrance being unsecured. Determine if the licensee failed to follow established procedures in securing the area or if additional training of staff is needed. Determine if the licensee's facility is configured to separate working areas from unrestricted areas.
  2. If entrances or other areas are unsecured, examine areas where radioactive materials are used and stored. Storage areas must be locked and have limited and controlled access. Radioactive material use areas must be under constant surveillance or physically secured.

2.3. If the licensee's facilities contains category 1 or 2 radioactive material, a security zone must be established to provide for isolation of and access control to the area. [Note-Implement IP 87137, "10 CFR Part 37 Materials Security Programs" if the licensee is storing aggregated quantities of category 1 or 2 radioactive material in their facility.]

- b. Through observations, verify that use and storage areas, including radioactive waste storage facilities (if the licensee has used unsealed materials for subsurface tracer studies), are locked and have limited and controlled access. At a minimum, radioactive material use areas should be under constant surveillance during normal business hours when licensee personnel are present or physically secured against unauthorized access. Storage areas must be physically secured when unattended.
- c. Observe the licensee's operation at a temporary job site. This inspection should be unannounced. If possible, make arrangements with licensee management or the licensee's client to observe the licensee's field operations before announcing your presence.

Through interviews of other workers who are present at the field site, determine their understanding of the licensee's access control. Although these workers may not have or need any knowledge of the licensee's operations, if they were informed of the licensee's operations, i.e., to maintain a practical safe distance from licensed operations, this would be an indication of the licensee's good safety practices. As non-licensees, such persons have no obligation to cooperate with the NRC.

- 1. If other workers are unaware of basic radiation safety practices, determine if the licensee failed to provide instructions. Assess the role of other workers at the field site and the potential for radiation exposures of unacceptable consequence to other workers.

#### Receipt and Transfer of Licensed Materials

- a. Through observations and interviews of licensee personnel, verify that the licensee: 1) properly secures package receipt areas, such as loading docks or other shipping and receiving areas; 2) inspects packages for damage; 3) performs appropriate package receipt surveys; 4) opens packages in a safe manner; 5) assures that packages are properly prepared for transport; and 6) controls packages in a secure manner prior to pickup by courier personnel or transport by licensee personnel. If unable to observe the receipt of packages, request that personnel who normally receive packages for the licensee to demonstrate package receipt processes and surveys.
  - 1. If packages are left unattended, assess the licensee's receipt procedures, including instructions provided to couriers, to assure that packages are being delivered to the appropriate location(s).

2. If surveys of packages (whether during receipt or preparation for shipment) are not adequate to verify that radiation and contamination levels are within regulatory limits, interview licensee staff and the RSO further to assess worker knowledge. Deficiencies regarding instrumentation should be reviewed in more depth in Focus Element 5 (Section 03.05, below).
- b. Through interviews of licensee personnel and review of selected transfer documentation, verify that the licensee has an adequate method of determining that recipients of radioactive shipments are licensed to receive such materials.

#### Physical Inventory.

- a. Through observation, physically examine the inventory of radioactive material on hand and review selected records of receipt and transfer to verify that quantities and forms are as authorized on the license, including Sealed Source and Device (SSD) registry limits.
  1. Assess how the licensee ensures that only registered SSD combinations are used.
  2. Verify that the licensee's use of byproduct material is limited to that which is authorized in the license. For example, a licensee may not use sealed sources in a well without a surface casing or inject licensed material into a fresh water aquifer except as specifically authorized by the Commission.
  3. Verify that the inventory, including radioactive markers (10 CFR 39.37, 39.47) is complete.
- b. Through interviews of the RSO and selected licensee personnel, determine whether the licensee has experienced any events since the last inspection, involving lost, missing, or stolen licensed materials.
  1. Review and evaluate any such incident or unusual occurrence that took place since the last inspection. If such incidents were required to be reported, verify, through interview of the RSO and review of event reports, that a complete and timely report was made to the NRC.
  2. For incidents or unusual occurrences that were not required to be reported, determine that the licensee performed sufficient investigation to identify the cause of the incident, and took appropriate corrections to prevent recurrence of the situation leading to the incident or unusual occurrence.
  3. Verify that the licensee has adequate procedures in place for the abandonment of irretrievable sources. Verify that the licensee has a

written agreement with the well owner/operator for recovery or abandonment of sources (10 CFR 39.15).

03.02 FE-2: The licensee should maintain shielding of licensed materials in a manner consistent with operating procedures and design and performance criteria for devices and equipment

Routine and Non-Routine Maintenance

Through interviews of licensee staff and observation of the licensee's equipment, verify that the licensee has inspection and maintenance programs required under 10 CFR 39.43 and that associated records of defects are available. The equipment items involved in the program should include source holders, logging tools, uranium sinker bars, source-handling tools, storage containers, and transport containers. The program should ensure that no physical damage is visible and that the required labeling is legible. Physically examine a representative sample of source handling tools to determine their condition and their ability to adequately secure a source during transfer to and from its source storage container. Physically examine source storage containers to ensure that they are in good condition and that design safety features function as intended.

- a. If licensee staff did not check well logging equipment each day before use and semiannually or if physical damage is evident or illegible labels are apparent, assess the licensee's process for completing the checks. Determine how the licensee failed to implement the written procedure.
- b. If unauthorized individuals removed sealed sources from source holders or logging tools, assess the licensee's process for dismantling well logging equipment and the potential for radiation exposures. Determine how the licensee failed to implement the written procedure.
- c. If individuals were not specifically approved by NRC or an Agreement State to open, remove, or modify a sealed source or to remove (e.g., chisel, drill, or cut) a stuck sealed source from the source holder, assess the licensee's process for performing the operation and the potential for radiation exposures. Determine how the licensee failed to obtain approval from NRC or an Agreement State.

Area Radiation Surveys

Through interviews of selected licensee personnel, including the RSO, verify specifically that schedule and procedural requirements for surveys are adequate to demonstrate compliance with the regulations and with pertinent license requirements. Determine whether due consideration is given to gamma and neutron emissions from the radionuclides involved, and to total body exposure and extremity exposure.

Verify that the licensee has established schedules for periodic surveys of work and storage areas of the facility site. Observe surveys in progress by licensee personnel. Determine the adequacy of the surveyor's knowledge in checking the survey instrument



for proper operation with a dedicated check source and in the use of the instrument for conducting radiation surveys. Review a random selection of survey records to verify that surveys are performed according to schedules; assess that the survey results are reviewed by an appropriate supervisor and that corrective actions have been taken, as appropriate.

Request that licensee personnel spot-check radiation levels in selected areas using the licensee's instrumentation. Compare the results with those obtained using the NRC's instruments.

### 03.03 FE-3: The licensee should implement comprehensive safety measures to limit other hazards from compromising the safe use and storage of licensed material

The inspector should be attentive to potential industrial safety hazards for referral to the U.S. Department of Labor's Occupational Safety and Health Administration (see Manual Chapter 1007). The focus should be on potential non-radiological hazards personally observed or brought to the inspector's attention by licensee staff.

#### Operational Limits

Verify that well logging sources are used in accordance with any operational limits described in the applicable SSD sheet. Sources have limits for temperature, pressure, corrosive chemical exposure, etc. Also, inspectors should assess that sources in storage are protected from fire (see "Fire Protection below") and the elements, that package integrity is appropriately maintained, and that controls are in effect to minimize the risk from other hazardous materials.

#### Temporary Job Site Hazards

During inspections of licensed activities at temporary job sites, verify that licensee personnel ensure that sources are protected from heavy equipment; such as cranes, drill pipe, etc.; welding equipment; high voltage lines; and other industrial hazards.

#### Fire Protection

In many cases, the risk posed to radiological safety by fires is comparable to or exceeds the risk from other events involving licensed activities. During the course of inspection of the licensee's facilities, be alert to potential fire hazards. An effective licensee fire protection program should (1) prevent fires from starting, (2) rapidly detect, control, and extinguish those fires that do occur, and (3) provide protection for structures, systems, and components important to safety so that a fire that is not promptly extinguished by fire suppression activities will not prevent the licensee from taking actions to safely control licensed material and prevent the spread of contamination and unnecessary exposures to workers or the public.

Through observation and discussion with the licensee, while touring the facilities, assess firesafe conditions and equipment, i.e., that: (1) work areas are generally uncluttered and free of combustible debris, (2) incompatible materials (i.e., materials

labeled as “corrosive”, “flammable”, or “oxidizer”) are isolated from each other and enclosed by fire resistant barriers, (3) fire detection systems are operable, (4) fire suppression systems are operable, (5) portable fire extinguishers are unexpired (check maintenance tags), (6) electric switches and electric motors are explosion-proof, arc welders or open flames are administratively controlled in work areas that also contain flammable or combustible liquids or gases or highly reactive chemicals, and that (7) the local fire department is involved with the licensee’s fire protection program.

Through observations and discussions with licensee staff, assess that: (1) radioactive waste is protected from fire and the elements, (2) package integrity is appropriately maintained, (3) the storage area is ventilated, and (4) controls are in effect to minimize the risk from other hazardous materials.

Any problems/deficiencies noted should be promptly brought to the licensee’s attention and discussed with Regional management.

Licensees should be practical in approaching the safety of the device in the event of fire. They should not endanger themselves to protect the source, but should be able to provide radiological hazard information to emergency medical and fire personnel who respond to the fire.

### Industrial/Chemical Hazards

Through observations and interviews of licensee personnel, determine that the licensee controls the use/storage of hazardous (corrosive or combustible) chemicals near well logging equipment which could degrade performance or render safety features inoperable. If the licensee is required to implement an emergency plan, verify that the plan includes these hazards, as appropriate, as initiating events.

### Transportation

Verify that licensed material is packaged and transported (or offered for transport) in accordance with 10 CFR Part 71 and U. S. Department of Transportation (DOT) regulations for transportation of radioactive materials. The inspector should refer to IP 86740, "Inspection of Transportation Activities" for further inspection guidance. Also the field reference charts, "Hazard Communications for Class 7 (Radioactive) Materials," are useful for determining compliance with the transportation requirements for minimum packaging, shipping papers, marking and labeling packages, placarding vehicles, and package and vehicle radiation limits and contamination limits.

- a. Observe the preparation of radioactive materials for shipment. Verify that the proper packaging is used for the type of materials/devices shipped. Verify that the licensee properly marks and labels packages in accordance with DOT requirements. Verify that the licensee performs appropriate examinations to confirm that package radiation and contamination levels are within applicable DOT limits prior to offering them for transport. Verify that proper shipping papers are prepared for each package/shipment and that, if necessary, the licensee maintains and offers appropriate placards to common carriers.

- b. If the licensee tests and certifies its own DOT Type A packaging materials, review test procedures and required certification documentation for selected packages. Verify that the packaging materials are used in the same or similar configurations as in their certification testing.
- c. Verify that any DOT Type B containers are used in accordance with their Certificates of Compliance (COCs) issued by the NRC. The licensee must maintain copies of the COCs for the packages that it has used and ensure that it follows the instructions and limitations of the COCs when preparing the packages for shipment.
- d. If the licensee reported any transportation incidents, review the licensee's actions in response to the incidents.
- e. In the case where a licensee may have transferred a source to a burial site for offsite disposal, review the licensee's procedures and records to verify that each shipment is accompanied by a shipment manifest that includes all the required information. Also review the licensee's procedures and records to verify that each package intended for shipment to a licensed land disposal facility is labeled, as appropriate, to identify it as Class A, B, or C waste in accordance with the classification criteria of 10 CFR 61.55 [Subsection III.A.2 of Appendix G to Part 20]. Verify that records are maintained that demonstrate compliance with the requirements for the disposal of licensed material made under 10 CFR 20.2002-2005, 10 CFR Part 61, and disposal by burial in soil. For further inspection guidance, refer to IP 84850, "Radioactive Waste Management - Inspection of Waste Generator Requirements of 10 CFR Part 20 and 10 CFR Part 61."

03.04 FE-4: The licensee should implement a radiation dosimetry program to accurately measure and record radiation doses received by workers or members of the public as a result of licensed operations

A radiation dosimetry program includes all of the licensee's activities that measure the radiation dose to workers and members of the public as the result of licensed activities. These activities would include for example, the measurement of quantities of licensed materials present, radiation and contamination levels, and the concentration of licensed materials in effluent streams. For additional guidance relating to personnel dosimetry, refer to Inspection Procedure (IP) 83822, "Radiation Protection."

Personnel Dosimetry

- a. Through interviews of the RSO, determine whether the licensee had made a prospective analysis of anticipated annual doses (internal and external) to workers. If the licensee's analysis indicated that monitoring was not required, verify the assumptions and outcomes.

- b. If the licensee monitors worker exposures (internal and external), notwithstanding a prospective analysis indicating that monitoring was not required, review selected reports of monitoring results. Verify, based on the review of reports of monitoring results, that worker doses adequately reflect the nature and scope of the licensee's activities.
  - 1. If monitoring results do not reflect the nature and scope of the licensee's activities, or if there is wide variability in the range of doses for specific job categories (i.e., one worker consistently receives significantly more exposure than all other workers each month), discuss this variability with the RSO to determine that he/she is aware of the disparity.
  - 2. Through interviews of workers and observations of activities in progress, determine the basis for the disparity in doses or verify the RSO's assessment of the disparity.
- c. Through interviews of workers and observations of activities in progress, verify that radiation monitors are worn appropriately and are recording the highest dose for which they are intended.
  - 1. If monitors are not (or cannot be) worn in the most appropriate location to record the highest dose received by the individual(s), through interviews of the RSO, verify that the licensee has performed assessments (through surveys, calculation, or both) of occupational exposures received and adjusted the dose of record for the worker(s).
  - 2. Review the results of the licensee's assessment and verify the assumptions and outcomes. Verify that the dose of record for the affected worker(s) has been adjusted and that the adjusted dose is within the applicable regulatory limit and ALARA.
- d. Through interviews of the RSO and review of records of external monitoring results, determine whether processing (collection, process, and assessment) of monitoring devices is being performed in a timely manner.
- e. Through interviews of the RSO and workers who handle volatile radionuclides (i.e., radioiodine), verify that the licensee has established an appropriate monitoring frequency for the identification of intakes of radioactive materials. Verify that the licensee has established administrative action levels for investigating intakes. Through a review of bioassay records, verify that, when those levels are exceeded, the licensee appropriately investigates the intakes. Verify that the licensee's process for converting intake measurements to dose uses appropriate calculations and methodologies. [Note—the unsealed radionuclides used for subsurface tracer studies are generally non-volatile.]
- f. Through reviews of dosimetry reports and annual licensee evaluations of public dose, and interviews of the RSO and selected licensee personnel, verify that the licensee has not experienced any events, since the last inspection, involving

exposures to occupational workers or members of the public that were in excess of any regulatory limit.

1. Review and evaluate any such incident or unusual occurrence that took place since the last inspection. If such incidents were required to be reported, verify, through interview of the RSO and review of event reports, that a complete and timely report was made to the NRC.
2. For incidents or unusual occurrences that were not required to be reported, verify that the licensee performed sufficient investigation to identify the cause of the incident, and took appropriate corrections to prevent recurrence of the situation leading to the incident or unusual occurrence.

### Contamination Control

Through interviews of selected licensee staff, including the RSO, the inspector should verify that personnel have an adequate understanding of the procedures to be followed in the event that the licensee's sources are ruptured or licensed materials have caused contamination. Occasionally, well logging tools containing sources become lodged, or otherwise immobilized in the well. When this happens, operations are initiated to retrieve the tools from the well. The inspector should verify that the drilling fluids (mud) are monitored for radioactive materials whenever retrieval operations are ongoing.

Note that, in accordance with 10 CFR 39.67, the licensee is required to make radiation surveys of each area where licensed materials are used and stored. In particular, the licensee is required to perform a radiation survey at temporary job sites before and after each subsurface tracer study, to confirm the absence of contamination. Licensees must be authorized to knowingly inject radioactive materials into fresh water aquifers. If practical, observe how licensees conduct surveys to determine the adequacy of such surveys. Also, note the types of instruments used, and whether they are designed and calibrated for the type of radiation being measured.

The inspector should determine if workers take smears or instrument readings in areas that are potentially contaminated and accessible to facility personnel. Particular attention should be given to well heads and storage areas. The inspector should also perform independent measurements, as needed, to verify licensee assumptions or measurements.

### Leak Tests

Through discussions with licensee personnel and/or by demonstration of leak test procedures, verify that leak tests are performed in accordance with the manufacturer's recommendations and/or license. In accordance with 10 CFR 39.35, verify that the wipe of a sealed source is taken from the nearest accessible point to the sealed source where contamination might accumulate, at intervals not to exceed 6 months (or other frequencies in accordance with the sealed source and device evaluation certificate).

Verify that the licensee's leak test analyses (or that of its leak test services vendor) has sufficient sensitivity to measure 185 Becquerels (0.005 microcurie) for each type of isotope present on its license. Through discussions with licensee staff and/or review of pertinent records, determine if the licensee had a leaking source. If leak test results show contamination in excess of the regulatory limits, verify that the licensee made appropriate notifications, evaluations, and removed the source from service.

03.05 FE-5: The licensee should provide radiation instrumentation in sufficient number, condition, and location to accurately monitor radiation levels in areas where licensed material is used and stored

Through observations of portable radiation detection and measurement equipment in use and available for use, determine whether the quantity and type are adequate for the licensee's radiation detection and measurement needs. Verify that instruments used to meet regulatory requirements (i.e., area and transportation surveys; bioassay and leak test analyses) have been routinely calibrated and maintained.

Survey Instruments

- a. Through observations and demonstrations, determine whether selected licensee survey instruments in use and available for use are operational (battery check) and respond appropriately to radiation (instrument source check). Compare licensee instrument readings to the NRC instrument. Verify that licensee's instrument response is comparable to the NRC instrument (+20%).
- b. Through interviews of the RSO and workers, and by observation, determine whether the licensee has a system for tagging out inoperable and out-of-service survey instruments.

Instrument Calibration and Maintenance

- a. If the licensee uses a vendor to calibrate instruments, verify through interviews of the RSO that the vendor is authorized by the NRC or an Agreement State to perform that service.
- b. Through interviews and demonstrations, determine that licensee personnel who perform in-house instrument calibrations are knowledgeable of the calibration procedures for each type of instrument used by the licensee. Assess that calibrations include a determination of "as found" condition before adjustments are made. Assess that personnel understand how to maintain their doses (deep dose and extremity) ALARA during calibration procedures, especially if large activity sealed sources are used.
- c. If the licensee performs maintenance/repair on survey instruments, through interviews of appropriate licensee personnel and the RSO, determine whether the licensee possesses instrument manufacturer manuals and that any replacement parts used are "like-for-like."

## Bioassay Instruments

Through observations and interviews of the RSO and workers, verify that the licensee's instrumentation for performing in vivo bioassay measurements is adequate for those measurements. Determine that bioassay probes and scalers are compatible. Determine that licensee staff perform a response check using appropriate sources (such as a barium-133 source to simulate iodine-131) and a suitable background measurement before taking bioassay measurements.

## Leak Test Analysis

If the licensee is authorized to both collect and analyze leak test samples, the inspector should determine if the type of counting equipment is appropriate for the samples being analyzed and the sensitivity required. The inspector should determine if the laboratory instrumentation is calibrated for the appropriate geometries of the samples to be analyzed and is routinely checked for proper operation. The licensee should maintain calibration records, control charts, and maintenance and repair records, to demonstrate proper operation of laboratory instrumentation.

03.06 FE-6: The licensee should ensure that workers are knowledgeable of radiation uses and safety practices; skilled in radiation safety practices under normal and accident conditions; and empowered to implement the radiation safety program

- a. Authorized Users. Authorized users (logging supervisors and logging assistants) may either be named in the license application or be appointed by the licensee, depending on the type of license issued and/or the wording in the license. For those appointed by the licensee, verify that the authorized user is trained in accordance with the approved criteria and has knowledge commensurate with operational duties.

Through observations and interviews of logging supervisors and logging assistants, assess implementation of radiation safety practices for well logging activities (i.e., loading of sources into tools, leak-testing procedures, maintenance activities). Verify their ability to recognize unsafe radiological conditions and to respond appropriately to emergency situations. Also verify that logging supervisors and logging assistants understand the mechanism for raising safety concerns to licensee managers.

Review selected training records to determine that examinations or tests (if applicable) have been implemented and are appropriate. Read a few of the examination questions to ascertain that they are indicative of what the worker should know to carry out his/her responsibilities.

Note that, at a minimum, the licensee is required to provide safety reviews, as defined in 10 CFR 39.2, for logging supervisors and logging assistants at least once during each calendar year.

- b. General Training. Verify, pursuant to 10 CFR 19.12, that initial instructions have been given to workers who in the course of employment are likely to receive in a year an occupational dose in excess of 1 mSv (100 mrem). Under the basic instructions, it is management's responsibility to inform the workers of the storage, transfer, or use of radiation and/or radioactive material; health protection problems associated with exposure to radiation; precautions or procedures to minimize exposure; and the purposes and functions of protective devices employed. The workers should also be informed of the pertinent provisions of NRC regulations and the license, and the requirement to notify management of conditions observed that may, if not corrected, result in a violation of NRC requirements.
- c. Operating and Emergency Procedures. Operating and emergency procedures will be found in license applications and may vary from step-by-step procedures to more generalized procedures. The emergency procedures will be approved by the NRC, and reviewed and updated by the licensee. Any revision requires an amendment to the license.

Some licensees may have agreements with other agencies (i.e., fire, law enforcement, and medical organizations) regarding response to emergencies. Discuss with the licensee's representatives what has been done to ensure that agencies (involved in such agreements) understand their roles in emergency responses.

Verify that licensee personnel are knowledgeable of the operational procedures by observing the performance of tasks at selected work stations and by a comparison of their performance with established procedures. Determine that the licensee's emergency procedures have been approved by or described to NRC. Through discussions with workers, assess that licensee personnel understand and implement the established procedures and are aware of procedural revisions. Determine the licensee has adequate procedures in place for handling irretrievable, abandoned sources.

Through discussions with licensee staff, assess the licensee's handling of tracer materials. Verify, when practical (and when required), that well logging personnel wear appropriate protective clothing during their work activities. Requirements for protective clothing may be found in the licensee's procedures. Assess that all waste items (i.e., empty vials, gloves, napkins, cans, etc.) are appropriately packaged, labeled, and transported from the job site to the licensee's waste storage location, and that the licensee has appropriate methods to track the items in storage.

- d. Posting and Labeling. Determine that proper caution signs are being used at access points to areas containing licensed materials and radiation areas. Section 20.1903 provides exceptions to posting caution signs. The inspector should also randomly observe labeling on packages or other containers to determine that proper information (e.g., isotope, quantity, and date of measurement) is recorded.



Observe locations where notices to workers are posted. Applicable documents, notices, or forms should be posted in a sufficient number of places to permit individuals engaged in licensed activities to observe them on the way to or from any particular licensed activity location to which the postings would apply.

03.07 FE-7: The licensee's management system should be appropriate for the scope of use and should ensure awareness of the radiation protection program; that audits for ALARA practices are performed; and that assessments of past performance, present conditions, and future needs are performed, and that appropriate action is taken when needed

The NRC holds the licensee responsible for the radiation protection program; therefore, it is essential that strong management controls and oversight exist to ensure that licensed activities are conducted properly. Management responsibility and liability are sometimes under emphasized or not addressed in applications and are often poorly understood by licensee employees and managers. Senior management should delegate to the RSO sufficient authority, organizational freedom, and management prerogative to communicate with and direct personnel regarding NRC regulations and license provisions and to terminate unsafe activities involving byproduct material.

Through observations, interviews and the review of selected records, determine that senior licensee management is fulfilling its responsibility of ensuring the effective operation of the radiation safety program. Specific areas of management focus should include:

- Maintaining awareness of significant events such as the loss or theft of licensed materials.
- Maintaining radiation safety, security and control of radioactive materials, and compliance with regulations.
- Committing adequate resources (including space, equipment, personnel, time, and, if needed, contractors) to the radiation protection program to ensure that members of the public and workers are adequately protected from radiation hazards and that compliance with regulations is maintained.
- Obtaining the NRC's prior written consent before transferring control of the license;
- Notifying the appropriate NRC regional administrator in writing, immediately following filing of petition for voluntary or involuntary bankruptcy (10 CFR 30.34(h)).
- Assuring the appropriate response, when applicable, to generic communications from the NRC.
- Assuring that adequate provisions have been made to fund the safe and effective decommissioning of licensee facilities. (10 CFR 30.35)
- Notifying the NRC of the decision to discontinue licensed activities or to decommission a facility in which licensed activities took place. (10 CFR 30.36)
- Notifying the NRC of defects or other radiation safety equipment malfunctions in accordance with the requirements of 10 CFR Part 21.
- Maintaining awareness of issues and measures to ensure worker performance and safety are not being compromised due to safety significant human performance issues.

- a. RSC (where required or used). Through the review of records, and interviews of the RSO and RSC members, determine that the committee is made up of a representative from each type of program area, the RSO, and a representative from management. If practical, attend and observe the conduct of an RSC meeting. Review meeting minutes (and interview selected committee members when practical) to determine the committee's effectiveness. Determine that the RSC meets at the required frequency as specified in the license application, other commitment documents, or in a specific license condition. Topics of discussion during committee meetings should include ALARA reviews, incidents, generic communications, authorized users and uses, waste issues, audits, etc.

Determine if the committee has been effective in seeking out areas needing improvement, rather than just responding to events and information from outside sources. Determine whether the RSC has recommended any specific actions and assess the implementation of those recommendations. The inspector's review should be of sufficient depth and detail to provide an overall assessment of the committee's ability to identify, assess, and resolve issues. Also consider the effectiveness of the RSC to communicate the results of audits and trend analyses to appropriate personnel performing licensed activities.

- b. RSO. Through the review of records, and interviews of the RSO and authorized users, verify that the RSO has been appointed by licensee management, identified on the license, and is responsible for implementing the radiation safety program. Determine, through interviews, that this individual is knowledgeable about the program, and ensures that activities are being performed in accordance with approved procedures and the regulations. Determine that, when deficiencies are identified, the RSO has sufficient authority, without prior approval of the RSC or licensee management, to implement corrective actions, including termination of operations that pose a threat to health and safety.

Determine that the knowledge and training of any radiation safety staff are commensurate with their assigned duties. Verify that the radiation safety staff levels, including numbers and types of positions, are as described in the license application.

1. If the inspector identifies high staff turnover or prolonged shortfalls in staffing levels, through interviews and observation determine if these shortfalls have had a negative impact on licensee performance.
  2. If so, discuss these findings with the RSO and senior licensee management to determine the source of the staffing issues and the licensee's plans to address the deficiency. The issue should also be brought to the attention of regional management.
- c. Audits. Through reviews of audit records and interviews, verify that the radiation safety program content and implementation is reviewed at least annually. The results of all audits must be documented in accordance with 10 CFR

20.2102(a)(2). Examine these records with particular attention to deficiencies identified by the licensee's auditors, and note any corrective actions taken as a result of deficiencies found.

1. If no corrective actions were taken, determine why the licensee disregarded deficiencies identified during audits.
2. Determine if the lack of corrective actions caused the licensee to be in non-compliance with regulatory requirements.

#### 87123-04 REFERENCES

A listing of IMCs and IPs, applicable to the inspection program for materials licensees, can be found in IMC 2800. These documents are to be used as guidelines for inspectors in determining the inspection requirements for operational and radiological safety aspects of various types of licensee activities.

END

## 10 CFR PART 37 MATERIALS SECURITY PROGRAMS

PROGRAM APPLICABILITY: 2800

### 87137-01 INSPECTION OBJECTIVES

To verify that licensees are effectively implementing the requirements promulgated by 10 CFR Part 37, "Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material," relative to the following three focus areas: 1) background investigations and access authorization program (Subpart B); 2) physical protection during use (Subpart C); and 3) physical protection during transit (Subpart D).

### 87137-02 INSPECTION REQUIREMENTS

The requirements of 10 CFR Part 37 apply only to licensees in possession of aggregated category 1 and 2 quantities of radioactive materials, including sealed and unsealed sources. Affected licensees may include manufacturers and distributors, self-shielded irradiators, open-air beam calibrators, pool-type irradiators, medical facilities with blood irradiators and/or gamma-ray stereotactic radiosurgery (gamma knife), radiopharmacies, industrial radiographers, and licensees transporting category 1 and 2 quantities of radioactive material. The focus of this inspection procedure is the security inspections of those licensed under 10 CFR Part 30, subject to Part 37 requirements when possessing certain aggregated category 1 and 2 quantities of radioactive material.

In addition to the requirements outlined in Inspection Manual Chapter (IMC) 2800, the inspector should review and have available for easy reference: the final rule and implementation guidance, including any supplemental correspondence applicable to the rule (e.g., licensee responses, requests for relief or exemption, and final NRC determinations).

### 87137-03 INSPECTION GUIDANCE

#### General Guidance

Where appropriate, the licensee may choose the implementation methods they determine are best, provided those methods meet the intent of the rule. Therefore, inspectors will see different methods of complying with some of the Part 37 requirements. A determination regarding compliance with NRC requirements should be based on direct observation of work activities, testing of communications, monitoring, and detection systems, interviews with licensee workers,

demonstrations by appropriate workers performing tasks regulated by the NRC, and where appropriate, a review of selected records within the scope of the program requirements for each of the three focus areas. A direct examination of these licensed activities and discussions with workers should provide an inspector with reasonable assurance of a licensee's ability to control and secure risk-significant radioactive materials.

For licensees who indicate or assert that compliance with Part 37 is not necessary because they do not possess risk-significant radioactive material equal to or exceeding category 2 quantities, the inspector will verify that the licensee correctly understands the requirements relative to aggregated quantities, and are correct in their assertion that Part 37 does not apply to their licensed activities. For combinations of material, the inspector should confirm that the licensee uses the sum-of-fractions method (also known as the unity rule) to determine whether or not they possess a category 1 or category 2 quantity of radioactive material. If inspectors determine that licensees have not, but should have implemented the requirements of Part 37, regional management shall be notified immediately. If relief or an exemption from any of the rule requirements have been granted to a licensee, the inspector shall verify compliance with any alternative provisions imposed as a condition of the relief or exemption, in lieu of the guidance in this inspection procedure applicable to the requirement.

To the maximum extent possible, the inspections under this procedure should be performed in conjunction with the routine health and safety inspection of the licensee conducted under IMC 2800. The Inspection Manual Chapters and Inspection Procedures (IPs) listed in Enclosure 4 of IMC 2800, IMC 2810, and IMC 1220 comprise the inspection program for material licensees. This procedure is the Part 37 security addition to the IP 87100-series of procedures for routine inspections. Inspection results should be documented in accordance with IMC 2800. Furthermore, the Web Based Licensing (WBL) tracking system should be updated to reflect the completed inspection and any violations identified. If the possession of risk-significant radioactive material involves a nationally tracked source, the inspection should examine compliance with the provisions of 10 CFR 20.2207.

All routine inspections should be performed on an unannounced basis, except as noted in IMC 2800. The inspector may choose to inform the licensee of his or her presence after performing initial observations of licensee operations or performance of an initial walk-through, under certain circumstances. Such activities may include checking locked doors to buildings, use/storage areas or vehicles and trailers. The inspector must ensure that such actions will not jeopardize their personal safety or that of licensee employees or create a safety or security problem for the licensee. The Inspector should exercise due diligence in taking these actions because such actions may result in a licensee response or an armed response from the Local Law Enforcement Agency (LLEA). Although an inspector may believe that he or she has entered the security zone undetected or unchallenged, there may be monitored sensors or cameras that detect the unauthorized entry and result in an armed response. Furthermore, there may be consequences for the licensee if LLEA responds to a false alarm, including fines assessed to the licensee. If the inspector believes that he or she has entered a licensee security zone without detection or has obtained unescorted access to category 1 or 2 quantities of radioactive material, licensee management must be immediately notified, while attempting to maintain surveillance over the area or material. In addition, such initial observations or walk-through activities should not be aimed at testing alarm systems or LLEA response.

When licensed activities cross jurisdictions, or licensee activities demonstrating compliance with portions of Part 37 take place outside the Region's jurisdiction, Regional management will coordinate with the other Region or Agreement State to ensure each regulatory authority is aware of inspection effort, scope, and results. The scope and scheduling of reciprocity inspections and inspections of temporary job sites or field offices should be consistent with IMC 2800 and IMC 1220.

Inspections of temporary job sites or field offices may not encompass the full implementation of Part 37 - for example, trustworthiness and reliability determinations that have been performed by the human resources department that is located in another jurisdiction. Inspection results should document what was inspected with enough detail that the responsible Region or Agreement State program may include in a future inspection those functions which the inspector is unable to verify in order to ensure complete implementation of Part 37.

The inspector should be cognizant that licensees possessing radioactive waste that contains radioactive material in excess of category 2 quantities are exempt from subparts B, C, and D, unless the waste contains discrete sources, ion-exchange resins, or activated material that weighs less than 2,000 kg (4,400 lbs). Such exempt licensees would need to comply with 37.11(c)(1) through (c)(4), which includes measures for the use of continuous physical barriers, alarmed locked gates or doors, assessment and response to unauthorized entry, and immediate LLEA notification.

The inspector should keep NRC Regional management informed of significant findings and potential escalated enforcement issues (e.g., failure or inability to control access, failure or inability to monitor, detect, assess, and respond to an unauthorized access, failure to protect or control sensitive information which could result in unauthorized access, and willful violations identified during the course of the inspection.) This will ensure that the inspector is following appropriate NRC guidance under such circumstances.

Prompt corrective action must be initiated by the licensee for significant violations of security requirements that affect the security and control of category 1 or 2 radioactive materials. The inspector should not leave the site until the concern is fully understood by the licensee and a commitment for corrective action has been initiated, and, if possible, compensatory measures have been taken to ensure compliance. If the inspector and the licensee disagree on the magnitude of the concern regarding security and control of the radioactive materials and safe operation of the facility, Regional management should be notified immediately.

### Specific Guidance

This section outlines the NRC regulatory requirements within the 10 CFR Part 37 security program focus areas being inspected. Specific inspection guidance, where stated, is also provided as a tool for use by inspectors when evaluating security program compliance but should not be viewed as mandatory if not supported by a regulatory requirement.

87137-03-01 FOCUS AREA ONE: BACKGROUND INVESTIGATIONS AND ACCESS  
AUTHORIZATION PROGRAM

03.01.01 Personnel Access Authorization

- a. Verify that licensees subject to Part 37 have an access authorization program. This includes new applicants. Licensees newly subject to Part 37 and those that have not previously implemented NRC security orders or been subject to the provisions of Subpart B must also have an access authorization program before taking possession of category 1 or 2 quantities of radioactive material. [37.21(a)]
- b. Verify that access authorization includes all individuals whose assigned duties require unescorted access and reviewing officials. [37.21(b)]

03.01.02 Access Authorization Program Requirements

- a. Verify that the licensee has implemented the requirements for granting or reinstating unescorted access authorization. [37.23(a)(1)]

Specific Inspection Guidance

The inspector should review the licensee's procedures for implementing the requirements regarding the appointment and certification of reviewing officials, informed consent, personal history disclosure, determination basis for trustworthiness and reliability, written procedures, and the right to correct and complete information.

- b. Verify that individuals who have been determined to be trustworthy and reliable have completed the security training outlined in 37.43(c) before being allowed unescorted access. [37.23(a)(2)]
- c. Verify that reviewing officials are the only individuals making trustworthiness and reliability determinations for unescorted access. [37.23(b)(1)]
- d. Verify that the licensee has named one or more individuals to be a reviewing official. Confirm that the licensee provides, under oath or affirmation to the NRC, a certification that the reviewing official is deemed trustworthy and reliable. Verify that the reviewing official has undergone a fingerprint check, including a FBI criminal history records check. [37.23(b)(2)]

Specific Inspection Guidance

The inspector should be cognizant that the oath or affirmation can be provided to the NRC as outlined in the communications provisions of 37.7. The inspector should review any procedures developed and records used by the licensee to support its determination that the reviewing official is deemed trustworthy and reliable if they have unescorted access to category 1 and 2 radioactive material. Annex A of NUREG-2155 lists some indicators that could be considered as potential concerns.

- e. Verify that each reviewing official is permitted to have unescorted access to category 1 and category 2 quantities of radioactive material, access to safeguards information or access to safeguards information-modified handling. [37.23(b)(3)]
- f. Verify that reviewing officials are not approving other individuals to act as reviewing officials. [37.23(b)(4)]
- g. Verify that the licensee does not initiate a background investigation without the informed and signed consent of the subject individual. Also confirm that a signed consent is obtained prior to any reinvestigation. [37.23(c)(1)]

#### Specific Inspection Guidance

The inspector should review the signed consent documentation, which should show that the subject individual has been provided the appropriate explanation, indicating his or her understanding that a background investigation will be conducted. Annex B, "Sample Consent Form for Background Investigations," contained in NUREG-2155, "Implementation Guidance for 10 CFR Part 37," provides template language for a possible consent form that licensees can adapt for their use.

- h. Verify that the licensee's access authorization program informs the subject individual that he or she may withdraw consent for a background investigation at any time, but the withdrawal of consent is sufficient cause for denial or termination of unescorted access authorization. [37.23(c)(2)]
- i. Verify that individuals applying for unescorted access authorization are disclosing personal history information required by the licensee's access authorization program. [37.23(d)]

#### Specific Inspection Guidance

The inspector should review the licensee's personal history collection requirements (i.e. identity verification, employment history, education, references) and verify that subject individuals are providing the required information. This review should include information regarding any refusal to provide, or the falsification of, the required information and whether or not it resulted in denial or termination of unescorted access. If it did not result in denial or termination of unescorted access, verify that the licensee appropriately documented the reasoning in the approval to grant unescorted access.

- j. Verify that reviewing officials:
  - make the determination regarding access authorization;
  - evaluate all information collected during the background investigation;
  - document the basis for concluding that a person is trustworthy and reliable;
  - terminate or administratively withdraw access authorization based upon information obtained after the background investigation; and
  - establish and maintain a list of persons currently approved for unescorted access.



The list must be retained for three years after being superseded or replaced. [37.23(e) and (h)(3)]

#### Specific Inspection Guidance

The inspector should be cognizant that the NRC has not developed a set of criteria for determining trustworthiness and reliability. The licensee must consider the elements contained in 37.25 to meet the background investigation requirements. The inspector should review any procedures developed and records used by the licensee to support its determination. Annex A of NUREG-2155 lists some indicators that could be considered as potential concerns.

- k. Verify that the licensee has developed, implemented, and maintained written procedures for implementing the access authorization program. [37.23(f)]

#### Specific Inspection Guidance

In addition to reviewing the provisions contained in 37.23(f), the inspector should review the development, implementation, and maintenance of written procedures that address, among other things, how to:

- conduct a background investigation;
  - develop and document a determination basis for trustworthiness and reliability;
  - reinstate individuals previously approved for unescorted access;
  - maintain the list of approved individuals;
  - withdraw an individual's approval for unescorted access; and
  - notify individuals who are denied unescorted access, including the reason for the denial, and allow the individual to provide additional information.
- l. Verify that, prior to any adverse determination, the licensee provides each individual subject to the access authorization program with the right to complete, correct, and explain information obtained as a result of the licensee's background investigation. Records must be maintained for 1 year. [37.23(g)]

#### Specific Inspection Guidance

The inspector should review copies of written notifications provided to individuals. Review the licensee's challenge process and review any challenges to the licensee's background investigation and adverse determinations to verify the licensee followed their procedure.

### 03.01.03 Background Investigations

- a. Verify that the licensee completes a background investigation for individuals before allowing unescorted access. Verify that the background investigation includes:
  - (1) fingerprinting and FBI identification and criminal history records check (see Section 03.01.04);

- (2) verification of true identity;
- (3) verification of employment history;
- (4) verification of education;
- (5) determination of character and reputation; and
- (6) to the extent possible, other independent information to corroborate that provided by the individual (e.g. references not supplied by the individual).

The scope must include at least the 7 years preceding the date of the background investigation or since the individual's eighteenth birthday, whichever is shorter.[37.25(a)]

- b. Verify whether grandfathered individuals were previously determined to be trustworthy and reliable under the Fingerprint Orders or applicable provisions of Part 73. [37.25(b)]
- c. Verify that reinvestigations are conducted every 10 years. [37.25(c)]

#### 03.01.04 Requirements for Criminal History Records Checks

- a. Verify that the licensee fingerprints each individual to be permitted unescorted access. [37.27(a)(1)]
- b. Verify that the licensee notifies each individual that his or her fingerprints will be used to secure a review of their criminal history record and has informed them of the procedure to revise the record. [37.27(a)(2)]
- c. Verify that any reinstatement of unescorted access without fingerprinting only occurs if: (1) the individual returns to the same facility that granted ~~unescortedunauthorized~~ access within 365 days of the termination, and (2) the previous access was terminated under favorable conditions. [37.27(a)(3)]
- d. Verify the transfer of a criminal records check file for any individual who is granted unescorted access, without fingerprinting, as a result of a background investigation performed by another licensee. [37.27(a)(4)]
- e. Verify that licensees do not make a final determination to deny unescorted access solely on the basis of information received from the FBI involving (1) an arrest more than 1 year old for which there is no information of the disposition of the case, or (2) an arrest that resulted in dismissal of the charge or an acquittal. [37.27(b)]
- f. Verify that licensees are using the appropriate method and procedures for the processing of fingerprint checks. [37.27(c)]

#### 03.01.05 Relief from Fingerprinting, Identification, and Criminal History Records Checks and Other Elements of Background Investigations

- a. Verify that individuals relieved from elements of the background investigation satisfy the requirements of 37.29. [37.29(a) and (b)]

#### 03.01.06 Protection of Information

- a. Verify that the licensee has established and maintains a system of files and written procedures for the protection of access authorization records and personal information from unauthorized disclosure. [37.31(a)]

##### Specific Inspection Guidance

The inspector should review the system of files stored in a locked drawer, file cabinet, or electronic files, and the procedures that address the protection of access authorization records and personal information. It is a good practice to have the licensee show the inspector the licensee's Intranet and who has access to the records related to 10 CFR Part 37.

- b. Verify that the licensee does not disclose the record or personal information collected to persons other than the subject individual or those with a need to have access to the information in performing assigned duties related to unescorted access. [37.31(b)]
- c. Verify that if the licensee has provided background investigations to another licensee, there is a written request from the individual whose background investigation was provided. [37.31(c)]
- d. Verify that the licensee maintains fingerprint and criminal history records for 3 years from the date the individual no longer requires unescorted access. [37.31(e)]

#### 03.01.07 Access Authorization Program Review

- a. Verify that the licensee's access authorization program is reviewed annually. The results of the reviews must be documented, along with any recommendations, and the records maintained for 3 years. [37.33(a), (b) and (c)]

### 87137-03-02 FOCUS AREA TWO: PHYSICAL PROTECTION REQUIREMENTS DURING USE

#### 03.02.01 Security Program

- a. Verify that each licensee establishes, implements, and maintains a security program. [37.41(a)(1)]

##### Specific Inspection Guidance

The inspector should be cognizant of the exemption requirements regarding radioactive waste in 37.11(c).

Verify that an applicant for a new license and each licensee that would become newly subject to the requirements of this subpart upon application for modification of its license implemented the requirements of this subpart, as appropriate, and established a security program before taking possession of an aggregated category 1 or category 2 quantity of radioactive material. [37.41(a)(2)]

- b. Verify that a licensee who had not previously implemented the Security Orders or been subject to the provisions of Subpart C provided written notification to the NRC regional office at least 90 days before aggregating radioactive material to a quantity that equals or exceeds the category 2 threshold. [37.41(a)(3)]
- c. Verify that the licensee has established, implemented, and maintains a security program that is designed to monitor and, without delay, detect, assess, and respond to an actual or attempted unauthorized access. [37.41(b)]

#### Specific Inspection Guidance

The inspector should verify that the licensee's security program is sufficient to detect unauthorized access to a security zone when it occurs, to determine whether the unauthorized access was an actual or attempted theft, and to initiate an appropriate response without delay. This determination will be made by the inspection of the general security program requirements below. The inspector should verify that the security program addresses non-business hours.

#### 03.02.02      General Security Program Requirements

- a. Verify that the licensee has developed and approved a written security plan specific to its facilities and operations. [37.43(a)]

#### Specific Inspection Guidance

The inspector should review the licensee's security plan to verify that it is site-specific and clearly explains how security measures will be implemented, including the identification of resources and technologies available to satisfy security program requirements. The inspector should determine whether the licensee has a plan for reviewing, and revising if necessary, the written security plan if there are changes or modifications to the facilities or operations that affect the security program. Verify that the plan has been reviewed and approved by the individual with the overall responsibility for the licensee's security program. Site-specific plans are not required for temporary jobsites. If the licensee maintains their security plan on an Intranet, it is a good practice to have the licensee show the inspector the Intranet and who has access to the records related to 10 CFR Part 37.

- b. Verify that the licensee has developed and maintains written procedures that document how the requirements of Subpart C and the security plan will be met. A copy of the current procedure must be retained for 3 years after the procedure is no longer needed. Superseded portions of the procedure must be retained for 3 years after the record is superseded. [37.43(b)]

### Specific Inspection Guidance

The inspector should review and verify that the licensee has developed, and approved in writing by the individual with the overall responsibility for the licensee's security program, written procedures that document how requirements of the security program and security plan will be met.

- c. Verify that the licensee conducts training to ensure that individuals implementing the security program possess and maintain the knowledge, skills, and abilities to carry out their assigned duties. The licensee shall maintain records of initial and refresher training for 3 years from the date of the training and records must include dates, topics covered, attendees, and related information. [37.43(c)]

### Specific Inspection Guidance

The inspector should review the licensee's training activities for the security program and implementing procedures to verify that the training includes instruction in the purpose and function of security measures employed; the responsibility to report any condition that causes or may cause a security violation; the responsibility to report promptly to LLEA actual or attempted theft, sabotage or diversion; and, the appropriate response to security alarms. The Inspector should interview selected individuals with responsibility for implementing different parts of the security plan to determine if they have received adequate training commensurate with their assigned duties. Verify the manner in which the licensee ensures that the training was effective and will be maintained (e.g., exams, audits, performance based reviews, refresher training). Effective training may also be demonstrated by the use of drills and/or exercises. Determine whether the providers of training have sufficient qualifications (i.e., detailed knowledge of the security plan and implementing procedures) to conduct the training.

The inspector should verify that refresher training is conducted at a frequency not to exceed 12 months and when significant changes have been made to the security program. Refresher training should include a review of initial training requirements and changes made; reports of relevant security issues, problems and lessons learned; relevant results of NRC inspections; and, relevant results of the licensee's security program review and maintenance and tests.

- d. Verify that the licensee protects their security plan, implementing procedures, and the list of individuals approved for unescorted access. Verify the development and maintenance of written policies and procedures for controlling access to, and for proper handling and protection against unauthorized disclosure of, the security plan and implementing procedures. [37.43(d)(1) and (2)]
- e. Verify that the licensee has only allowed authorized personnel with a need to know access to the security plan and/or implementing procedures. Verify that the licensee has performed background investigations on individuals who have access to the security plan or implementing procedures but do not require unescorted access. [37.43(d)(3)]

### Specific Inspection Guidance

The inspector should perform this verification by examining the list of those with approved access to the security plan and implementing procedures, along with interviews of cognizant licensee personnel.

- f. Verify that the licensee documents the basis for concluding that an individual is trustworthy and reliable; maintains a list of people currently approved for access to the security plan or implementing procedures; and removes individuals from the approved list, no later than 7 working days, when access is no longer required. [37.43(d)(5) and (6)]

### Specific Inspection Guidance

With regard to source security, the inspector should verify that the licensee's implementing procedures address the retrieval of keys, badges, or passcodes used for unescorted access to risk-significant material or access to the security plan, when such access is no longer appropriate.

- g. Verify that the licensee stores the security plan and implementing procedures in a manner to prevent unauthorized disclosure. [37.43(d)(7)]

### Specific Inspection Guidance

The inspector should verify that the licensee's security plan and implementing procedures are maintained in locked file cabinets or rooms, with access limited to authorized personnel with a need to know. If the licensee stores the security plan and/or implementing procedures in non-removable electronic form, the inspector should verify that the licensee has implemented measures to ensure that they are password protected. If implementing procedures are distributed, the inspector should review how they are retrieved when the person no longer has a need to know.

- h. Verify that licensees who possess safeguards information or safeguards information-modified handling comply with the requirements of 73.21. [37.43(d)(9)]

## 03.02.03 LLEA Coordination

- a. Verify that a licensee subject to this subpart has coordinated, to the extent practicable, with an LLEA to respond to threats to the licensee's facility, including any necessary armed response. Information provided to the LLEA must include a description of the facility, security measures, and a notification that the licensee will request a timely armed response by the LLEA to any actual or attempted theft, sabotage, or diversion. [37.45(a)]

### Specific Inspection Guidance

The inspector should review coordination activities undertaken by the licensee with the LLEA. The inspector should contact the LLEA to confirm that the licensee has performed coordination activities, to the extent practicable. The LLEA must be

authorized by a Government entity to make arrests and have the capability to provide an armed response in the licensee's jurisdiction. The inspector must take into consideration areas of cross-jurisdiction and whether or not the licensee has coordinated with each LLEA. Coordination activities may include, among other things, meetings, telephone conferences, site tours, and other forms of communication. A pre-arranged plan is not required. The licensee is not required to coordinate with the LLEA for work performed at temporary job sites. It is a good practice for the licensee to provide photographs of devices containing radioactive material or transport containers (i.e., radiography camera, source changer, transport or shipping container).

- b. Verify that the licensee notifies the appropriate NRC regional office within 3 business days if the LLEA has not responded within 60 days of the coordination request or if the LLEA notifies the licensee that they do not plan to participate in coordination activities. [37.45(b)]
- c. Verify that the licensee has documented LLEA coordination activities and retains the documentation for 3 years. [37.45(c)]
- d. Verify that the licensee coordinates with the LLEA at least every 12 months, or when changes to the facility design or operation adversely affect the potential vulnerability of the licensee's material to theft, sabotage, or diversion. [37.45(d)]

#### Specific Inspection Guidance

The inspector should review the licensee's documentation and procedures for annual coordination activities. The inspector should verify that coordination activities are conducted when changes are made regarding facility design and/or operations, including changes in possession, when such changes adversely affect the potential vulnerability of the licensee's material and response of the LLEA. The inspector should contact the LLEA to confirm that the licensee has performed coordination activities.

#### 03.02.04      Security Zones

- a. Verify that the licensee uses or stores all aggregated category 1 and 2 quantities of radioactive material within licensee-established security zones. [37.47(a) and (b)]

#### Specific Inspection Guidance

The security zone must be established to provide for isolation of material and access control to the area. The inspector should review the licensee's process for preventing and identifying when radioactive material will be aggregated to category 1 and 2 and stored within a licensee-established security zone.

- b. Verify that security zones allow unescorted access only to approved individuals by: (1) isolating material with a continuous physical barrier that allows access only through the established access control points, (2) direct control by approved individuals, or (3) a combination of direct control and physical barriers. [37.47(c)]

### Specific Inspection Guidance

The inspector should verify that the continuous barrier has no openings other than designated access control points, including windows or vents, large enough to allow a person to enter the security zone and bypass the access control point. If approved individuals are used to control access to the security zone, verify that they only allow unescorted access to approved individuals and that they have a way to verify if an individual is approved (e.g. access list, badge type).

- c. Verify that the licensee has provided approval for unescorted access to enough individuals to be able to maintain continuous surveillance of category 1 quantities of radioactive materials in temporary security zones and in any security zone in which physical barriers or intrusion detection systems have been disabled during periods of maintenance, source receipt, preparation for shipment, installation, or source removal or exchange. [37.47(d)]
- d. Verify that licensees use approved individuals in the security zone to escort individuals who have not been approved for unescorted access. [37.47(e)]

#### 03.02.05 Monitoring, Detection and Assessment

- a. Verify that the licensee maintains the capability to continuously monitor and detect without delay all unauthorized entries into its security zones. Verify that they are able to maintain continuous monitoring and detection capability in the event of a loss of the primary power source, or provide for an alarm and response in the event of a loss of this capability to continuously monitor and detect unauthorized entries. [37.49(a)]

### Specific Inspection Guidance

The inspector should verify that the licensee is able to detect unauthorized access, including breaches of physical barriers, at all times. Monitoring and detection must be performed by:

- (1) a monitored intrusion detection system linked to an onsite or offsite central monitoring station;
- (2) an electronic device for an intrusion detection alarm that will alert nearby facility personnel;
- (3) a monitored video surveillance system;
- (4) direct visual surveillance by approved individuals located within the security zone;
- or
- (5) direct visual surveillance by a licensee designated individual located outside the security zone.

The licensee can meet detection and monitoring requirements by using electronic devices (alarms), visual monitoring (cameras or direct surveillance), or a combination of these measures. Licensee designated personnel with access to the security plan and implementing procedures must be determined to be trustworthy and reliable. All individuals implementing the security program must be trained in accordance with 37.43(c).



If the licensee does not use an automatic auxiliary power source for monitoring and detection systems in case of a power failure, other provisions such as direct surveillance need to be provided for continuous monitoring and detection once the licensee is alerted that such capabilities are lost.

- b. Verify that the licensee has a means to detect unauthorized removal of the radioactive material from the security zone. [37.49(a)(3)]

#### Specific Inspection Guidance

The inspector should verify that:

- (1) for category 1 quantities, the licensee has the capability to immediately detect unauthorized removal through the use of electronic sensors linked to an alarm; or continuous monitored video surveillance; or direct visual surveillance.
  - (2) for category 2 quantities, unauthorized removal can be detected through weekly physical checks, tamper indicating devices, actual use; or other means. The documentation of physical checks should be addressed in the licensee's security plan.
- c. Verify that the licensee immediately assesses each actual or attempted unauthorized entry into the security zone to determine whether the unauthorized access was an actual or attempted theft, sabotage, or diversion. [37.49(b)]
  - d. For personnel and automated or electronic systems supporting licensees' monitoring, detection, and assessment systems, verify that licensees: (1) maintain continuous capability for personnel communication and electronic data transmission and processing among site security systems; and (2) provide an alternative communication capability for personnel, and an alternative data transmission and processing capability, in the event of a loss of the primary means of communication or data transmission and processing. [37.49(c)]

#### Specific Inspection Guidance

The inspector should verify that the licensee has a dependable means to transmit information to all the various components involved in the detection and assessment of an unauthorized intrusion, including the appropriate responder, at all times. The licensee may use land-line telephones, automatic dialers, cellular phones, pagers, radios, and other similar modes of communication to fulfill this requirement. The inspector should assess how the licensee is informed that the communication system is not functioning. This can be accomplished by "line supervision" or some other method to verify that the system is operational. Line-supervision is the means for monitoring and detection of an interruption between a sensor and the alarm control center. When using more than one person for detection and assessment, the licensee must also provide a means for the various monitoring personnel to communicate with each other.

The inspector should verify that the licensee has an alternative capability for the primary system of communication and data transmission. The alternative system can use similar modes of communication as long as they are not subject to the same failure mode. It is a good practice for the inspector, with the licensee, to contact the alarm company (if applicable) and verify that there is some form of line-supervision and discuss issues such as length of time capability for the battery backup and switching to a cellphone or radio backup.

- e. Verify that the licensee immediately responds to actual or attempted unauthorized access to security zones or theft, sabotage, or diversion of risk-significant radioactive material at the licensee's facility or temporary job site, and without delay requests an armed response from LLEA. [37.49(d)]

#### 03.02.06      Maintenance, Testing, and Calibration

- a. Verify that the licensee implements a maintenance and testing program for intrusion alarms, associated communication systems and other physical components used to secure or detect unauthorized access to radioactive material. If there is no manufacturer suggested frequency, the testing must be performed at least annually, not to exceed 12 months. Verify that the licensee maintains records on the maintenance and testing for 3 years. [37.51(a) and (b)]

##### Specific Inspection Guidance

The inspector should verify that systems and components are maintained in operable condition and are tested by the licensee to ensure they are capable of performing their intended function when necessary. If the system employs multiple components, the inspector should verify that the testing checks the function of each component (e.g., a system has motion detectors in a vault and magnetic switches on vault door, verify that the motion detector and the switch are each tested at the appropriate frequency). Inspectors should be cognizant that testing is not expected if the test itself could compromise either radiation safety (e.g. locked entrance to a panoramic irradiator) or the future performance of a component or system, such as a tamper-indicating device. It is a good practice for the inspector to test the alarms with the licensee as part of a performance-based inspection.

Procedures should be prescribed for routine maintenance of alarms, communications systems, security systems, and detection systems, and records maintained of performance and maintenance tests.

#### 03.02.07      Requirements for Mobile Devices

- a. Verify that a licensee possessing mobile devices has two independent physical controls that form tangible barriers to secure the material from unauthorized removal when the device is not under direct control and constant surveillance by the licensee. For devices in or on a vehicle or trailer, verify that the licensee disables the vehicle or trailer when it is not under direct surveillance by the licensee (unless site requirements prohibit

the disabling of the vehicle). Licensees shall not rely on removal of an ignition key to meet this requirement. [37.53(a) and (b)]

#### Specific Inspection Guidance

For mobile devices possessed in a vehicle or on a trailer, the inspector should have the licensee demonstrate its method for using two independent physical controls to secure material from unauthorized removal. If locks are used with chains or cables, the licensee should explain how access to the keys is limited to authorized individuals. The licensee's vehicle-disabling measures, such as ignition cutoff, trailer hitch locks, wheel locks ("boots"), or other methods should be reviewed. [If a vehicle is left unattended, the licensee must have a way to monitor and immediately detect, assess, and respond to an actual or attempted theft, sabotage, or diversion.] Site-specific policies addressing emergency situations (e.g., explosions, fires, toxic releases) may require that vehicles remain accessible at all times.

### 03.02.08 Security Program Review

- a. Verify that the licensee performs an annual review of the radioactive material security program content and implementation. [37.55(a)]

#### Specific Inspection Guidance

The licensee should develop an audit plan or specific criteria against which each requirement or element of the program can be measured. The review should, if possible, be performed by individuals who do not have direct responsibility for program implementation, but have been deemed trustworthy and reliable as a result of access to the security plan.

- b. Verify that the results of the review, along with any recommendations for corrective actions are taken and completed, and are documented and maintained for 3 years. [37.55(b) and (c)]

### 03.02.09 Reporting of Events

- a. Verify that the licensee immediately notified the LLEA after determining an actual or attempted theft, sabotage, or diversion occurred. Verify that the licensee notified the NRC Headquarters Operations Center no later than 4 hours after the discovery of any attempted or actual theft, sabotage, or diversion. [37.57(a)]

#### Specific Inspection Guidance

For routine security inspections, the inspector should verify that the licensee; (1) understands the reporting requirements, and (2) has procedures in place to implement reporting requirements. The inspector should interview cognizant licensee personnel and/or review records to ensure that events were screened correctly and reported if required.

- b. Verify that the licensee assessed any suspicious activity related to a possible theft, sabotage, or diversion and notified the LLEA as appropriate, and the NRC as soon as possible, but not later 4 hours after notifying LLEA. [37.57(b)]
- c. Verify that the initial telephonic notification required by 37.57(a) was followed within a period of 30 days by a written report to the NRC by an appropriate method listed in 37.7. [37.57(c)]

## 87137-03-03 FOCUS AREA THREE: PHYSICAL PROTECTION IN TRANSIT

### 03.03.01 Transfer of Category 1 and Category 2 Quantities

- a. For category 1 quantities of radioactive material, verify that the transferee's license authorizes the location requested for delivery, in addition to receipt of the type, form, and quantity of material to be transferred. [37.71(a)]

#### Specific Inspection Guidance

The inspector should be cognizant that verification can be performed through NRC's License Verification System (LVS) or by contacting the NRC or Agreement State license-issuing authority. If the licensee uses the LVS, the system will save the record and the licensee will not need to keep further documentation. If the licensee contacts the license-issuing authority (by telephone, e-mail or facsimile), the communication is required to be documented. Licensees may choose to contact the license-issuing authority through the LVS Help Desk, by use of the manual license verification procedure posted on the NRC website. If the manual license verification process is utilized, a report will be generated and saved in the NRC Agencywide Documents Access and Management System (ADAMS).

- b. For category 2 quantities of radioactive material, verify that the transferee's license authorizes receipt of the type, form, and quantity of material to be transferred. [37.71(b)]

#### Specific Inspection Guidance

See 03.03.01(a) above.

- c. Verify that written certifications used for verification, in an emergency where the licensee cannot reach the license-issuing authority and LVS is non-functional, include the license number, current revision number, issuing agency, expiration date, and for a category 1 shipment, the authorized address. The transferring licensee must confirm the certification by use of the LVS or by contacting the license-issuing authority by the end of the next business day. [37.71(c)]
- d. Verify that the transferor maintains a copy of the license verification documentation as a record for 3 years. [37.71(d)]

### 03.03.02      Applicability of Physical Protection During Transit

- a. Verify that the shipping licensee is responsible for meeting the requirements of Subpart D unless the receiving licensee has agreed in writing to arrange for in-transit physical protection. [37.73(c)]

#### Specific Inspection Guidance

When inspecting this requirement, the inspector should be cognizant that the requirements specified in 37.73(a) and (b) are included elsewhere in this section of the procedure.

- b. Verify that licensees who import or export category 1 quantities comply with 37.75(a)(2) and (e); 37.77; 37.79(a)(1), (b)(1), and (c); and 37.81(a), (c), (e), (g) and (h) for the domestic portion of the shipment. [37.73(d)]

#### Specific Inspection Guidance

When inspecting this requirement, and 03.03.02(c), the inspector should be cognizant that import requirements are applicable only from the point that the shipment enters the United States (i.e. the domestic portion of the shipment after it clears U.S. Customs and Border Protection, including interim storage). For export requirements, the licensee is responsible for following the security provisions only for the domestic portion of the shipment under the jurisdiction of a U.S. Government agency (e.g. the Federal Aviation Administration or Department of Homeland Security at a port, border crossing, or airport).

- c. Verify that licensees who import or export category 2 quantities comply with 37.79(a)(2), (a)(3), and (b)(2); and 37.81(b), (d), (f), (g), and (h) for the domestic portion of the shipment. [37.73(e)]

#### Specific Inspection Guidance

See 03.03.02(b).

### 03.03.03      Planning and Coordination of Shipments

- a. For category 1 shipments, verify that the shipping licensee; (1) preplans and coordinates shipment arrival and departure times with the receiving licensee, (2) preplans and coordinates shipment information with the governor or the governor's designee of any State through which the shipment will pass, and (3) documents the preplanning and coordination activities. [37.75(a)(1), (a)(2) and (a)(3)]

#### Specific Inspection Guidance

The inspector should verify that shipment preplanning and coordination activities conducted with the governor (or governor's designee) of a State include the State's

intention to provide law enforcement escorts and identification of safe havens with required capabilities. A safe haven for shipments should include the following criteria:

- (1) it is located near the transportation route and readily available to the transport vehicle;
  - (2) law enforcement is present or is accessible for a timely response;
  - (3) on a 24-hour basis, the site can be readily identified, has adequate parking, is well lit, can be used for emergency repair, and will allow waiting for the LLEA response; and,
  - (4) additional communication systems are available if the transport vehicle system fails to function properly.
- b. For category 2 shipments, verify that the licensee coordinates shipment no-later-than arrival time and the expected shipment arrival time with the receiving licensee. The licensee must document the coordination activities. [37.75(b)]
- c. Verify that each licensee who received a category 2 quantity of radioactive material confirmed receipt of the material with the originator. If the shipment has not arrived by the no-later-than arrival time, the receiving licensee shall notify the originator. [37.75(c)]
- d. Verify that each licensee who transported, or plans to transport a category 2 quantity of radioactive material, and determines that the shipment will arrive after the no-later-than arrival time, promptly notifies the receiving licensee of the new no-later-than arrival time. [37.75(d)]
- e. Verify that the licensee maintains a copy of preplanning and coordination documentation, and any revisions, for 3 years. [37.75(e)]

#### 03.03.04 Advance Notification of Category 1 Shipments

- a. Verify that the advance notification is made to the NRC and to the office of each appropriate governor of the state, or governor's designee in accordance with 37.77(a) and (b).
- b. Verify that each advance notification contains the required information in accordance with 37.77(b).

#### Specific Inspection Guidance

Advance notifications for category 1 quantities of radioactive material must contain the following information:

- (1) the name, address, and telephone number of the shipper, carrier, and receiver of the category 1 radioactive material;
- (2) the license numbers of the shipper and receiver;
- (3) a description of the radioactive material contained in the shipment, including the radionuclides and quantity;
- (4) the point of origin of the shipment and the estimated time and date that shipment will commence;

- (5) the estimated time and date that the shipment is expected to enter each State along the route;
  - (6) the estimated time and date of arrival of the shipment at the destination; and
  - (7) a point of contact, with a telephone number, for current shipment information.
- c. Verify that any revision to an advance notification is made in accordance with 37.77(c).
- d. Verify that any cancellation of an advance notification is made in accordance with 37.77(d).
- e. Verify that each licensee retains a copy of the advance notification, and any revision or cancellation notice, as a record for 3 years. [37.77(e)]
- f. Verify, where appropriate, that individuals who receive schedule information of the kind specified in 37.77(b) protect that information against unauthorized disclosure as specified in 73.21. [37.77(f)]

#### 03.03.05 Physical Protection of Category 1 and Category 2 Shipments

- a. For category 1 shipments by road, verify that each licensee:
  - (1) establishes a movement control center;
  - (2) establishes redundant communications;
  - (3) continuously and actively monitors shipments through the use of a telemetric position monitoring system, or alternative tracking system;
  - (4) provides an individual to accompany the driver when necessary;
  - (5) develops written normal and contingency procedures; and
  - (6) provides access to normal and contingency procedures for drivers and others, where appropriate. [37.79(a)(1)]

#### Specific Inspection Guidance

The inspector should verify that movement control centers maintain position information from a location remote from the transporting vehicle; provide continuous monitoring 24 hours a day, seven days a week; and have the capability to communicate immediately in an emergency with the appropriate law enforcement agencies. Ensure that the licensee has redundant communication systems (e.g., cellular phones, satellite phones, 2-way radios) that operate independently from the primary communication device. Redundant communications must operate independently and cannot be subject to the same interference factors or failure mode. It is a good practice to tour the movement control center to verify that there is tracking of transport vehicles and the ability to contact the driver(s).

If the inspector is with the vehicle, the inspector can ask the driver to demonstrate all of the ways he or she can communicate with the movement control center.

Verify that shipments are continuously and actively monitored by a telemetric position monitoring system or an alternative tracking system (e.g., radiofrequency identification or

satellite-based GPS system) reporting to a movement control center and that the center continuously provides positive confirmation of the location, status, and control of the shipment and can communicate with LLEA.

Normal procedures must be developed to describe activities to meet regulatory requirements, and contingency procedures developed to identify issues that could interfere with compliance.

- b. For licensees transporting category 2 shipments by road, verify that each licensee maintains constant control and/or surveillance during transit and has the capability for immediate communication to summon appropriate response or assistance. [37.79(a)(2)]
- c. For licensees delivering category 2 quantities of material to a carrier for shipment by road, verify that each licensee uses a carrier that; (1) has a package tracking system; (2) maintains constant control and/or surveillance during transit, and; (3) requires an authorized signature prior to releasing the package for delivery or return. [37.79(a)(3)]
- d. For category 1 shipments by rail, verify that each licensee; (1) monitors shipments by a telemetric position monitoring system or an alternative tracking system reporting to the licensee, third party or communication center and; (2) ensures that periodic reports to the communications center are made at preset intervals. [37.79(b)(1)]
- e. For licensees delivering category 2 quantities of material to a carrier for shipment by rail, verify that each licensee uses a carrier that; (1) has a package tracking system; (2) maintains constant control and/or surveillance during transit, and; (3) requires an authorized signature prior to releasing the package for delivery or return. [37.79(b)(2)]
- f. Verify that each licensee who makes arrangements for the shipment of category 1 quantities of radioactive material conducts an investigation immediately upon discovery that the category 1 shipment is lost or missing. For category 2 shipments, verify that the licensee conducts an immediate investigation, in coordination with the receiving licensee, of any shipment that has not arrived by the designated no-later-than arrival time (no more than 6 hours after the estimated arrival time). [37.79(c) and 37.5]

#### 03.03.06      Reporting of Events

- a. Verify that the shipping licensee notified the appropriate LLEA and the NRC Operations Center within 1 hour of its determination that a category 1 shipment is lost or missing. [37.81(a)]

#### Specific Inspection Guidance

For routine security inspections, the inspector should verify that: (1) the licensee understands the reporting requirements, and (2) the licensee has procedures in place to implement reporting requirements. The inspector should interview cognizant licensee personnel and/or review records to ensure that events were screened correctly and reported if required. The same guidance applies to the requirements of 37.81(b) through (f) of this procedure



- b. Verify that the shipping licensee notified the NRC Operations Center within 4 hour of its determination that a category 2 shipment is lost or missing. [37.81(b)]
- c. Verify that the shipping licensee notified the designated LLEA along the shipment route as soon as possible upon discovery of any actual or attempted theft or diversion or suspicious activities related to theft or diversion of a category 1 shipment. [37.81(c)]
- d. Verify that the shipping licensee notified the NRC Operations Center as soon as possible upon discovery of any actual or attempted theft or diversion or suspicious activities related to theft or diversion of a category 2 shipment. [37.81(d)]
- e. Verify that the shipping licensee notified the NRC Operations Center and the LLEA as soon as possible upon recovery of any lost or missing category 1 quantities of radioactive material. [37.81(e)]
- f. Verify that the shipping licensee notified the NRC Operations Center as soon as possible upon recovery of any lost or missing category 2 quantities of radioactive material. [37.81(f)]
- g. Verify that the initial telephonic notification required by 37.81(a) through (d) is followed within a period of 30 days by a written report submitted to the NRC by an appropriate method listed in 37.7, and that the report contains the required information. [37.81(g)]
- h. Verify that, subsequent to filing the written report, the licensee also reports any additional substantive information on the loss or theft within 30 days after the licensee learns of such information. [37.81(h)]

#### 87137-04      RESOURCE ESTIMATE

The estimated onsite direct inspection hours necessary to complete this procedure are 4-16 inspector hours. Because facilities vary by size and complexity, the inspector(s) shall use sufficient time as needed to thoroughly complete the inspection effort, even though the effort may go beyond these estimates.

87137-05      REFERENCES

NRC Inspection Manual Chapter 1220  
NRC Inspection Manual Chapter 2800  
NRC Inspection Manual Chapter 2810  
Final Rule 10 CFR 37  
Part 37 Implementing Guidance [NUREG-2155]  
Procedure for Manual License Verification  
Inspection Prioritization Methodology  
SUNSI handling requirements <https://www.internal.nrc.gov/sunsi/index.html>

END

Enclosure:  
Revision History Table



Enclosure - Revision History for IP 87137

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment and Feedback Resolution Accession Number (Pre-Decisional, Non-Public)
	ML14030A130 04/03/14 CN 14-009	This is an initial issuance that has been created to verify that licensees in possession of aggregated category 1 and 2 quantities of radioactive materials (sealed and unsealed) are effectively implementing the requirements of 10 CFR Part 37.		
	MLXXXXXXXXXX XX/XX/18	Revised to incorporate text regarding oversight of the T&R determination for reviewing officials and licensee identification/compliance with aggregation requirements.	N/A	MLXXXXXXXXXX

Issue Date: XX/XX/18

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