INSPECTION PROCEDURE 87114

FIXED AND PORTABLE GAUGE PROGRAMS

PROGRAM APPLICABILITY: 2800

87114-01 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.

87114-02 INSPECTION REQUIREMENTS

Review of the licensed activities will be commensurate with the scope of the licensee's program. A determination regarding safety and compliance with NRC requirements 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.

In reviewing the licensee's performance, the inspector should cover the period from the last inspection forward. However, issues preceding the last inspection should be reviewed, if warranted by circumstances, such as incidents, noncompliance, or high radiation exposures.

Some of the following areas may not be applicable to all fixed and portable gauge licensees.

02.01 Preparation. Preparation will include reviewing documents, making travel arrangements, coordinating with appropriate staff, notifying appropriate State agencies, and selecting necessary equipment. In particular, the inspector shall identify whether any license amendments have been issued since the last inspection, or whether the licensee has informed NRC of any major program changes since the last inspection. The inspector shall also review regional event logs and files to determine if the licensee has had any incidents or events since the last inspection.

02.02 Entrance Briefing. When the inspector arrives at the licensee's facility, he/she will inform an available senior management representative of the purpose and scope of the inspection.

02.03 General Overview

a. Organization. Evaluate by: (1) interviewing the cognizant licensee representatives about the current organization of the program; (2) examining the licensee's organization with respect to changes that have occurred in personnel, functions, responsibilities, and authorities since the previous inspection; and (3) identifying the reporting relationship and management structure between the licensee's executive management and the Radiation Safety Officer (RSO).

b. Scope of Program. Evaluate by interviewing cognizant personnel to determine the types, quantities, and use of licensed material, frequency of use, staff size, etc.

c. Management Oversight. In the course of interviewing cognizant personnel, determine if management oversight is sufficient to provide the licensee staff with adequate resources and authority to administer the licensed program.

1. RSO - Determine whether the RSO has been appointed, is named on the license, has sufficient authority, and fulfills the appropriate duties commensurate with the size and scope of licensed activities.

2. Audits - Verify that audits are performed as required. Verify that the results of the audits are reviewed and addressed.

3. ALARA (As Low As Is Reasonably Achievable) - Verify that the licensee's radiation protection program includes provisions for keeping doses ALARA.

d. Authorized Users. Determine that only authorized individuals perform and/or supervise licensed activities. Verify that these individuals are qualified. Also verify that authorized users perform an appropriate level of supervision, as required by the license or regulations.

02.04 Walk-Through Orientation Tour. Perform a walk-through tour of the licensed facility to make general observations of the condition of the facility and the licensed activities being performed.

02.05 Facilities. Verify that the facility conforms to that described in the license application; that material receipt, use, and storage areas are secured; and that the licensee uses processes or other engineering controls to maintain doses as low as is reasonably achievable (ALARA).

02.06 Equipment and Instrumentation

a. Verify that equipment and instrumentation are appropriate, operable, calibrated, adequately maintained, and conform to the description in the license.

b. Verify that the licensee has established and implemented procedures to identify and report safety component defects per the requirements of 10 CFR Part 21.

02.07 Materials

a. Receipt and Transfer of Licensed Material. Verify that the licensee is receiving packages and making transfers of licensed material in accordance with NRC and applicable U.S. Department of Transportation (DOT) regulations and license conditions.

b. Authorized Uses. Determine from observing the use of licensed material, discussing the activities with licensee personnel, and reviewing records, that the type, quantity, and use of licensed material at the licensee's facility are authorized

by the license and/or Sealed Source and Device (SSD) Registration Sheet(s). To the extent practical, ensure, by physical confirmation, that the licensee's inventory is complete and accurate.

c. Material Security and Control. Verify that the licensee has established procedures for maintaining security and control of licensed material not in storage, and that these procedures are understood and implemented by appropriate personnel. Verify that licensed material, in storage, in controlled or unrestricted areas, is secure from unauthorized removal or access. Verify that access to restricted areas is limited by the licensee.

d. Maintenance of Gauges. Verify that the licensee performs routine maintenance on all of its nuclear gauges. Verify that the manufacturer or a person specifically authorized by NRC or an Agreement State performs non-routine maintenance or repair of nuclear gauges.

02.08 Training

a. General Training. Verify that appropriate training and initial instructions are being accomplished as specified in the license and/or regulations.

b. Operating and Emergency Procedures. Verify that operational procedures are being followed by observing licensee personnel perform tasks at selected work stations and by a comparison of their performance with established procedures. Also examine the licensee's emergency procedures to determine that these procedures are as approved by or described to NRC. Through discussions with workers, verify that licensee personnel understand and implement the established procedures and are aware of procedural revisions. Document in the inspection record what activities the inspector observed.

02.09 Area Radiation and Contamination Control

a. Area Surveys. Verify, during observations and by direct measurements, that radiation levels in unrestricted areas are within the limits of 10 CFR Part 20, and that any restricted areas are properly posted and access-controlled.

b. Leak Tests. Verify that leak tests of sealed sources are performed at the required frequency. Also verify that leak tests are analyzed in accordance with the license. If records of leak test results show contamination in excess of the regulatory requirements, verify that the licensee made appropriate notifications and removed the source from service.

02.10 Radiation Protection

a. Radiation Protection Program. Verify that a radiation protection program commensurate with the licensee's activities is being implemented and documented, and that the program is being reviewed at least annually, both for content and implementation.

b. Radiation Protection Procedures. Verify that changes in the radiological protection procedures made since the last inspection are consistent with regulations and license requirements. [Note that some procedures may require prior NRC approval before the licensee can make changes.]

c. Instruments and Equipment. If the licensee is required to possess radiation detection instruments, verify that instruments and equipment are operable, and are

calibrated and checked for appropriate response in accordance with license requirements and licensee procedures.

d. Personnel Dosimeters. Verify that personnel dosimetry devices are worn by appropriate licensee personnel. Dosimetry devices appropriate to the type, energy, or emitted radiation, and the anticipated radiation fields, should have been issued to facility personnel. Verify that dosimeters are processed by a National Voluntary Laboratory Accreditation Program (NVLAP)-approved and -accredited processor. If no dosimetry devices are worn, evaluate the licensee's demonstration that personnel are not likely to receive in excess of ten percent of the Part 20 occupational dose limit.

Verify that pursuant to 10 CFR 19.13(b) the licensee advises each monitored worker annually of the worker's dose as shown in records maintained by the licensee pursuant to the provisions of 10 CFR 20.2106, "Records of individual monitoring results."

02.11 Waste Management

a. Waste Storage and Disposal. Typically, gauges will be returned to the supplier/manufacturer or transferred to another licensee. Fixed and portable gauge licensees may store gauges that have been removed from service and are awaiting transfer from the licensee's facility. If such storage is performed, verify that the gauges are stored and controlled in a secure and safe manner, and that radiation levels in unrestricted areas surrounding the storage area do not exceed the limits of 10 CFR 20.1301, "Dose limits for individual members of the public."

Sources contained in fixed and portable gauges are not usually transferred to a licensed land disposal facility. If the licensee transfers licensed material for offsite disposal, such as at a burial site, 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].

b. Transfer. Verify that wastes are transferred to an authorized recipient specifically licensed to receive radioactive waste.

c. Records. Verify that records of waste storage, transfer, and disposal are maintained in accordance with the requirements of Part 20 and the license.

d. Financial Assurance and Decommissioning. Review the licensee's records of information important to the safe and effective decommissioning of the facility. Verify that the records are complete, updated, and assembled appropriately, in accordance with the requirements in 10 CFR 30.35(g). Review the licensee's list of restricted areas required under 10CFR 30.35(g)(3) and determine whether areas/rooms have been released since the last inspection. If areas/rooms have been released, verify that the licensee has adequately documented the basis for releasing each area/room and has adequately decontaminated any areas/rooms in which leaking sources were used or stored. Document the location of the released areas/rooms in the inspection record, and document your findings regarding the adequacy of the licensee's decontamination, if applicable.

With the possible exception of americium-241, possession of quantities of material, in fixed and portable gauges, that would require submission of a financial assurance

instrument by these licensees, is unlikely. If a financial assurance instrument is required, the following applies.

If a parent company guarantee or a self-guarantee is used to ensure decommissioning financial assurance, review the licensee's financial assurance file to ensure that 10 CFR Part 30, Appendix A or Appendix C requirements are met..

Verify whether radiological conditions at the facility have changed since the financial assurance instrument and/or decommissioning plan was submitted such that either document needs to be changed to address the new radiological conditions. Examples of changes are radiological incidents such as leaking sources or source ruptures. Unauthorized changes by the licensee to processes, types, or quantities of licensed materials, possessed, or chemical or physical forms of licensed materials, may also prompt a reevaluation of whether the financial assurance instrument and/or decommissioning plan remains sufficient. If the inspector identifies changes that may affect the financial assurance instrument or decommissioning plan, he/she should immediately notify regional management.

e. Decommissioning Timeliness. Review compliance with the Decommissioning Timeliness Rule requirements in 10 CFR 30.36(d) through (h). This is one area of the inspection record that should be completed on all inspections. If the license to conduct principal activities has expired or has been revoked; if the licensee has made a decision to permanently cease principal activities at the site, in any separate building, or at any outdoor area; or if there has been a 24-month duration when no principal activities were conducted at the site, in any separate building, or at any outdoor area, then the decommissioning timeliness requirements in 10 CFR 30.36, 40.42, 70.38 or 72.54 apply. If this is the case, complete in full the "Decommissioning Timeliness Inspection Attachment," Attachment A to Appendix A. Note that for separate buildings or outdoor areas, the decommissioning timeliness rule requirements do not apply unless the buildings or outdoor areas contain residual radioactivity rendering them unsuitable for release in accordance with NRC requirements. |

02.12 Transportation. Verify that the licensee's procedures and documentation are sufficient to ensure that licensed material is transported in accordance with 10 CFR Part 71 and DOT regulations for transportation of radioactive materials.

02.13 Posting and Labeling. Verify that the licensee has posted the appropriate documents, notices, forms, and caution signs, as required. Also verify that containers of licensed material are labeled appropriately.

02.14 Generic Communications of Information. Confirm that the licensee is receiving the applicable bulletins, information notices, NMSS Licensee Newsletter, etc. Verify that the licensee has taken appropriate action in response to these notices.

02.15 Notifications and Reports. Determine compliance with the regulations and license requirements for notification and reports to NRC. |

02.16 Special License Conditions. If applicable, review the licensee's compliance with any special license conditions.

02.17 Independent and Confirmatory Measurements. Compare and verify, on a sampling basis, survey results or data that are used by the licensee to show compliance with the regulations or license conditions. Conduct independent measurements to ascertain the radiological conditions of the facility. Conduct these independent measurements on all inspections under this inspection procedure, unless warranted by special circumstances.

If independent measurements were not made, provide a justification in the inspection record explaining why independent measurements were not performed. The inspector shall use radiation detection instruments that are calibrated, at a minimum, on an annual basis.

| 02.18 Exit Meeting. The inspector will conduct an exit meeting with senior licensee management and the RSO to discuss the preliminary inspection findings, including any apparent violations, safety-related concerns, and any unresolved items identified during the inspection.

| 02.19 Post-Inspection Actions. After an inspection, the inspector shall summarize the findings with his/her NRC supervisor. This is especially important if there are, or are expected to be, controversial issues arising from the findings.

Inspectors shall also meet with regional licensing staff when any pertinent licensing issues are raised during the inspection, when inspection findings impact on any licensing actions, or to give feedback on how the licensee has addressed recent licensing actions. This meeting shall be documented in the inspection record.

Additionally, in some instances, inspection findings will warrant communication with enforcement staff, Office of Investigations staff, State liaison staff, or Federal agencies with whom NRC has Memoranda of Understanding (MOUs).

The inspector will ensure that inspection findings are clearly documented, and reported to the licensee as appropriate. The inspector shall also follow the requirements of Inspection Manual Chapter (IMC) 0620, "Inspection Documents and Records," regarding notifying the licensee that retained information is subject to public disclosure and giving the licensee the opportunity to request withholding it (see IMC 0620, Section 04.06.b.).

87114-03 INSPECTION GUIDANCE

General. An examination of the licensee's records should not be considered the primary part of the inspection program. Rather, observations of activities in progress, equipment, facilities and use areas, etc., are seen as a better indicator of the licensee's overall radiation safety program than a review of records, alone.

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.

In the records reviewed, look for trends such as increasing doses. Records such as surveys, receipt and transfer of radioactive 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. The type of records that were reviewed and the time periods covered by these records should be noted in the appropriate "Basis for Findings" section(s) of the inspection record.

Retain a copy of each pertinent record that is needed to substantiate an inspection finding, such as a violation. Those copies shall be attached to the inspection record or, when applicable, to a written inspection record. When an inspector identifies an apparent violation, he/she should gather copies from the licensee, while on site, of all records that are needed to support the apparent violation. In general, inspectors should use caution before retaining copies of licensee documents, unless they are needed to support apparent violations; expedite the inspection (e.g., licensee materials inventories); or make the licensing file more complete. In all cases where licensee documents are retained beyond the inspection, follow the requirements of IMC 0620. Especially ensure that the licensee

understands that the retained record will become publicly available, and give the licensee the opportunity to request withholding the information, pursuant to the requirements of 10 CFR 2.790(b)(1).

The inspector should keep the licensee apprised of the inspection findings throughout the course of the inspection and not wait until the exit meeting.

Whenever possible the inspector should keep NRC management informed of significant findings (e.g., safety hazards, willful violations, and other potential escalated enforcement issues), identified during the course of the inspection.

03.01 Preparation. Before the inspection, the inspector should do the following:

- Review the licensee's previous inspection history (at a minimum review the past two inspections), the license, and the status of any allegations or incidents. Note the licensee's commitments in response to previous violations, for follow-up during the inspection;

- Review NMED, regional event/incident logs, event/incident files, and the docket file to determine whether the licensee was involved in any incidents or events. If NRC did receive notification of an incident, review that incident during the inspection and document the licensee's follow-up in the inspection record;

- In the inspection record, complete the administrative information, the inspection compliance history, the listing of any license amendments or program changes since the last inspection, and the description of any incidents or events that have occurred since the last inspection;

- Determine the dates that the licensee submitted the most recent financial assurance instrument and decommissioning plan (if applicable);

- Discuss the licensee's program with previous inspector(s) and/or license reviewer(s), as necessary;

- Notify the appropriate State radiation control program personnel;

- Review pending licensing actions;

- Obtain a map of the area and/or directions;

- Make travel arrangements and prepare itinerary;

- Select calibrated instruments and perform source check;

- Select appropriate documents; and

- Select appropriate equipment to take.

In selecting the appropriate documents, the inspector should consider taking the applicable regulations, inspection record, generic communications, license, NRC forms, etc.

In selecting the appropriate equipment the inspector should consider the licensee to be inspected. The equipment may include safety glasses, safety shoes, etc.

During the inspection, focus (among other areas) on whether the licensee is in compliance with any license amendments issued since the last inspection or with any program changes described by the licensee since the last inspection. This requires review of documentation

submitted in support of the licensing action, before the inspection. The inspection represents NRC's first opportunity to verify whether the licensee has enacted the most recent changes to the license.

03.02 Entrance Briefing. After arriving on site, the inspector should inform the licensee's management representative of the purpose and scope of the inspection to be performed. This notification should be made as soon as practical after arriving on site. However, in certain instances (i.e., unannounced inspections at temporary field sites) the inspector may choose to inform the licensee of his/her presence on site after initial observations of licensed activities currently in progress.

The purpose of the entrance briefing is to inform licensee management that an inspection is being conducted, and to indicate the tentative schedule for discussing or reviewing selected inspection items with various licensee staff personnel. However, in some instances, the inspector may only need to inform management of NRC's presence on site, and apprise management that an exit briefing will be conducted, at the end of the inspection, which will detail the inspection findings.

This is often an opportune time for the inspector to identify personnel to be interviewed. Scheduling interviews will enhance inspector efficiency and give the licensee the opportunity to have the most knowledgeable individuals present to respond in the areas being inspected.

Certain inspection items involving visual observations and/or records review are better performed unannounced; therefore, these types of items should not be discussed during the entrance briefing.

03.03 General Overview. The inspector will interview the cognizant licensee representatives to gain information concerning organization, scope, and management oversight of the radiation safety program.

a. Organization. The licensee's organizational structure will usually be found in the license application and may involve one or more individuals. Determine the reporting structure between executive management and the RSO. Determine whether the RSO has sufficient access to licensee management. Through discussions with licensee staff, the inspector should determine if changes in ownership or staffing have occurred. If the owner or individuals named in the license have changed, determine whether the licensee has submitted appropriate notification to NRC. This information must be provided whenever changes in ownership or personnel are made (except for some licenses where only responsibilities are defined). Ask licensee management if changes have occurred, or are anticipated, and ask personnel to confirm (to the inspector's satisfaction) that no changes have taken place. If there have been no changes in the organization since the previous inspection, there is no need to pursue this element in further detail. Note that transfer of control of any license to any person requires prior approval for the change from NRC (10 CFR 30.34(b)).

   The inspector should review any organizational change in the RSO position, authorities, responsibilities, and reporting chains. The inspector should be sensitive to changes that reduce the ability of the RSO to resolve concerns or issues related to the safe conduct of the radiation protection program. The inspector should ask licensee management and the RSO about the RSO's authority and about any changes that may impact on the RSO's duties, responsibilities, or effectiveness.

b. Scope of Program. Through discussions with licensee personnel, the inspector can obtain useful information about the types and quantities of material, frequency of use, incidents, temporary job site locations, etc., which cannot always be gained

by reviewing records alone. This is also an opportunity for the inspector to discern the actual size and scope of the licensee's program, and to determine if significant changes have occurred since the previous inspection.

The portable gauges possessed by the licensee are required to be as described in the Sealed Source and Device (SSD) Registration Certificates or Sheets, unless a license amendment was submitted by the licensee and approved by NRC which allowed modification of a device. Licensees should have copies of or access to these SSD Certificates, in addition to the manufacturers' manuals for operation and maintenance.

The manufacturer's name, model number of each gauging device in which sealed sources will be used, and the number of its registration certificate are not identified in portable gauge licenses. Furthermore, the manufacturer's name and model number of each sealed source used in each gauging device, along with its registration certificate number, are not identified on the license. In addition, licensees do not have to amend their license to obtain new source/device combinations. Therefore, inspectors will not be able to look at the license to identify the number and types of gauges the licensee possess. However, one way to determine which gauges the licensee has in its possession is to review their most recent semi-annual inventory record.

c. Management Oversight. The inspection is a verification of the licensee's implementation of the required program. In the review to verify implementation, the inspector should pay particular attention to the scope of the program; frequency of licensee audits and the use of qualified auditors; procedures for recording and reporting deficiencies to management; and methods and completion of follow-up actions by management.

   1. RSO - The RSO is the individual, appointed by licensee management and identified on the license, who is responsible for implementing the radiation safety program. The inspector should verify that this individual is knowledgeable about the program, and ensures that activities are being performed in accordance with approved procedures and the regulations. The inspector should verify that, when deficiencies are identified, the RSO has sufficient authority, without prior approval of licensee management, to implement corrective actions, including termination of operations that pose a threat to health and safety.

   2. Audits - The frequency and scope of audits of the licensed program will vary. However, note that at a minimum, licensees are required, by 10 CFR 20.1101(c), to review the radiation safety program content and implementation at least annually. The results of audits should be documented. Examine these records with particular attention to deficiencies identified by the auditors, and note any corrective actions taken as a result of deficiencies found. If no corrective actions were taken, determine why the licensee disregarded deficiencies identified during audits, and whether the lack of corrective actions caused the licensee to be in non-compliance with regulatory requirements.

d. Authorized Users. Authorized users 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.

Determine that the authorized users are personally performing or, if permitted in the license, supervising, the authorized work, rather than someone else not named in the license. The level of supervision will depend on the wording in the license conditions or regulations. Some licenses have conditions such as "... used by or under the supervision of...". For some licenses that have the condition "... under the direct supervision of ...," the authorized user must be physically present at the facility for easy contact or to observe the individual(s) working. Another phrase used is "... may only be used by ...." Finally, "... under the direct supervision and physical presence of ..." means the authorized user must directly supervise and be present at the work station. Considering the many license condition phrases, the inspector must exercise judgment to interpret the role of the authorized users.

When the wording of the license condition is "... used by or under the supervision of ...," an authorized user named on the license is considered to be supervising the use of licensed materials when he/she directs personnel in the conduct of operations involving the licensed material. This does not imply that the authorized user must be present at all times during the use of such materials. The authorized user/supervisor is responsible for assuring that personnel under his/her supervision have been properly trained and instructed and is responsible for the supervision of operations involving the use of licensed materials, whether he/she is present or absent.

03.04 Walk-Through Orientation Tour. The inspector should make initial observations of licensed activities to determine that materials are being safely handled and that good health physics practices are followed. The inspector should look at areas of use and storage to make an initial assessment of the licensee's ALARA program with regard to facility design, engineering controls, house-keeping practices, etc. The inspector should ensure that observations of activities are documented in the inspection record.

03.05 Facilities. Descriptions of the facilities are generally found in the application for a license and subsequent amendments that are usually tied down to a license condition. The actual or as-built facility should be configured to provide safe working areas separated from unrestricted areas and sufficient access controls to preclude unauthorized entry. Adequate protection of shield integrity must be provided, including fire protection. The inspector should also be aware of potential industrial safety hazards for referral to the U.S. Department of Labor's Occupational Safety and Health Administration.

03.06 Equipment and Instrumentation

a. Equipment and instrumentation should be appropriate to the scope of the licensed program. The inspector should verify that, if the licensee possesses survey instrumentation, the instrumentation has the appropriate range of use. The inspector should also verify that the survey instruments are calibrated at the appropriate frequency and checked for operability before use. All survey and monitoring instruments possessed should have current calibrations appropriate to the types and energies of radiation to be detected. Maintenance of safety-related components must be performed by authorized persons.

b. Inspectors should verify that licensees have procedures for reporting defects in accordance with 10 CFR Part 21. Fixed and portable gauge licensees need only address identification and reporting requirements.

03.07 Materials

a. Receipt and Transfer of Licensed Materials. Depending on the size of the licensed program, the package receipt and transfer procedures may be found in the license application. When available, these procedures should be carefully reviewed before

an inspection is conducted. By discussions with the licensee, determine if submitted procedures have been changed or modified. Some changes will require a license amendment, whereas minor changes (updating telephone numbers, editing procedures for clarity, etc.) may not require NRC approval. Randomly examine procedures used by the licensee to determine if they are in accordance with those identified in the license application, if any, and determine whether these changes warrant a license amendment. If gauges arrive or are being transferred during the course of an inspection, the inspector should observe, when practical, personnel performing the associated procedures.

Inquire into the licensee's practices, if applicable, of loaning, renting, or leasing nuclear gauges to other entities. If the gauge is loaned or rented to another licensee, ensure that the transfer is properly completed and appropriate records are maintained. If the loan or rental is to a non-licensee, ensure that control and safety of possession and use of the source is maintained by the gauge owner. Verify that the methods used to ensure such control are adequate.

The inspector should determine if inventories for each radionuclide are within the license limits. Records of inventories should indicate/demonstrate that the materials on hand at any one time are within the licensee's possession limit. Licensee's inventory records should contain 1) the radionuclide and amount (in units of becquerels or curies) of byproduct material in each sealed source; 2) the manufacturer's name, model number, and serial number (if appropriate) of each device containing byproduct material; 3) location of each sealed source and device; and 4) the date of the inventory. When practical, the records examined should be compared with a physical inventory of materials possessed.

b. Authorized Uses. Authorized uses of licensed material will be found in the licenses and license applications. Licenses will list the isotopes, physical or chemical forms, and the per-source maximum possession limits. The inspector should physically examine the inventory of radioactive material on hand or examine records of receipt and transfer, to determine that quantities and forms are as authorized. Additionally, the inspector should verify that the licensee's use of licensed material is limited to that which is authorized in the license.

c. Material Security and Control. Examine areas where licensed materials are used and stored. Storage areas should be locked and have limited and controlled access. Licensed material should be under constant surveillance or physically secured. The licensee should have procedures for access controls. Controls may include a utilization log to indicate when licensed material is taken from and returned to storage areas. The inspector should verify that adequate controls are in place and working effectively.

d. Maintenance of Gauges. Licensees must routinely clean and maintain gauges according to the manufacturer's recommendations and instructions. Procedures for routine cleaning and lubrication of the source rod and shutter mechanism (e.g., to remove caked dirt, mud, asphalt, or residues from the source rod; lubricate the shutter mechanism) must include ALARA provisions and ensure that the gauge functions as designed and source integrity is not compromised.

More extensive maintenance or servicing (beyond routine cleaning and lubrication) that involves detaching the source or source rod from the device must be performed by the gauge manufacturer or a person specifically authorized by NRC or an Agreement State. The license will contain a condition if the licensee is authorized to perform non-routine maintenance on gauges.

03.08 Training

a. General Training. Certain kinds of training and instruction are found in the regulations; how they are implemented will be found in the license. Discuss with the licensee how, and by whom, training is conducted, and the content of the training provided to workers (generally found in the license application).

Verify, pursuant to 10 CFR 19.12, that initial instructions have been given to workers who 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 precautions to take when entering a restricted area, kinds and uses of radioactive materials in that area, exposure levels, and the types of protective equipment to be used. 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. Also verify that authorized users and workers understand the mechanism for raising safety concerns.

Of the training program elements in the license application, training given to authorized users, and those individuals under the supervision of authorized users, is of primary importance. One or more users of radioactive materials should be interviewed to determine that they have received the required training, both in the basic instructions and in that specified in the license application. Note that the training should be provided to workers before the individual's performance of licensed activities. Examine the periodic retraining program and records.

Randomly examine records of training of personnel and attendant examinations or tests (if applicable) to the extent that the inspector is satisfied that the training program is being implemented as required. Where examinations are required, 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.

The inspector should also observe related activities and discuss the radiation safety training received by selected individuals to ensure that appropriate training was actually received by these individuals. Authorized users and supervised individuals should understand the radiation protection requirements associated with their assigned activities. The licensee's radiation safety training may include, but is not limited to, demonstrations by cognizant facility personnel, formal lectures, testing, films, and "dry runs" for more complex or hazardous operations.

b. 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 for lower-inspection-priority licenses. The emergency procedures will be approved by the NRC, and reviewed and updated by the licensee. Any revision requires an amendment to the license. All authorized users should have copies of the operating and emergency procedures with them during the use of gauges.

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.

03.09 Area Radiation and Contamination Control

a. Area Surveys. The inspector may ask the licensee to spot-check radiation levels in selected areas, using the licensee's own instrumentation, if the licensee possesses survey instrumentation. However, the inspector must use NRC's instruments for independent verification of the licensee's measurements. (The inspector's instruments shall be calibrated and source checked before he/she leaves the regional office.)

If practical, observe how licensees conduct surveys, if required, to determine the adequacy of surveys. Also, note the types of instruments used, and whether they are designed and calibrated for the type of radiation being measured. Verify that the licensee conducts surveys in unrestricted areas and controlled areas to show compliance with the public dose limits.

b. Leak Tests. Through discussions with licensee personnel and/or by demonstration of leak test procedures, the inspector should verify that leak tests are performed in accordance with the manufacturer's recommendations and/or license. Verify that required periodic inventories are being conducted.

03.10 Radiation Protection. Specific guidance is set forth in NRC Inspection Procedure (IP) 83822, "Radiation Protection."

Section 19.13(b) requires that each licensee shall advise each worker annually of the worker's dose, as shown in dose records maintained by the licensee. Verify, through discussions with workers and management, and through records review, that the licensee has advised workers of their doses annually. The licensee must advise all workers for whom monitoring is required (and, therefore, dose records are required). The licensee must advise these workers of internal and external doses from routine operations, and doses received during planned special exposures, accidents, and emergencies. The report to the individual must be in writing and must contain all the information required in 10 CFR 19.13(a).

03.11 Waste Management

a. Waste Storage and Disposal. For fixed and portable gauge licensees, this will normally be limited to gauges that have been removed from service and are awaiting transfer. Verify that the waste is protected from fire and the elements, that package integrity is adequately maintained, that the storage area is properly ventilated, and that adequate controls are in effect to minimize the risk from other hazardous materials. Verify that the licensee has appropriate methods to track the items in storage.

Inspection effort should be directed at verifying that written procedures have been established in a manner approved by management. The procedures should be readily available to any persons having responsibility for low-level waste classification and preparation for transfer of such wastes to land disposal facilities, if appropriate.

For further inspection guidance, refer to IP 84850, "Radiation Waste Management - Inspection of Waste Generator Requirements of 10 CFR Part 20 and 10 CFR Part 61."

b. Transfer. Ascertain if the licensee has an adequate method of determining that recipients of radioactive wastes are licensed to receive such waste (i.e., licensee obtains a copy of the waste recipient's current license before the transfer).

c. Records. Each licensee is required to maintain records of the disposal of licensed material made under 10 CFR 20.2002-2005, 10 CFR Part 61, and disposal by burial in soil. These records must be retained until the Commission terminates each pertinent license requiring the record. The inspector should review these records to verify that disposals are made in accordance with the applicable regulations, and that records are complete and accurate for each type of disposal.

d. Financial Assurance and Decommissioning. The decommissioning record-keeping requirements are applicable to all materials licensees, including sealed source licensees, and are specified in 10 CFR 30.35(g). These records should contain, among other information: (1) records of unusual occurrences involving the spread of contamination in and around the facility, equipment, or site; (2) as-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used and/or stored, and locations of possible inaccessible contamination; and (3) records of the cost for decommissioning. This list is not all inclusive of the information and requirements given in 10 CFR 30.35(g). On all inspections the inspector should ensure that the licensee has such decommissioning records, that the records are complete, that they are updated as required, and that the decommissioning records are assembled or referenced in an identified location.

If applicable, inspectors should identify any areas that have been released for unrestricted use since the last inspection and perform confirmatory measurements to verify that radiation and contamination levels are below release limits. Licensee survey records, source leak test results, and other documentation should be reviewed to verify that the basis for releasing each area is adequately documented in the licensee's decommissioning records.

With the possible exception of americium-241, possession of quantities of material in fixed and portable gauges that would require submission of a financial assurance instrument by these licensees is unlikely. If the licensee is required to address financial assurance, the following guidance applies. If the licensee uses a parent company guarantee or a self-guarantee as a funding method, the inspector should verify that the licensee has a Certified Public Accountant certify each year that the licensee passes a financial test. The financial test ratios for parent-company guarantees and self-guarantees are specified in Section II, Appendix A and Appendix C, respectively, to Part 30.

e. Decommissioning Timeliness. Although such an instance will be unusual at a gauge licensee's facility, the inspector should also identify any unused buildings or outdoor areas that remain contaminated from licensed operations and verify that the licensee is complying with regulations for timely decontamination and decommissioning, and meeting the required schedules for licensee action, as specified in the Decommissioning Timeliness Rule [10 CFR 30.36(d) through (h)]. If the decommissioning timeliness requirements apply, the inspector must complete the Decommissioning Timeliness Inspection Attachment, Attachment A to Appendix A.

The Decommissioning Timeliness Rule became effective on August 15, 1994. In completing the Appendix A inspection record, specific guidance is needed regarding the timing of the notification requirements. If the license has expired or been revoked, or if the licensee has made a decision to permanently cease principal activities, and the licensee provided NRC notification before August 15, 1994, then August 15, 1994, is considered to be the date for initiating the decommissioning calendar (i.e., date of notification). If there has been a 24-month duration in which no principal activities have been conducted at the location before the effective date of the rule, but the licensee did not notify NRC, then the 24-month time period of

inactivity is considered to be initiated on August 15, 1994, and the licensee must provide notification to NRC within either 30 or 60 days of August 15, 1996 (depending on whether the licensee requests a delay).

NRC has a stringent enforcement policy with respect to violations of the decommissioning timeliness requirements. Failure to comply with the Decommissioning Timeliness Rule (failures to: (a) notify NRC; (b) meet decommissioning standards; (c) complete decommissioning activities, in accordance with regulation or license condition; or (d) meet required decommissioning schedules without adequate justification) may be classified as a Severity Level III violation and may result in consideration of monetary civil penalties or other enforcement actions, as appropriate.

Decommissioning timeliness issues can be complex. For situations where an inspector has questions about the licensee's status and whether the decommissioning timeliness standards apply, he/she should immediately contact regional management.

For planning and conducting inspections of licensees undergoing decommissioning, refer to IMC 2602, "Decommissioning Inspection Program for Fuel Cycle Facilities and Materials Licensees"; IP 87104, "Decommissioning Inspection Procedure for Materials Licensees;" and the draft Decommissioning Manual Chapter and Handbook.

03.12 Transportation. The inspector should review: the licensee's hazardous material training; packages and associated documentation; vehicles (including placarding, cargo blocking, and bracing, etc.); shipping papers; and any incidents reported to DOT. This is an ideal area for the inspector to make observations of licensee practices, especially for portable gauge licensees.

For further inspection guidance refer to IP 86740, "Inspection of Transportation Activities." Inspectors should also refer closely to "Hazard Communications for Class 7 (Radioactive) Materials," the NRC field reference charts on hazard communications for transportation of radioactive materials, which contain references to the new transportation requirements, and are useful field references for determining compliance with the transportation rules on labeling, placarding, shipping papers, and package markings.

03.13 Posting and Labeling. The inspector should determine whether proper caution signs are being used at access points to areas containing radioactive 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.

Areas with radiation hazards should be conspicuously posted, as required by 10 CFR 20.1902. Depending on the associated hazard, controls may include tape, rope, or structural barriers to prevent access. Such controls may include, but are not limited to, direct surveillance, locking the area, warning lights, and audible alarms. Areas occupied by radiation workers for long periods of time and common-use areas should be controlled in accordance with licensee procedures and be consistent with the licensee's ALARA program.

The inspector should also examine 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.

03.14 Generic Communications of Information. Through discussions with licensee management and the RSO, the inspector should verify that the licensee is receiving the applicable bulletins, information notices, NMSS Licensee Newsletter, etc., and that the information contained in these documents is disseminated to appropriate staff personnel. Also verify that the licensee has taken appropriate action in response to these NRC communications, when a response is required.

If the licensee is not receiving applicable generic communications from NRC, the inspector should (through regional licensing staff, if this function is separate) verify that the licensee is entered in the License Tracking System (LTS) with correct codes, points of contact, and addresses.

03.15 Notifications and Reports. The inspector should determine the licensee's compliance for notifications and reports to the Commission. The licensee may be required to make notifications after loss or theft of material, overexposures, incidents, high radiation levels, safety-related equipment failure, etc.

Through discussions with licensee personnel, and by a review of representative records, the inspector should verify that notifications and/or reports were appropriately submitted to NRC.

Verify that the licensee has quick access to the telephone number of the NRC Operations Center.

03.16 Special License Conditions. Some licenses will contain special license conditions that are unique to a particular practice, procedure, or piece of equipment used by the licensee. In these instances, the inspector should verify that the licensee understands the additional requirements, and maintains compliance with the special license conditions. The inspector should also note that some special license conditions will state an exemption to a particular NRC requirement.

03.17 Independent and Confirmatory Measurements. The inspector should perform independent and confirmatory measurements in restricted, controlled, and unrestricted areas of the licensee's facility. Measurements of dose rates at the boundaries of restricted areas should be performed at the surfaces of the most accessible planes. These measurements should be taken in licensed material use areas, storage areas, etc. Confirmatory measurements are those whereby the inspector compares his/her measurements with those of the licensee's. Independent measurements are those performed by the inspector independently of the licensee's measurements. To perform the independent or confirmatory measurement, use NRC radiation detection equipment that is calibrated, at a minimum, on an annual basis.

| 03.18 Exit Meeting. When the inspection is over, there should be an exit meeting with the most senior licensee representative present at the facility. If a senior management representative is unavailable for the exit meeting, the inspector may hold a preliminary exit meeting with appropriate staff on site. However, there must be a formal exit meeting with a senior management representative (and the licensee's RSO, if not present at the preliminary exit meeting) as soon as practical after the inspection. This meeting will usually be held by telephone conference call.

During the exit meeting, the licensee representatives should be told the preliminary inspection findings -- including any apparent violations of regulatory requirements, safety-related concerns, or unresolved items identified during the inspection -- and the status of any previously identified violations. The licensee must immediately address any significant safety concerns.

If the inspector identifies safety concerns or violations of significant regulatory requirements that affect safe operation of a licensee facility, the licensee must initiate prompt corrective action. The inspector should not leave the site until the licensee fully understands the concern and has initiated corrective action. If the inspector and the licensee disagree over how significantly the concern impacts continued safe operation of the facility, regional management should be notified immediately.

Although deficiencies identified in some areas (e.g., workers' knowledge of the Part 20 requirements) are not always violations, the inspector should bring such deficiencies to the attention of licensee management at the exit meeting and also in the cover letter transmitting the inspection report or Notice of Violation.

03.19 Post-Inspection Actions. Regional office policy will dictate with whom the inspector will review his or her inspection findings (e.g., the inspector's supervisor), following the guidance in IMC 2800, "Materials Inspection Program." The inspector should discuss the findings in detail that is commensurate with the scope of the licensee's program. Violations, items of concern, and unresolved items should be discussed in sufficient depth for management to make appropriate decisions regarding enforcement actions, referral to other State and Federal agencies, and decisions on the scheduling of future inspections of the licensee's facility.

The inspector should also discuss inspection findings with licensing staff. This information exchange can be particularly useful if the licensee is having its license renewed or has recently submitted a license amendment request. The inspector should inform licensing staff about how the licensee has addressed (or failed to address) special license amendments or recent licensing actions. Licensing information requested by the licensee should also be discussed with the licensing staff.

Inspectors should be aware that NRC has entered into several MOUs, with other Federal agencies, that outline agreements on items such as exchange of information and evidence in criminal proceedings. The inspector should ensure that the exchange of information relevant to inspection activities is made in accordance with the appropriate MOU.

The inspector may report the results of inspections to the licensee either by issuing an NRC Form 591 or a regional office letter to the licensee, following the guidance in IMC 2800. The inspector must also ensure that the findings are documented in the inspection record, in sufficient detail for the reader to determine what requirement was violated, how it was violated, who violated the requirement, and when it was violated. The inspection record should not be used as merely a checklist to note areas reviewed. It should be used to describe what procedures or activities were observed and/or demonstrated by the licensee during the inspection, and any items of concern identified that were not cited as a violation of regulatory requirements.

Inspectors may complete the inspection record either by hand or electronically. If the inspector is documenting the inspection record in electronic format, the sub-items under major sections that are not applicable or not reviewed may be deleted. However, the heading itself (e.g., "Radioactive Waste Management," or "Transportation") should remain in the inspection record, and the inspector should enter appropriate remarks about why the section is not applicable or not reviewed.

For further inspection guidance, refer to Section 07.03 of IMC 2800.

87114-04 REFERENCES

A listing of IMCs and IPs, applicable to the inspection program for materials licensees, can be found in Section 2800-11 of 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.

Specific references to regulatory requirements can be located in the "Fixed and Portable Gauge Inspection Record" appendix, following this IP.

END

Appendices:

A. "Fixed and Portable Gauge Inspection Record"
B. “Fixed and Portable Gauge References”

END