



Illinois Emergency Management Agency and Office of Homeland Security

Instructions for Preparing Applications for Radioactive Material Licenses Authorizing

WELL LOGGING, TRACER, AND FIELD FLOOD STUDY USE OF RADIOACTIVE MATERIALS

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INTRODUCTION

The U.S. Nuclear Regulatory Commission's (NRC) NUREG-1556 technical report series ([NRC NUREG-1556 technical report series](#)) provides a comprehensive source of information about various aspects of materials licensing and materials program implementation. These reports, where applicable, describe a risk-informed, performance-based approach to licensing consistent with the current regulations. The reports are intended, in part, to provide guidance to applicants and licensees in the application, renewal, and amendment of a radioactive materials license.

NUREG-1556 Volume 14, Rev. 1. provides applicants and licensees guidance on the use of radioactive materials for well logging, tracer, and field flood studies.

PURPOSE OF THESE INSTRUCTIONS

These instructions are meant to supplement the applicable NUREG-1556 guidance. The Chapters and Items are presented in identical order to those presented in the NUREG-1556 guidance. Where necessary, this document provides additional instruction on requirements that are specific to Illinois (e.g., mailing address, Illinois forms, and key policy/regulatory differences).

NOTE: Where not otherwise provided in this instructional set, applicants utilizing the NUREG-1556 guidance must make appropriate reference to IEMA-OHS and State of Illinois regulations rather than NRC and federal regulations in 10 CFR.

NUREG-1556, VOL. 14 CHAPTER 1 – PURPOSE OF REPORT

Rather than NRC Form 313, applicants shall utilize the "*Application Form for the Use of a Well Logging, Tracer, and Field Flood Study Radioactive Materials License*" in accordance with 32 Ill. Adm. Code 330.240(a). The Illinois application numbering and format aligns with Chapter 8, "Contents of an Application" of the NUREG guidance but also solicits commitments and documents required for review by IEMA-OHS. All other information presented in the NUREG guidance remains applicable and may be utilized by applicants.

NUREG-1556, VOL. 14 CHAPTER 2 – AGREEMENT STATES

NRC or Agreement State licensees seeking reciprocity within the State of Illinois may review the IEMA-OHS website for "[Reciprocity Frequently Asked Questions](#)" and should submit requests using the "[Illinois Reciprocity Notification Form](#)". Both are available on the Agency website: [Information for Specific Licensees \(illinois.gov\)](http://www.illinois.gov) All other information presented in Chapter 2 of the NUREG guidance remains applicable and may be utilized by applicants.

NUREG-1556, VOL. 14 CHAPTER 3 – MANAGEMENT RESPONSIBILITY

Refer to NUREG-1556 Vol. 14, Rev. 1.

NUREG-1556, VOL. 14 CHAPTER 4 – APPLICABLE REGULATIONS

- [32 Ill. Adm. Code 310](#) “General Provisions for Radiation Protection”
- [32 Ill. Adm. Code 326](#) “Financial Assurance Requirements”
- [32 Ill. Adm. Code 330](#) “Licensing of Radioactive Material”
- [32 Ill. Adm. Code 331](#) “Fees for Radioactive Material Licenses”
- [32 Ill. Adm. Code 337](#) “Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material”
- [32 Ill. Adm. Code 340](#) “Standards for Protection Against Radiation”
- [32 Ill. Adm. Code 341](#) “Radioactive Materials Transportation”
- [32 Ill. Adm. Code 351](#) “Radiation Safety Requirements for Wireline Service Operations and Subsurface Tracer Studies”
- [32 Ill. Adm. Code 400](#) “Notices, Instruction and Reports to Workers; Inspections”

NUREG-1556, VOL. 14 CHAPTER 5 – HOW TO FILE

Applicants wishing to possess or use licensed radioactive material for well logging, tracer, or field flood study use should do the following:

- Use these instructions, the U.S. NRC’s [NUREG-1556, Volume 14, Revision 1, ‘Consolidated Guidance About Materials. Licenses: Program-Specific Guidance About Well Logging, Tracer, and Field Flood Study Licenses.’](#), and current State of Illinois [regulations](#) to prepare the application.
- Complete "Application Form for the Use of a Well Logging, Tracer, and Field Flood Study Radioactive Materials License," in accordance with 32 Ill. Adm. Code 330.240(a).
- Each item on the application should provide sufficient detail for the Agency to determine that equipment, facilities, training, experience, and the radiation protection program are adequate to protect the health, safety, and minimize danger to life and property.
- Each appended sheet submitted with the application should be identified with the item number, page number, applicant’s name, and application date in the lower right corner to which it refers.
- Avoid submitting proprietary information and personally identifiable information (PII). PII examples include personal home address, home telephone number, social security number, date of birth, and radiation dose information and should not be submitted unless specifically requested by the Agency. If submitted, proprietary information and other sensitive information (e.g., personal privacy and security related) should be clearly identified as such by visibly marking, “Public inspections, exemptions, requests for withholding.” Copies of security plans or other documents required under 32 Ill. Adm. Code Part 337 should not be submitted as a component of the application. Public inspection of applications and other documents submitted to the Agency pursuant to 32 Ill. Adm. Code 330.240, shall be handled in accordance with 2 Ill. Adm. Code 1800 and the requirements of the Freedom of Information Act (5 ILCS 140). As such, all license applications may be available for review by the general public.

Where to file:

Paper applications received by IEMA-OHS will be scanned and converted to an electronic format. To ensure a timely transfer to the electronic format, applicants should do the following:

- Ensure print is clear and sharp,
- Ensure each page of the copy is legible, and
- Each application and each request for amendment is signed (physical or verifiable electronic) by the applicant, licensee, or a person duly authorized in writing to act for and on the licensee or applicant's behalf.

Paper copies need not be submitted in duplicate, but the licensee is responsible for maintaining a copy of all applications and correspondence related to the license. The original may be mailed to:

Illinois Emergency Management Agency and Office Homeland Security
Radioactive Materials Licensing
4800 Wabash Ave.
3F - West
Springfield, Illinois 62711-7073

The Agency will accept applications and requests for amendments electronically. These submittals may be directed to ema.speclic@illinois.gov.

NUREG-1556, VOL. 14 CHAPTER 6 – IDENTIFYING AND PROTECTING SENSITIVE INFORMATION

Refer to NUREG-1556 Vol. 14, Rev. 1.

NUREG-1556, VOL. 14 CHAPTER 7 – APPLICATION AND LICENSE FEES

Each application for which a fee is specified will be invoiced after initial processing at IEMA-OHS. Please do not submit your fee payment with the application. New applicants will be billed a pro-rated fee for the portion of the billing year remaining from the date the application is received. By regulation, the billing year means the period of time from October 1 of one year to September 30 of the following year. Refer to 32 Ill. Adm. Code 331, Appendix F, “Fee Schedule for Radioactive Materials Licensees” to determine the amount of the fee. Consult 32 Ill. Adm. Code 331.120 on payment of fees, remote site costs, recovery and remediation assessments and details pertaining to full cost recovery. In accordance with this part, the annual and remote site fees listed in Appendix F are nonrefundable and are assessed based on a 12-month period. Consult 32 Ill. Adm. Code 331.110, “Exemptions,” for information on exemptions from these fees.

NOTE: Application fees will be charged regardless of IEMA-OHS’s disposition of an application or the withdrawal of an application.

Direct all questions about IEMA-OHS's fees or completion of the "License Fees" item of the application form to the Manager of Radioactive Materials Licensing, 217-785-9947. The e-mail address is ema.speclic@illinois.gov

NUREG-1556, VOL. 14 CHAPTER 8 - CONTENTS OF AN APPLICATION

In addition to the information specified NUREG-1556 Vol. 14, Rev. 1, applicants are provided the following instruction to address each item of the application.

Chapter 8.1 (Item 1 of the Application) – License Action Type

Refer to NUREG-1556 Vol. 14, Rev. 1.

Chapter 8.2 (Item 2 of the Application) – Name and Mailing Address of Applicant

Refer to NUREG-1556 Vol. 14, Rev. 1.

NOTE: In order to validate the legal entity, the applicant or licensee may provide documentation of current registration with the Illinois Secretary of State to conduct business within Illinois, or a similar registration in another state. An individual may be designated as the applicant only if the individual is acting in the private capacity and the use of the radioactive material is not connected with employment in a corporation or other legal entity. Each applicant must submit their federal tax identification number (FEIN). Applicants that are individuals must provide their social security number.

Chapter 8.3 (Item 3 of the Application) – Address(es) Where Licensed Material Will Be Used or Possessed

Refer to NUREG-1556 Vol. 14, Rev. 1.

NOTE: Illinois law [420 ILCS 40/10(11)] requires IEMA-OHS to notify a local government of each listed location of storage or use of radioactive material. This allows local officials, fire and police the opportunity to review local ordinances and prepare for emergencies. An IEMA-OHS license does not relieve a licensee from complying with other applicable Federal, State, or local regulations (e.g., local zoning requirements).

For each location to be listed on the license as an authorized use location, applicants must indicate ownership of the facility by checking the appropriate box. If the applicant does not own the facility, the applicant must attach other statements or documents to indicate the owner of the facility is aware of radioactive material use at the facility, as required by 32 Ill. Adm. Code 330.240(a)(9).

A location where a well logging source or other licensed radioactive material is used or stored for more than 180 days in any consecutive 12 months is not considered a temporary jobsite under the definition in 32 Ill. Adm. Code 331. The location must be specifically listed on the radioactive materials license as an authorized place of use or storage.

Chapter 8.4 (Item 4 of the Application) – Person to Be Contacted About this Application

The Agency may seek additional information on an individual's background to ensure that radioactive materials will be used as intended. In order to expedite the review process, the applicant or licensee may wish to submit the "[Release and Authorization Full Due Diligence Investigation](#)" form with the application. A fillable form is available on the Agency's website.

Chapter 8.5 (Item 5 of the Application) – Radioactive Material

CHAPTER 8.5.1 (ITEM 5.1 OF THE APPLICATION) – SEALED RADIOACTIVE MATERIAL

Use Section 5.1 of the application to identify all sealed radioactive sources, devices, and associated source material components requested for authorization, including:

- Well logging sealed sources
- Energy compensation sources
- Neutron generators
- Depleted uranium (DU) sinker bars
- Any other sealed sources or devices used in support of well logging operations

Applicants must list the manufacturer (or distributor), model number, radionuclide, activity per source, quantity requested, and proposed use, as applicable.

CHAPTER 8.5.2 (ITEM 5.2 OF THE APPLICATION) – UNSEALED RADIOACTIVE MATERIAL

Use Section 5.2 of the application to identify all unsealed radioactive materials requested for authorization, including:

- Radioactive tracers
- Labeled frac sands

For each material, applicants must identify the radionuclide, chemical and/or physical form, maximum activity per study, maximum possession limit, and the intended use.

If no unsealed radioactive materials are requested, applicants should mark Section 5.2 as "N/A."

CHAPTER 8.5.3 (ITEM 5.3 OF THE APPLICATION) – FINANCIAL ASSURANCE AND RECORD KEEPING FOR DECOMMISSIONING

The IEMA-OHS regulations regarding thresholds for Financial Assurance differ from those detailed in Chapter 8.5.3 of NUREG 1556, Volume 14. Applicants should refer to 32 Ill. Adm. Code Part 326 to determine requirements for financial assurance and make appropriate notations on the application. Most well logging applicants generally do not need to provide financial assurance. However, should the licensee possess activities requiring financial assurance, the applicant should reference the "[Guidance Document on Financial Assurance](#)" which is available on the Agency's website.

Chapter 8.6 (Item 6 of the Application) – Purpose(s) for Which Licensed Material Will be Used

Refer to NUREG-1556 Vol. 14, Rev. 1.

NOTE: Applicants should review the applicable Sealed Source and Device (SSD) Registry certificate for each device listed. Proposed uses and maintenance activities not specifically authorized by the manufacturer will require Agency review and authorization on a case-by-case basis. SSD Registry certificates can be obtained from the device manufacturer or distributor. Alternatively, if the manufacturer and/or distributor are no longer in service, a copy of the SSD registration certificate may be requested from the U.S. NRC or the issuing Agreement State.

Chapter 8.7 (Item 7 of the Application) – Individual(s) Responsible for the Radiation Safety Program and Their Training and Experience

RADIATION SAFETY OFFICER

In addition to providing the supporting documentation detailed in Chapter 8.7.1 of NUREG-1556 Vol. 14, Rev. 1, applicants should:

1. If applicable, mark the appropriate box and attach evidence of training for U.S. Department of Transportation (DOT) Hazardous Materials training. This additional training requirement may be applicable to the RSO, well logging supervisors and assistants.

Licensees who possess and use well logging sources or tracer study materials at temporary jobsites are typically subject to Hazmat training requirements. This training is necessary because licensees often transport radioactive materials in commerce and must be prepared to respond appropriately to transportation-related incidents or emergencies.

While the application form lists DOT Hazmat training as "if applicable," applicants should assume this training is required unless a clear justification is provided. For example, if a licensee never transports radioactive materials or uses a third-party carrier that handles all transport and emergency response responsibilities, they may be exempt; however, the justification must be submitted with the application.

If no training documentation or explanation is submitted, and the license includes authorization for temporary jobsites, the Agency will presume that DOT Hazmat training is required and may identify the omission during review of the application or as a potential compliance issue during inspection.

Applicants should ensure that the Radiation Safety Officer (RSO), well logging supervisors, and well logging assistants, if applicable, are current in their DOT Hazmat training, as required by 49 CFR 172, Subpart H.

2. Attach a Delegation of Authority Statement signed by both management and the proposed Radiation Safety Officer (RSO). A model delegation of authority statement is provided in Appendix P of this Instructional Set.
3. The Agency has included a list of typical RSO duties and responsibilities in Appendix P of Instructional Set 77.0 to clarify expectations for implementation of the radiation safety program.

Applicants should indicate on the application form either that:

- Duties and responsibilities are as stated in Appendix P of Instructional Set 77.0;
- OR
- Duties and responsibilities of the RSO are attached for Agency review.
4. Indicate if RSO duties will be delegated to other responsible individuals by checking the appropriate box. If duties will be delegated, a condition authorizing this will be included in the license document.

Chapter 8.8 (Item 8 of the Application) – Training for Logging Supervisors and Logging Assistants

LOGGING SUPERVISORS AND LOGGING ASSISTANTS

Training programs should be submitted for each position, consistent with 32 Ill. Adm. Code 351.610, which establishes separate training requirements for logging supervisors and logging assistants.

In addition to responses requested in Chapter 8.8 of NUREG-1556 Vol. 14, Rev. 1, applicants should name at least one proposed logging supervisor and attach documentation of the individual's training and experience. If the submitted documentation does not demonstrate that the training and experience satisfies the criteria described in Appendix F of NUREG-1556, Vol. 14, Rev. 1, the Agency may request additional information in order to evaluate the adequacy of the training.

NOTE: IEMA-OHS is aligning training hours and course content to be compatible with those of the U.S. NRC. Existing licensees may need to request an amendment or revision during renewal to be relieved of previous training commitments.

The IEMA-OHS application also consolidates two additional training requirements including U.S. Department of Transportation (DOT) Hazardous Materials and Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material training. Check all that apply and attach evidence of HAZMAT training, if applicable.

INSTRUCTIONS TO WORKERS

32 Ill. Adm. Code 400.120, requires radiation safety training for all individuals working in, or the performance of whose duties requires access to any portion of a restricted area or frequent areas where radioactive material is used or stored (i.e., ‘areas of use’). Therefore, radiation safety training is required for workers in all ‘areas of use’, regardless of ‘restricted’ or ‘unrestricted’ status. The terms “worker” and “restricted area” are defined in 32 Ill. Adm. Code 310.20. This means all individuals working with or around licensed materials, not just well logging supervisors and assistants, should receive safety instructions commensurate with their assigned duties and as specified by 32 Ill. Adm. Code 400.120.

For ancillary staff or those with no direct duties involving radioactive material, the duration of this training may be only 1-2 hours in length. Providing minimal instruction to ancillary staff (e.g., general laborers, sanitary professionals, security) may assist in controlling abnormal events, such as loss of radioactive material. In addition, licensees should ensure that contractor staff receive safety instructions. The radiation safety training must be provided initially before the individuals perform assigned duties and refresher training conducted at intervals not to exceed 12 months.

Recurrent annual instruction for well logging supervisors and assistants should be commensurate with their duties and include the content applicable to the use of radioactive sources or devices. The applicant’s training program will be examined during inspections. Records of worker training must be maintained for 5 years as part of the radiation protection program in accordance with 32 Ill. Adm. Code Part 340.1120.

Chapter 8.9 (Item 9 of the Application) – Facilities and Equipment

Refer to NUREG-1556 Vol. 14, Rev. 1.

NOTE: Field stations are facilities where radioactive sources may be stored or used and from which equipment is dispatched to temporary jobsites. Field stations are specifically listed on a radioactive material license. If equipment is dispatched from a temporary jobsite, then the location must be authorized as a field station on the license.

Chapter 8.10 – Radiation Safety Program

Refer to NUREG-1556 Vol. 14, Rev. 1.

NOTE: Although NUREG-1556, Volume 14, Chapter 8.10 states that applicants may submit written operating and emergency procedures or an outline or summary of those procedures, the Agency’s equivalent requirement in 32 Ill. Adm. Code 351.130(c) requires submission of the actual operating and emergency procedures which will be utilized to cover the radiation safety program elements specified in 32 Ill. Adm. Code 630(a)-(o). Applicants seeking authorization from the Agency must therefore submit the operating and emergency procedures rather than an outline or summary.

CHAPTER 8.10.1 (ITEM 10.1 OF THE APPLICATION) – WELL OWNER OR OPERATOR AGREEMENTS

Refer to NUREG-1556 Vol. 14, Rev. 1.

CHAPTER 8.10.2 (ITEM 10.2 OF THE APPLICATION) – AUDIT AND REVIEW PROGRAM

Appendix E of these instructions includes an Illinois-specific audit which may be utilized by the applicant. The applicant may elect to utilize Appendix E or develop their own program audit. Audits need not be submitted with the application and are evaluated during inspection.

Otherwise, refer to NUREG-1556 Vol. 14, Rev. 1.

CHAPTER 8.10.3 (ITEM 10.3 OF THE APPLICATION) – RADIATION MONITORING INSTRUMENTS

Unlike the guidance in NUREG-1556 and the requirements of 10 CFR, Agency licensees shall retain records of instrument calibration and radiation surveys for a minimum of 5 years following completion of the calibration or survey, in accordance with applicable Illinois regulations. These records must be available for inspection by the Agency.

Otherwise, refer to NUREG-1556 Vol. 14, Rev. 1.

CHAPTER 8.10.4 (ITEM 10.4 OF THE APPLICATION) – MATERIAL RECEIPT AND ACCOUNTABILITY

Records of receipt, transfer, and disposal shall be maintained pursuant to 32 Ill. Adm. Code 310.40 and physical inventories must be conducted quarterly pursuant to 32 Ill. Adm. Code 351.370.

Otherwise, refer to NUREG-1556 Vol. 14, Rev. 1.

CHAPTER 8.10.5 (ITEM 10.5 OF THE APPLICATION) – OCCUPATIONAL DOSE

Refer to NUREG-1556 Vol. 14, Rev. 1.

CHAPTER 8.10.6 (ITEM 10.6 OF THE APPLICATION) – PUBLIC DOSE

Applicants must submit documentation demonstrating members of the public will not receive more than 1 millisievert (1 mSv) [100 millirem (100 mrem)] in one year, and the dose in any unrestricted area will not exceed 0.02 mSv (2 mrem) in any one hour.

Applicants may use the methods detailed in Appendix J of NUREG-1556 Vol. 14, Rev. 1 or submit alternative calculations, measurements or a combination thereof for Agency evaluation.

Otherwise, refer to NUREG-1556 Vol. 14, Rev. 1.

CHAPTER 8.10.7 (ITEM 10.7 OF THE APPLICATION) – OPERATING AND EMERGENCY PROCEDURES

Refer to NUREG-1556 Vol. 14, Rev. 1 and submit written operating and emergency procedures that address the radiation safety aspects of well logging operations, consistent with the requirements of 32 Ill. Adm. Code 351.630.

Applicants may use the checklist of important items to consider in this section of NUREG Vol. 14, Rev. 1 as a guide when developing operating and emergency

procedures. Appendix K of this instructional set provides an Agency-specific list of required notifications and reports relevant to licensed well logging activities in Illinois.

CHAPTER 8.10.8 (ITEM 10.8 OF THE APPLICATION) – LEAK TESTS

Refer to NUREG-1556 Vol. 14, Rev. 1

CHAPTER 8.10.9 (ITEM 10.9 OF THE APPLICATION) – MAINTENANCE

Refer to NUREG-1556 Vol. 14, Rev. 1. and address the following, if applicable:

REPAIR, OPENING, OR MODIFICATION OF SEALED SOURCES

Pursuant to 32 Ill. Adm. Code 351.430(e), repair, opening, or modification of sealed sources shall only be performed by persons specifically authorized to do so by the Agency, the U.S. Nuclear Regulatory Commission, or an Agreement State.

Detailed information regarding the operation, inspection, servicing, and maintenance of registered sealed sources and devices may be obtained from the manufacturer or distributor. Applicants should ensure that servicing and maintenance activities are consistent with the conditions and limitations of the applicable Sealed Source and Device (SSD) Registration Certificate. To request authorization to perform activities that are typically performed only by the manufacturer, distributor or another specifically licensed servicing entity, the applicant should submit detailed procedures describing the activities to be performed, radiation safety precautions, contamination control measures, personnel qualifications, instrumentation, leak testing requirements, and methods for demonstrating compliance with applicable SSD Registration Certificates.

CHAPTER 8.10.10 (ITEM 10.10 OF THE APPLICATION) – TRANSPORTATION

Refer to NUREG-1556 Vol. 14, Rev. 1.

NOTE: Item 7 of the application prompts applicants to incorporate DOT HAZMAT into their training program if they anticipate the RSO, well logging supervisors, or well logging assistants will perform “HAZMAT functions”. Depending on the applicant’s operations, the requirement for DOT training may not be limited to the typical users. Specifically, in accordance with 49 CFR Part 172.702(b), and except as provided in 49 CFR 172.704(c)(1), an employee may not perform any HAZMAT function unless instructed in the requirements of 49 CFR Subchapter C that apply to that function. ‘HAZMAT functions’, or more formally, the duties that would require hazardous material training, are detailed in 49 CFR Part 171.1(b).

CHAPTER 8.10.11 (ITEM 10.11 OF THE APPLICATION) – MINIMIZATION OF CONTAMINATION

Refer to NUREG-1556 Vol. 14, Rev. 1.

CHAPTER 8.10.12 (ITEM 10.12 OF THE APPLICATION) – SEALED SOURCES

Refer to NUREG-1556 Vol. 14, Rev. 1

CHAPTER 8.10.13 (ITEM 10.13 OF THE APPLICATION) – SUBSURFACE TRACER STUDIES

Refer to NUREG-1556 Vol. 14, Rev. 1

CHAPTER 8.10.14 (ITEM 10.14 OF THE APPLICATION) – RADIOACTIVE COLLAR AND SUBSIDENCE OR DEPTH CONTROL MARKERS

Refer to NUREG-1556 Vol. 14, Rev. 1

CHAPTER 8.10.15 (ITEM 10.15 OF THE APPLICATION) – NEUTRON ACCELERATORS USING LICENSED MATERIAL

Refer to NUREG-1556 Vol. 14, Rev. 1

CHAPTER 8.10.16 (ITEM 10.16 OF THE APPLICATION) – DEPLETED URANIUM SINKER BARS

Refer to NUREG-1556 Vol. 14, Rev. 1

CHAPTER 8.10.17 (ITEM 10.17 OF THE APPLICATION) – SECURITY PROGRAM FOR CATEGORY 1 AND CATEGORY 2 RADIOACTIVE MATERIALS

Refer to NUREG-1556 Vol. 14, Rev. 1

Chapter 8.11 (Item 11 of the Application) – Waste Management

Refer to NUREG-1556 Vol. 14, Rev. 1.

Chapter 8.12 (Item 12 of the Application) – License Fees

Contrary to Chapter 8.12, do not send fee payment with the application. Refer to 32 Ill. Adm. Code 331 and the appropriate fee schedule to review the applicable fees. You will receive a billing statement from the Agency regarding payment of fees. Note that for new applications however, that although a billing statement will be mailed to new applicants allowing a certain time period to remit the payment, the license will not be issued until the fee for the new application has been paid. Therefore, prompt payment upon billing may avoid unnecessary delay in issuing a license. Questions concerning fees should be directed to the Agency's Division of Fiscal Management. The regulations also include a requirement for payment of an annual recovery/remediation fee for use in cases where such costs for decontamination/disposal cannot be recovered from the responsible parties or available financial assurance documents. Indicate if the applicant or licensee is a subdivision of a State, County or Municipality or is an education institution as defined in 32 Ill. Adm. Code 331.110(c).

NOTE: The annual and remote site fees listed in Appendix F to Part 331 are nonrefundable and are assessed on a 12-month period.

Chapter 8.13 (Item 13 of the Application) – Certification

In addition to the guidance provided in Chapter 8.13, note that an individual may only be designated as the applicant if the individual is acting in a private capacity and the use of the radioactive material is not connected with employment in a corporation or other legal entity. Each applicant must submit their federal tax identification number (FEIN). Applicants that are individuals must provide their social security number.

NUREG-1556, VOL. 14 CHAPTER 9 – LICENSE AMENDMENTS AND RENEWALS

Refer to NUREG-1556 Vol. 14, Rev. 1.

NUREG-1556, VOL. 14 CHAPTER 10 – APPLICATIONS FOR EXEMPTIONS

Refer to NUREG-1556 Vol. 14, Rev. 1.

NUREG-1556, VOL. 14 CHAPTER 11 – TERMINATION OF ACTIVITIES

IEMA-OHS termination requirements are analogous to those detailed in NUREG-1556 Vol. 14, Rev. 1. Refer to 32 Ill. Adm. Code 330.325 and provide the following supporting documentation:

- In lieu of NRC Form 314, certify the disposition/transfer of licensed materials by submission of IEMA-OHS Form KLM.007, "Certificate – Termination and Disposition of Radioactive Material," ([available on the IEMA-OHS website](#)); and
- Conduct necessary decommissioning and perform radiation monitoring or the equivalent in accordance with 32 Ill. Adm. Code 330.325(b)(1)(F). Submit copies of the latest leak test results for each sealed source possessed under the license. For sources designed to emit beta/gamma radiation the leak test results shall be within the previous six months, or at intervals approved in a SSD registry certificate, and for sources designed to emit alpha radiation the leak test results shall be within the previous three months.
- Submit a record documenting that a licensee noted on KLM.007 received each source or radioactive material transferred.
- If applicable, submit for Agency approval a plan for reclaiming the facility, including decontamination and removal of residual contamination. See additional requirements for detectable levels or residual radioactive contamination in 32 Ill. Adm. Code 330.325(b)(3).
- Identify where records will be retained that are required under 32 Ill. Adm. Code 340.1140, or transfer to the Agency as necessary.
- Pay any outstanding fee or civil penalty owed to IEMA-OHS.

APPENDICES

APPENDIX A – “United States Nuclear Regulatory Commission Form 313”

In lieu of NRC Form 313, applicants shall use the “*Application Form for the Use of a Well Logging, Tracer, and Field Flood Study Radioactive Materials License*,” in accordance with 32 Ill. Adm. Code 330.240(a).

APPENDIX B – “Suggested Format for Providing Information Requested in Items 5 Through 11 Of U.S. Nuclear Regulatory Commission Form 313”

Except as otherwise noted in this instructional set, applicants may utilize the guidance and format of information in this appendix to complete the IEMA-OHS “*Application Form for the Use of a Well Logging, Tracer, and Field Flood Study Radioactive Materials License*,”

APPENDIX C – “Checklist for License Application”

Refer to NUREG 1556 Vol. 14, Rev. 1

APPENDIX D – “Field Flood Studies/Enhanced Recovery of Oil and Gas Wells”

Refer to NUREG 1556 Vol. 14, Rev. 1

APPENDIX E – “Suggested Well Logging and Subsurface Tracer Studies Audit Checklist”

Appendix E of this Instructional Set contains an audit checklist that has been tailored to IEMA-OHS regulations.

APPENDIX F – “Well Logging Supervisor and Logging Assistant Training Requirements”

Refer to NUREG 1556 Vol. 14, Rev. 1

APPENDIX G – “Annual Internal Job Performance Inspection Checklist for Well Logging Supervisors and Well Logging Assistants”

Refer to NUREG 1556 Vol. 14, Rev. 1

APPENDIX H – “Radiation Monitoring Instrument Specifications and Model Survey Instrument Calibration Program”

Refer to NUREG 1556 Vol. 14, Rev. 1

APPENDIX I – “Guidance for Demonstrating that Unmonitored Individuals are not Likely to Exceed 10 Percent of the Allowable Limits”

Refer to NUREG 1556 Vol. 14, Rev. 1

APPENDIX J – “Guidance for Demonstrating that Individual Members of the Public will not Receive Doses Exceeding the Allowable Limits”

Refer to NUREG 1556 Vol. 14, Rev. 1

APPENDIX K – “Notification of Proper Persons in the Event of an Accident”

Appendix K of this Instructional Set contains an audit checklist that has been tailored to IEMA-OHS regulations.

APPENDIX L – “Model Leak Test Program”

Refer to NUREG 1556 Vol. 14, Rev. 1

APPENDIX M – “Transportation – Major DOT Regulations; Sample Shipping Documents, Placards and Labels ”

U.S. Dept. of Transportation regulations are adopted by reference in 32 Ill. Adm. Code Part 341. Applicants and licensees may utilize the guidance in Appendix J of NUREG-1556 Vol. 1, Rev. 2 without further modification.

APPENDIX N – “Model Waste Management Procedures”

Refer to NUREG 1556 Vol. 14, Rev. 1

APPENDIX O – “Actions to be Take if a Sealed Source is Ruptured or if Licensed Materials have Cause Contamination”

Refer to NUREG 1556 Vol. 14, Rev. 1

APPENDIX P – “Model Delegation of Authority”

Appendix P of this Instructional Set provides an Illinois-Specific model Delegation of Authority as well as a list of the typical duties and responsibilities of the RSO. Applicants should utilize this document as it contains appropriate regulatory references and Agency contact information.

APPENDIX Q – “Checklist for Requests to Withhold Proprietary Information from Public Disclosure”

Refer to NUREG 1556 Vol. 14, Rev. 1

APPENDIX R – “Safety Culture Statement of Policy”

Refer to NUREG 1556 Vol. 14, Rev. 1

Appendix E

Model Wireline and Subsurface Tracer Studies Licensee Audit

Note: All areas indicated in audit notes may not be applicable to every license and may not need to be addressed during each audit. For example, licensees do not need to address areas that do not apply to the licensee's activities, and activities that have not occurred since the last audit need not be reviewed at the next audit. Also, the audit notes may not be complete for nonmedical uses authorized on the license. Licensees should review audit lists in other volumes of the U.S. NRC's NUREG-1556 series, as appropriate, when completing the audit list that is specific to nonmedical uses.

Date of this audit: _____

Date of last audit: _____

Date of next audit: _____

Auditor:

Signature

Date

Management Review:

Signature

Date

LICENSE (LICENSE CONDITION)

1. License Number
2. Current Amendment Number
3. Are all of the tie-down documents on file?
4. Has the Legal Entity having control over licensed activities changed since the last audit?
5. Are materials, uses, and locations of use confined to those specifically described in the license?

AUDIT HISTORY

1. Were previous audits conducted annually [32 Ill. Adm. Code 340.110(c)]?
2. Were records of previous audits maintained [32 Ill. Adm. Code 340.1120(b)]?
3. Were any deficiencies identified during previous audit?
4. Were corrective actions taken? (Look for repeated deficiencies.)

5. Any previous problem/deficiency not corrected or repeated?
6. What corrective actions from previous audits, if any, are still in progress?

ORGANIZATION AND SCOPE OF PROGRAM

1. Radiation Safety Officer (RSO)
 - a. If the RSO was changed, was the license amended [32 Ill. Adm. Code 330.340(b)(2)]?
 - b. Is the RSO fulfilling all duties and responsibilities?
 - c. To whom does the RSO report?
 - d. Does the RSO have sufficient time to perform his/her radiation safety duties?
2. RSO Designees:
 - a. Does the license include conditional authorization to delegate radiation safety officer duties?
 - b. Has the RSO delegated certain duties to logging supervisors or individuals qualified to be the RSO?
 - c. Is the designee adequately trained and experienced?
 - d. Has the designation been documented in writing and signed by the RSO?
 - e. Have reviews of designees been performed and documented quarterly?
3. Multiple places of use? If yes, list locations. [License Condition (L/C)]
4. Are all necessary use and storage locations and field stations listed on license? (L/C)
5. Were annual audits performed at each location? If no, explain.
6. Describe the scope of the program (e.g., staff size, number of well logging and tracer studies performed)

Authorized Users:

- a. Are well logging supervisors trained in accordance with 32 Ill. Adm. Code 351.610(a)?
- b. Are well logging assistants trained in accordance with 32 Ill. Adm. Code 351.610(b)?
- c. If there are new logging supervisors or logging assistant since the last audit, was the license amended (if required)?

FACILITIES

1. Are facilities as described in the IEMA-OHS application?
2. If facilities have changed, has the IEMA-OHS license been amended?
3. Are licensed materials secured from unauthorized removal or access? [32 Ill. Adm. Code 340.810(a)]

4. Is control and constant surveillance maintained of license material not in storage? [32 Ill. Adm. Code 340.810(b)]
5. Do storage locations comply with the appropriate security program measures? [32 Ill. Adm. Code Part 337]

EQUIPMENT AND INSTRUMENTATION

1. Instruments

- a. Are calibrated and operable radiation survey instruments available at each storage location, field station, and temporary jobsite? [32 Ill. Adm. Code 351.330]
- b. Are radiation survey instruments capable of measuring 0.001 mSv [0.1 mrem] per hour (h) through at least 0.5 mSv [50 mrem]/h? [32 Ill. Adm. Code 351.330(a)]
- c. Are additional calibrated and operable radiation detection instruments available that are sensitive enough to detect the low radiation and contamination levels that could be encountered if a sealed source ruptured? [32 Ill. Adm. Code 351.330(b)]
- d. Are radiation survey instruments calibrated
 - i. At intervals not to exceed 6 months and after instrument servicing?
 - ii. For linear scale instruments, at two points located approximately 1/3 and 2/3 of full-scale on each scale; for logarithmic scale instruments, at midrange of each decade, and at two points of at least one decade; and for digital instruments, at appropriate points?
 - iii. so that an accuracy within plus or minus 20 percent of the calibration standard can be demonstrated on each scale?
- e. Are Radiation Detection Instrument calibration records retained for a period of 3 years after the date of calibration for inspection by the Agency? [32 Ill. Adm. Code 351.330(d)]

2. Sources, Source Holders, Tools

- a. Are Sources, Source Holders, and Tools labeled in accordance with 32 Ill. Adm. Code 351.310(a)?
- b. When licensed materials are transported, are the licensed materials packaged, labeled, marked, and accompanied by appropriate shipping papers in accordance with 10 CFR Part 71 and 49 CFR Parts 170-189?
- c. Are licensed materials stored and transported in accordance with the security precautions described in 32 Ill. Adm. Code 351.310(b)?
- d. Do sealed sources used for well logging applications meet the design and performance criteria described in 32 Ill. Adm. Code 351.410?
- e. Are uranium sinker bars (if used) marked in accordance with 32 Ill. Adm. Code 351.490?
- f. Are source handling tools compatible with the type of sealed source being used?

MATERIAL USE, CONTROL, AND TRANSFER

1. Security and Control

- a. Are restricted areas, defined as in 32 Ill. Adm. Code 310.20, limited for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials?
- b. Are unrestricted areas, defined in 32 Ill. Adm. Code 310.20, re-evaluated when radioactive material storage areas are altered/changed or radioactivity was increased to verify that the relocation of the material has not affected the unrestricted area?
- c. Are licensed materials that are stored in controlled or unrestricted areas secured from unauthorized removal or access as required by 10 CFR 20.1801?
- d. Is licensed material that is in a controlled or unrestricted area and that is not in storage controlled and maintained under constant surveillance as required by 10 CFR 20.1802?
- e. Is a logging supervisor (defined in 32 IAC 351.30), physically present at a temporary jobsite whenever licensed materials are being handled or are not stored and locked in a vehicle or storage place, as required by 32 Ill. Adm. Code 351.710(a)?
- f. As required by 32 Ill. Adm. Code 351.710(b) during well logging, except when radiation sources are below ground or in shipping or storage containers, does the logging supervisor or other individual designated by the logging supervisor maintain direct surveillance of the operation to prevent unauthorized entry into a restricted area, as defined in 32 Ill. Adm. Code 310.20?

2. Receipt and Transfer of Licensed Material

- a. Description of how packages are received and by whom?
- b. Written package-opening procedures established and followed [32 Ill. Adm. Code 340.960(e)]?
- c. All incoming packages with a U.S. Department of Transportation (DOT) label monitored for radioactive contamination, unless exempted (gases and special form) [32 Ill. Adm. Code 340.960 (b)(1)]?
- d. Incoming packages surveyed [32 Ill. Adm. Code 340.960(b)(2)]?
- e. Monitoring in (3) and (4) performed within time specified [32 Ill. Adm. Code 340.960(c)]?
- f. Transfer(s) performed per [32 Ill. Adm. Code 330.400]?
- g. All sources surveyed before shipment and transfer [32 Ill. Adm. Code 340.510(a)]?

- h. Records of surveys and receipt/transfer maintained [32 Ill. Adm. Code 340.1130(a), 32 Ill. Adm. Code 310.40]?
 - i. Package receipt/distribution activities evaluated for compliance with 32 Ill. Adm. Code 340.310?
3. Radionuclide, Chemical Form, Quantity, and Use
- j. Is a semi-annual physical inventory conducted to account for all licensed material received and possessed in accordance with 32 Ill. Adm. Code 351.370?
 - k. Are records of the semiannual physical inventories maintained in accordance with 32 Ill. Adm. Code 351.370?
 - l. Are the quantities of licensed material used in radioactive markers limited to quantities not exceeding the quantities specified in 10 CFR 30.71?
 - m. Are radioactive markers inventoried in accordance with 32 Ill. Adm. Code 351.370?
 - n. Are depleted uranium sinker bars used in accordance with 32 Ill. Adm. Code 351.490?

INVENTORIES

1. Are inventories conducted at quarterly intervals? [32 Ill. Adm. Code 351.370]
2. Do the inventories contain all the information required by 32 Ill. Adm. Code 351.370?
3. Are inventory records maintained for 3 years from the date of inventory? [32 Ill. Adm. Code 351.370]

INSPECTION AND MAINTENANCE

1. Routine Inspection Program
 - a. Are visual checks of source holders, logging tools, and source handling tools, for defects made before each use to ensure that the equipment is in good working condition and that required labeling is present? [32 Ill. Adm. Code 351.430(a)]
 - b. If defects were found, was the equipment removed from service until repaired, and a record made listing: the date of check, name of inspector, equipment involved, defects found, and repairs made? [32 Ill. Adm. Code 351.430(a)]
 - c. Are records of defects identified during routine inspection retained for 3 years after the defect is found? [32 Ill. Adm. Code 351.430(a)]
2. Semiannual Inspection Program
 - a. Is there a program for semiannual visual inspection and routine maintenance of source holders, logging tools, injection tools, source handling tools, storage containers, transport containers, and uranium sinker bars to ensure that the required labeling is legible and that no physical damage is visible? [32 Ill. Adm. Code 351.430(b)]

- b. If defects are found, was the equipment removed from service until repaired, and a record made listing: date, equipment involved, inspection and maintenance operations performed, any defects found, and any actions taken to correct the defects? [32 Ill. Adm. Code 351.430(b)]
 - c. Are records of defects identified during the semiannual inspection retained for 3 years after the defect is found? [32 Ill. Adm. Code 351.430(b)]
- 3. Removal of Sources from Source Holders 32 Ill. Adm. Code 351.430(c)
 - a. Have written procedures been developed pursuant to 32 Ill. Adm. Code 351.630 and been approved either by the Commission pursuant to 32 Ill. Adm. Code 351.130(c) or by an Agreement State for the removal of a sealed source from a source holder or logging tool, and maintenance on sealed sources or holders in which sealed sources are contained?
- 4. Stuck Sealed Source 32 Ill. Adm. Code 351.430(d)
 - a. Has specific approval by the Agency, NRC or an Agreement State been granted to perform any operation, such as drilling, cutting, or chiseling, on the source holder, if a sealed source is stuck in the source holder? **Note:** The opening, repair, or modification of any sealed source must be performed by persons specifically approved to do so by the Agency, NRC or an Agreement State. [32 Ill. Adm. Code 351.430(e)] [license condition]
- 5. Notification of failure to comply or existence of a defect and its evaluation [10 CFR 21.21]
 - a. If defects were found during routine or semiannual inspections, were these defects evaluated in accordance with 10 CFR 21.21?
 - b. Were any defects reported under the requirements of 10 CFR 21.21?

AREA RADIATION SURVEYS AND CONTAMINATION CONTROL

- 1. Compliance with dose limits for individual members of the public [32 Ill. Adm. Code 340.320]
 - a. Have radiation surveys of calculations been made to demonstrate compliance with the annual dose limit for individuals members of the public?
 - b. Are records demonstrating compliance with the dose limit for individual members of the public maintained in accordance with 10 CFR 20.2107?
- 2. Radiation Surveys [32 Ill. Adm. Code 351.670]
 - a. Were radiation surveys made in the storage areas for radioactive materials?
 - b. Are radiation surveys made of the position occupied by each individual in the vehicle and of the exterior of each vehicle used to transport the licensed materials, before transporting licensed materials?
 - c. Are radiation surveys made of the logging tool if the sealed source assembly is removed from the logging tool before departure from the temporary jobsite, to confirm that the logging tool is free of contamination by energizing the logging tool detector or by using a radiation survey meter?

- d. Were any radiation surveys made during or after an operation where the encapsulation of the sealed source could have been damaged?
 - e. Were radiation surveys at temporary jobsite(s) made before and after each subsurface tracer study to confirm the absence of contamination?
 - f. Are the results of radiation surveys required by 32 Ill. Adm. Code 351.670 recorded and include the date of the survey, the name of the individual making the survey, the identification of the survey, instrument used, and the location of the survey?
 - g. Are radiation survey records maintained for inspection by the Agency for 3 years after they are made?
3. Contamination Control [32 Ill. Adm. Code 351.690]
- a. Were there any events where there was evidence that a sealed source had ruptured or licensed materials had caused contamination.
 - b. Were the emergency procedures required by 32 Ill. Adm. Code 351.630, initiated immediately?
 - c. Were there contamination events resulting from use of licensed material in well logging that required decontamination of work areas, equipment, and unrestricted areas?
 - d. During efforts to recover a sealed source lodged in a well, did the licensee continuously monitor, with an appropriate radiation detection instrument or a logging tool with a radiation detector, the circulating fluids from the well, if any, to check for contamination resulting from damage to the sealed source?
4. Leak Tests [32 Ill. Adm. Code 351.350]
- a. Is each sealed source [except an energy compensation source (ECS)] tested at intervals not to exceed 6 months?
 - b. Does the method of leak testing meet the requirements of 32 Ill. Adm. Code 351.350(b)?
 - c. Are the records of leak test results in units of microcuries and retained for inspection by the Agency for 3 years after the leak test is performed? NOTE: In the absence of a certificate from a transferor that a test has been made within the 6 months before the transfer, the sealed source may not be used until tested.
5. Tracer Studies [32 Ill. Adm. Code 351.450]
- a. Are personnel handling radioactive tracer material required to use protective gloves and other protective clothing and equipment?
 - b. When using radioactive tracer material, are precautions taken to avoid ingestion or inhalation of radioactive tracer material and to avoid contamination of field stations and temporary jobsites?

- c. During the audit period, was specific authorization granted by the Agency to knowingly inject licensed material into fresh water aquifers?
- 6. Use of sealed sources in a well without a surface casing [32 Ill. Adm. Code 351.510]
 - a. During the audit period, were sealed sources used in a well without a surface casing for protecting fresh water aquifers?
 - b. If sealed sources were used in a well without a surface casing, were procedures followed to reduce the probability of the source becoming lodged in the well?
 - c. Were these procedures approved by the Agency pursuant to 32 Ill. Adm. Code 351.130(c) or by the NRC or an Agreement State?
- 7. Did the auditor make any independent radiation survey measurements?
 - a. Describe the type, location, and results of measurements. Also note the radiation survey instrument used, serial number, and calibration date.
 - b. Does any radiation level exceed regulatory limits? [32 Ill Adm. Code 340.510(a), 32 Ill. Adm. Code 340.520(a)]

TRAINING AND INSTRUCTION TO WORKERS

- 1. Instructions to Workers [32 Ill. Adm. Code 400.120]
 - a. Are all individuals likely to receive in a year an occupational dose in excess of 100 millirem [1 milliSievert]:
 - i. Kept informed of the storage, transfer, or use of radiation and/or radioactive material?
 - ii. Instructed in the health protection problems associated with exposure to radiation and/or radioactive material, in precautions or procedures to minimize exposure, and in the purposes and functions of protective devices employed?
 - iii. Instructed in, and required to observe, to the extent within the workers' control, the applicable provisions of Commission regulations and licenses for the protection of personnel from exposure to radiation and/or radioactive material?
 - iv. Instructed in the appropriate response to warnings made in the event of any unusual occurrence or malfunction that may involve exposure to radiation and/or radioactive material?
 - v. Advised as to the radiation exposure reports that workers may request pursuant to 32 Ill. Adm. Code 400.130?
- 2. Training [32 Ill. Adm. Code 351.610]
 - a. Training [32 Ill. Adm. Code Part 340]
 - i. Radiation safety program [32 Ill. Adm. Code 340.110]

1. Occupational exposure annual limits [32 Ill. Adm. Code 340.210, 32 Ill. Adm. Code 340.220]
2. Public annual dose limits [32 Ill. Adm. Code 340.310, 32 Ill. Adm. Code 340.320]
- ii. NRC Forms 4 and 5
- iii. 10 percent monitoring threshold [32 Ill. Adm. Code 340.520]
- iv. Dose limits to embryo/fetus and declared pregnant worker [32 Ill. Adm. Code 340.280]
- v. Procedures for opening packages [32 Ill. Adm. Code 340.960]
- vi. 32 Ill. Adm. Code Parts 400, 340, 330, 337, 351, and 341 reviewed, as applicable
- b. Have all logging supervisors received training as required pursuant to 32 Ill. Adm. Code 351.610(a)?
- c. Have all logging assistants received training as required pursuant to 32 Ill. Adm. Code 351.610(b)?
- d. Were safety reviews for logging supervisors and logging assistants provided at least once during the calendar year as required pursuant to 32 Ill. Adm. Code 351.610(c)?
- e. Are records maintained, at least 3 years, for each logging supervisor and logging assistant training and annual safety review?
- f. Are the subjects outlined in 32 Ill. Adm. Code 351.610(e) included in the training program?

RADIATION PROTECTION

1. Exposure evaluation performed [32 Ill. Adm. Code 340.510]?
2. As low as is reasonably achievable (ALARA) program implemented [32 Ill. Adm. Code 340.110(b)]?
3. External Dosimetry:
 - a. Monitors workers per [32 Ill. Adm. Code 340.520(a)]?
 - b. External exposures account for contributions from airborne activity [32 Ill. Adm. Code 340.230]?
 - c. Supplier _____ Frequency _____
 - d. Supplier is National Voluntary Laboratory Accreditation Program-approved [32 Ill. Adm. Code 340.510(d)(1)]?
 - e. Dosimeters exchanged at required frequency?
4. Internal Dosimetry:

- a. Monitors workers per 32 Ill. Adm. Code 340.520?
 - b. Program for monitoring and controlling internal exposures [32 Ill. Adm. Code 340.710, 32 Ill. Adm. Code 340.720] briefly described?
 - c. Monitoring/controlling program implemented (includes bioassays)?
 - d. Respiratory protection equipment [32 Ill. Adm. Code 340.730]?
5. Review of Records and Reports:
- a. Reviewed by _____ Frequency _____
 - b. Reviewed personnel monitoring records for period _____ to _____.
 - c. Prior dose determined for individuals likely to receive doses [32 Ill. Adm. Code 340.1140]?
 - d. Maximum exposures TEDE Other
 - e. Maximum committed dose equivalents (CDEs)
 - f. Maximum CEDE _____ Organs _____
 - g. Internal and external summed [32 Ill. Adm. Code 340.220]?
 - h. Occupational limits met for adults [32 Ill. Adm. Code 340.210]?
 - i. If applicable, occupational limits met for minors [32 Ill. Adm. Code 340.270]?
 - j. Records of Occupational Dose [32 Ill. Adm. Code 340.1140 and 32 Ill. Adm. Code 340.1160]?
 - k. If a worker declared her pregnancy during the audit period, was the dose in compliance [32 Ill. Adm. Code 340.280] and were the records maintained [32 Ill. Adm. Code 340.1160(d)]?
6. Any planned special exposures (number of people involved and doses received) [32 Ill. Adm. Code 340.260, 32 Ill. Adm. Code 340.1140, 32 Ill. Adm. Code 340.1150 and 32 Ill. Adm. Code 340.1240]?
7. Records of exposures, surveys, monitoring, and evaluations maintained [32 Ill. Adm. Code 340.1120, 32 Ill. Adm. Code 340.1130 and 32 Ill. Adm. Code 340.1160]?

RADIOACTIVE WASTE

- 1. Disposal:
 - a. Decay-in-storage [32 Ill. Adm. Code 340.1045]?
 - b. Procedures followed?
 - c. Labels removed or defaced [32 Ill. Adm. Code 340.940(b), 32 Ill. Adm. Code 340.1045]?
- 2. Special procedures performed as required?
- 3. Authorized disposals [32 Ill. Adm. Code 340.1010]?

4. Records maintained [32 Ill. Adm. Code 340.1130(a), 32 Ill. Adm. Code 340.1180, 32 Ill. Adm. Code 340.1045]?
5. Effluents:
 - a. Release to sanitary sewer [32 Ill. Adm. Code 340.1030]?
 - i. Material is readily soluble or readily dispersible [32 Ill. Adm. Code 340.1030(a)(1)]?
 - ii. Monthly average release concentrations do not exceed 10 CFR Part 20, Appendix B, Table 3 values?
 - iii. No more than 5 curies (Ci) (185 GBq) of tritium (H-3), 1 Ci (37 GBq) of carbon-14, and 1 Ci (37 GBq) of all other radionuclides combined, released in a year [32 Ill. Adm. Code 340.1030(a)(4)]?
 - iv. Procedures to ensure representative sampling and analysis implemented [32 Ill. Adm. Code 340.510]?
 - b. Release to septic tanks [32 Ill. Adm. Code 340.1030]? Within unrestricted limits [10 CFR Part 20, Appendix B, Table 3]?
 - c. Waste incinerated?
 - i. Exhaust directly monitored?
 - ii. Airborne releases evaluated and controlled [32 Ill. Adm. Code 340.320, 32 Ill. Adm. Code 340.510]?
 - d. Air effluents and ashes controlled [32 Ill. Adm. Code 340.110, 32 Ill. Adm. Code 340.210, 32 Ill. Adm. Code 340.310, 32 Ill. Adm. Code 340.510, 32 Ill. Adm. Code 340.1010]? (See also U.S. NRC Inspection Procedure 87102, RG 8.37.)
 - i. Air effluent less than 0.10 mSv [10 mrem] constraint limit [32 Ill. Adm. Code 340.110]?
 1. If no, reported appropriate information to IEMA?
 2. If no, corrective actions implemented and on schedule?
 - ii. Description of effluent program:
 - e. Monitoring system hardware adequate?
 - f. Equipment calibrated, as appropriate?
 - g. Air samples/sampling technique (e.g., charcoal, high-efficiency particulate air) analyzed with appropriate instrumentation?
6. Waste storage:
 - a. Protection from elements and fire?

- b. Control of waste maintained including constant surveillance of waste not in storage and secure from unauthorized removal or access for waste in storage [32 Ill. Adm. Code 340.810]?
 - c. Containers properly labeled and area properly posted [32 Ill. Adm. Code 340.920, 32 Ill. Adm. Code 340.940]?
 - d. Package integrity adequately maintained?
- 7. Waste disposal:
 - a. Sources transferred to authorized individuals [32 Ill. Adm. Code 340.1060, 32 Ill. Adm. Code 340.1010, 32 Ill. Adm. Code 330.400]?
 - b. Name of organization: _____.
 - c. Copy of waste disposal recipient's license on file?
- 8. Records of surveys and material accountability maintained [32 Ill. Adm. Code 340.1130, 32 Ill. Adm. Code 340.1180, 32 Ill. Adm. Code 340.1045]?

RECORDKEEPING FOR DECOMMISSIONING

- 1. Records of information important to the safe and effective decommissioning of the facility maintained in an independent and identifiable location until license termination [32 Ill. Adm. Code 330.310(k)]?
- 2. Records include all information outlined in 32 Ill. Adm. Code 330.310(k)?

TRANSPORTATION (32 ILL. ADM. CODE PART 341 AND 49 CFR 171-178)

- 1. Shipments are:
 - a. Delivered to common carriers?
 - b. Transported in own private vehicle?
 - c. Both?
 - d. No shipments since last audit?
- 2. Return radiopharmacy doses to drug manufacture or commercial nuclear pharmacy or sealed sources to source or device manufacturer?
 - a. Licensee assumes shipping responsibility?
 - b. If "NO," describe arrangements made between licensee and radiopharmacy for shipping responsibilities.
- 3. Packages:
 - a. Authorized packages used [49 CFR 173.415, 49 CFR 416]?
 - b. Performance test records on file?
 - i. DOT-7A packages
 - ii. Special form sources

- c. Two labels (White-I, Yellow-II, Yellow-III), on opposite sides not to include the bottom, with Transport Index (TI), Nuclide, Activity, and Hazard Class? [49 CFR 173.403, 49 CFR 415, 49 CFR 416]
 - d. Properly marked [Shipping Name, United Nations (UN) Number, Weight, Package Type, Reportable Quantity, “This End Up” (liquids), Name and Address of consignee] [49 CFR 172.403, 49 CFR 172.441, 49 CFR 173.471]?
 - e. Closed and sealed during transport [49 CFR 173.475(f)]?
4. Shipping Papers:
- a. Prepared and used [49 CFR 172.200(a)]?
 - b. Contain proper entries (Shipping Name; Hazard Class; Identification Number (UN Number); Total Quantity; Package Type; Nuclide; Reportable Quantity; Physical and Chemical Form; Activity; Category of Label; TI; Shipper’s Name, Certification and Signature; Emergency Response Telephone Number; “Limited Quantity” {(if applicable); “Cargo Aircraft Only” (if applicable)}) [49 CFR 172.200-204]?
 - c. Readily accessible during transport [49 CFR 177.817(e)]?
5. Any incidents reported to DOT [49 CFR 171.15, 171.16]?

OPERATING AND EMERGENCY PROCEDURES

- 1. Are procedures current? [32 Ill. Adm. Code 351.630]
- 2. Do the procedures contain the information specified in 32 Ill. Adm. Code 351.630?

SECURITY PROGRAM FOR CATEGORY 1 AND CATEGORY 2 MATERIALS [32 ILL. ADM. CODE PART 337]

- 1. Is access to the material controlled so that only authorized individuals can gain access to the material? Are personnel who have not been authorized escorted? [32 Ill. Adm. Code Part 337, Subpart B]
- 2. Have all personnel who have unescorted access to the material been deemed trustworthy and reliable, been fingerprinted, and been authorized in writing for access to the material? Is the list of authorized personnel up to date? [32 Ill. Adm. Code Part 337, Subpart B]
- 3. Is a system in place so that any unauthorized access to the material will be detected immediately? Are weekly verification checks conducted for Category 2 quantities of radioactive material? [32 Ill. Adm. Code 337.2050(a)]
- 4. Are procedures in place to ensure that any unauthorized access will be assessed to determine whether further response is required? If there have been any such accesses, was the procedure followed? [32 Ill. Adm. Code 337.2050(b)]
- 5. Is the security plan current? Is contact information for the local law enforcement agency current? [32 Ill. Adm. Code 337.2020(a)]
- 6. Is the security system operable? [32 Ill. Adm. Code 337.2060]

7. Does the security system have a dependable means of communication to notify assessment personnel? Do personnel have a dependable means of communication to notify response staff or local law enforcement? [32 Ill. Adm. Code 337.2050(c)]
8. Are all documents being retained as required? [32 Ill. Adm. Code 337.5020]
9. Is all sensitive information secured and protected in accordance with the procedure? Does the procedure address all required information? [32 Ill. Adm. Code 337.1060, 32 Ill. Adm. Code 337.2020(d)]
10. Have personnel with access to the material been trained on security procedures, including emergency response, notifications, and surveillance? [32 Ill. Adm. Code 337.2020(c)]
11. Are procedures in place to ensure the safe and secure transport of Category 1 and Category 2 radioactive sources or material? Were the procedures followed for preplanning, license verification, coordination, advance notification, physical protection, and reporting, as applicable? [32 Ill. Adm. Code 337.3010, 32 Ill. Adm. Code 337.3020, 32 Ill. Adm. Code 337.3030, 32 Ill. Adm. Code 337.3040, 32 Ill. Adm. Code 337.3050, and 32 Ill. Adm. Code 337.3060]
12. Is the security program content and implementation reviewed annually with records maintained for 3 years? [32 Ill. Adm. Code 337.2080]

NATIONALLY TRACKED SOURCES

1. Reports of transactions involving nationally tracked sources submitted to National Source Tracking System [32 Ill. Adm. Code 330.950]?

AUDITORS INDEPENDENT MEASUREMENTS

Survey Instrument Model	Serial Number	Calibration Date
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Describe the type, location, and results of measurements; attach a diagram/survey sheet.

NOTIFICATION AND REPORTS

1. In compliance with 32 Ill. Adm. Code 400.130 (reports to individuals, public and occupational, monitored to show compliance with 32 Ill. Adm. Code Part 340)?
2. In compliance with 32 Ill. Adm. Code 340.1210 (theft or loss)?
3. In compliance with 32 Ill. Adm. Code 340.1220(a) and (b) (overexposure and high radiation levels)?
4. Licensee in compliance with 32 Ill. Adm. Code 340.1220(c) (device defect)?
5. Aware of IEMA Operations Center telephone number [217-782-7860]?

6. In compliance with 32 Ill. Adm. Code 340.1230 (constraint on air emissions)?

POSTING AND LABELING

1. Agency Form KLA.001 "Notice to Employees" is posted [32 Ill. Adm. Code 400.110]?
2. 32 Ill. Adm. Code Parts 340 and 400, the license, the license conditions, any documents incorporated into the license by reference, amendments to these documents and operating procedures are posted, or a notice indicating where documents can be examined is posted [32 Ill. Adm. Code 400.110(a) and (b)]?
3. Other posting and labeling per 32 Ill. Adm. Code 340.920, 32 Ill. Adm. Code 340.940, and not exempted by 32 Ill. Adm. Code 340.930, 32 Ill. Adm. Code 340.950?

FIELD STATIONS AND TEMPORARY JOB SITES

1. Are documents and records required by 32 Ill. Adm. Code 351.730 available at each field station?
2. Are documents and records required by 32 Ill. Adm. Code 351.730 available at each temporary jobsite until the well logging operation is completed?

ABANDONMENT OF SOURCES

1. Is well logging with a sealed source performed only after obtaining a written agreement with the employing well owner or operator? [32 Ill. Adm. Code 351.150]
2. Do written agreements with well owners or operators include the items contained in 32 Ill. Adm. Code 351.150?
3. Is well logging with an unsealed material performed only after obtaining a written agreement with the employing well owner or operator?
4. Do written agreements with well owners or operators include the items contained in criteria of section 8.10.1 for unsealed material?
5. During the audit period, did any events occur requiring reporting under 32 Ill. Adm. Code 351.770?

IEMA AND U.S. NRC CORRESPONDENCE

1. Bulletins, INs, Newsletters, etc., received and reviewed, as applicable? Persons identified to IEMA as an individual authorized to speak and act on behalf of the license, are automatically included in email distributions. Appropriate action taken in response to Bulletins, Generic Letters, etc.?

INTERNAL AUDITS OR INSPECTIONS

1. Internal audits are conducted?
 - a. Audits conducted by
 - b. Frequency
2. Content and implementation of the radiation protection program reviewed at least annually? [32 Ill. Adm. Code 340.110 (c)]

3. Records are maintained in accordance with 32 Ill. Adm. Code 340.1120 requirements?

DEFICIENCIES IDENTIFIED IN AUDIT; CORRECTIVE ACTIONS

1. Summarize problems/deficiencies identified during the audit.
2. If problems/deficiencies were identified in this audit, describe corrective actions planned or taken by the facility. Include date(s) when corrective actions are implemented.
3. Provide any other recommendations for improvement.

LICENSE CONDITIONS OR ISSUES

1. Review the license conditions, IEMA-OHS, the NRC or Agreement State violations, Orders, Confirmatory Action Letter, site-specific procedures and other safety or security issues, and describe any findings.
2. Were problems or deficiencies identified at licensee facilities other than at audit location?

PERFORMANCE-BASED REVIEW

1. Conduct performance-based reviews of radiation workers performing licensed activities:
 - a. To assess the capability of the radiation workers to maintain exposures ALARA.
 - b. To assess that radiation workers follow the operating procedures.
 - c. To assess the effectiveness of the operating procedures and compliance with the regulations, license conditions and the license commitments submitted in support of a license. (and incorporated by “tie-down” conditions)
 - d. To ensure the safe and secure use of radioactive material.
 - e. To verify that radiation workers are cognizant of the emergency procedures and, if necessary, would be able to implement them and maintain exposures ALARA.
 - f. To ensure that emergency procedures have been developed for all likely scenarios.
2. Take the necessary actions to address programmatic and performance deficiencies with radiation workers and facilitate immediate corrective measures.

NOTE: Performance-based review may include observation of licensed activities, review of records, and interviews with key personnel.

EVALUATION OF OTHER FACTORS

1. Are senior licensee management appropriately involved with the radiation safety program and RSO oversight?
2. Does the RSO have sufficient time to perform his/her radiation safety duties and is not too busy with other assignments?
3. Does the licensee have sufficient staff for the radiation safety and security programs?

AUDITS AND FINDINGS

1. Summary of findings.
2. Corrective and preventive actions.
3. Amendment required?

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Notification of Proper Persons in the Event of an Accident

Name*	Work Phone Number*	Home Phone Number*
Radiation Safety Officer (RSO)		
Senior Logging Supervisors		
Manufacturers/Distributors		
Consultant		
*Fill in with (and updated, as needed) the names and telephone numbers of appropriate personnel [e.g., the Radiation Safety Officer (RSO) or other knowledgeable licensee staff, licensee's consultant, device manufacturer] to be contacted in case of emergency.		

Follow the directions provided by the person contacted above. RSO and licensee management discuss emergency operating procedures and ensure no operations are conducted until the situation has been discussed with and approved by the RSO or other knowledgeable staff, consultants, or the device manufacturer. Management should have access to emergency equipment to keep doses as low as is reasonably achievable. Emergency equipment may include special radiation survey equipment required by 32 Ill. Adm. Code 351.330(b).

Notify local authorities as well as the IEMA-OHS, as required. (Even if notification is not required, ANY incident may be reported to the IEMA-OHS by calling IEMA-OHS's Emergency Operations Center at 217-782-7860, which is staffed 24 hours a day and accepts collect calls.) IEMA-OHS notification is required when sources or devices containing licensed material are lost or stolen and when sealed or unsealed radioactive material or equipment is involved in incidents that may have caused or that threaten to cause an exposure in excess of the limits in 32 Ill. Adm. Code 340.1220, "Notification of incidents,". Reports to the IEMA-OHS must be made within the reporting time frames specified by the regulations. In addition, under 32 Ill. Adm. Code 337.2010(a)(3), any licensee that has not previously implemented the security requirements or been subject to the provisions of 32 Ill. Adm. Code 337, Subpart C shall notify the IEMA-OHS at least 90 days before aggregating radioactive material to a quantity that equals or exceeds the Category 2 threshold. Reporting of an unauthorized entry that results in an actual or attempted theft, sabotage, or diversion of a Category 1 or Category 2 quantity of radioactive material or any suspicious activity related to possible theft, sabotage, or diversion of a Category 1 or Category 2 quantity of radioactive material must be reported to the local law enforcement agency and IEMA-OHS per 32 Ill. Adm. Code 337.2090.

REMINDERS TO RSO

1. Supervise corrective measures and confirm exposures have returned to appropriate levels. Review security of sources and measures to prevent unauthorized access.
2. In the event of contamination, supervise and confirm decontamination of personnel. If decontamination of personnel was not fully successful, consider inducing perspiration by covering the area with plastic. Then wash the affected area again to remove any contamination that was released by the perspiration.
3. Document time and proximity of associated personnel to sources of radiation. Document all surveys including the location of surveys.

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4. Document decontamination results, including all surveys, location of surveys, and decontamination results.
5. Evaluate and determine personnel radiation exposure. Beta emitting radionuclides could have a potential for resulting in a shallow-dose exposure in excess of regulatory limits from μCi quantities of contamination.
6. Determine cause and needed corrective actions; consider need for bioassays if licensed material may have been ingested, inhaled, or absorbed through the skin.
7. If necessary, notify IEMA-OHS.

NOTE: The following list of notification and reporting requirements is provided to inform licensees about typical notification and reporting requirements that apply to their licensed activities. Licensees should note that the list is incomplete in that not all potentially applicable requirements have been included. Also, notification and reporting requirements change; therefore, licensees should consult the regulations for definitive information about current requirements.

Typical IEMA-OHS Notifications and/or Reports			
Event	Telephone Notification	Written Report	Regulatory Requirement
Package received with removable radioactive surface contamination exceeding the limits of 32 IAC 341.10 (49 CFR 173.443); or external radiation levels exceeding the limits of 32 IAC 341.10 (49 CFR 173.443).	Immediate (IEMA-OHS) and final delivery carrier must be notified)	None	32 IAC 340.960(d)
Credible threat to radioactive material	1 hour	None	32 IAC 340.1205
Theft or loss of material	Immediate	30 days	32 IAC 340.1210(a) and (b), 32 IAC 351.370
Whole body dose greater than 0.25 Sieverts (Sv) [25 rem]	Immediate	30 days	32 IAC 340.1220(a)(1)(A), 32 IAC 340.1230(a)
Extremity dose greater than 2.5 Gray [250 rads]	Immediate	30 days	32 IAC 340.1220(a)(1)(C), 32 IAC 340.1230(a)
Whole body dose greater than 0.05 Sv [5 rem] in 24 hours	24 hours	30 days	32 IAC 340.1220(b)(1)(A), 32 IAC 340.1230(a)
Extremity dose greater than 0.5 Sv [50 rem] in 24 hours	24 hours	30 days	32 IAC 340.1220(b)(1)(C), 32 IAC 340.1230(a)
Doses in excess of specified criteria	None	30 days	32 IAC 340.1230(a)(2)
Levels of radiation or concentrations of radioactive material in excess of specified criteria	None	30 days	32 IAC 340.1230(a)(3) 32 IAC 340.1230(a)
Planned special exposures	None	30 days	32 IAC 340.1240
Report to individuals of exceeding dose limits	None	30 days	32 IAC 340.1250
Report of individual monitoring	None	Annually	32 IAC 400.130

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Typical IEMA-OHS Notifications and/or Reports			
Event	Telephone Notification	Written Report	Regulatory Requirement
Event that prevents immediate protective actions necessary to avoid exposures to radiation or radioactive materials that could exceed regulatory limits	Immediate (not more than 4 hours after discovery)	30 days	32 IAC 340.1220(a) 32 IAC 340.1230
Equipment is disabled or fails to function as designed when required to prevent radiation exposure in excess of regulatory limits	24 hours	30 days	32 IAC 340.1220(c)(2) 32 IAC 340.1230
Unplanned fire or explosion that affects the integrity of any licensed material or device, container, or equipment with licensed material	24 hours	30 days	32 IAC 340.1220(c)(4) 32 IAC 340.1230
An event that requires unplanned medical treatment at a medical facility of an individual with radioactive contamination on the individual's clothing or body	24 hours	30 days	32 IAC 340.1220(c)(3) 32 IAC 340.1220(a)(1)
Sealed source has been ruptured	Immediately	30 days	32 IAC 351.770(a)
Sealed source becomes lodged in a well and it is apparent that recovery will not be successful	Immediately	30 days	32 IAC 351.770(c) and (d)
Leaking or contaminated source	None	5 days	32 IAC 340.1260 32 IAC 330.220(a)(3)(E) 32 IAC 351.350(d)(2)
Determination that any licensee that has not previously implemented the security requirements or been subject to the provisions of 32 IAC Part 337, Subpart C will aggregate radioactive material to a quantity that equals or exceeds the Category 2 threshold	None	90 days before aggregating radioactive material to a quantity that equals or exceeds the Category 2 threshold	32 IAC 337.2010(a)(3)
Coordination with local law enforcement agency (LLEA) has failed, either because the LLEA has not responded or because the LLEA does not plan to participate	3 business days	None; however, licensees must document their efforts to coordinate with the LLEA and keep this documentation for 3 years	32 IAC 337.2030(b)
Determination that an unauthorized entry resulted in an actual or attempted theft, sabotage, or diversion of Category 1 or Category 2 quantity of radioactive material	As soon as possible (but not at the expense of causing delay or interfering with the LLEA response), but no later than 4 hours after discovery	30 days	32 IAC 337.2090(a) 32 IAC 337.2090(c)

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Typical IEMA-OHS Notifications and/or Reports			
Event	Telephone Notification	Written Report	Regulatory Requirement
Assessment of any suspicious activity related to possible theft, sabotage, or diversion of Category 1 or Category 2 quantities of radioactive material	As soon as possible, but no later than 4 hours after notifying the LLEA	None	32 IAC 337.2090(b)
Determination that a shipment containing a Category 1 quantity of material is lost or missing in transport	Within 1 hour of the determination. Also, notify LLEA within 1 hour of determination	30 days and periodic updates (if subsequent substantive information)	32 IAC 337.3060(a) 32 IAC 337.3060(g) 32 IAC 337.3060(h)
Determination that a shipment containing a Category 2 quantity of material is lost or missing in transport	Within 4 hours of the determination and again within 24 hours if the material has not yet been located and secured	30 days and periodic updates (if subsequent substantive information)	32 IAC 337.3060(b) 32 IAC 337.3060(g) 32 IAC 337.3060(h)
Discovery along the route of any actual or attempted theft or diversion, or suspicious activity, related to a Category 1 quantity of material in transport	As soon as possible upon discovery. Also notify LLEA as soon as possible upon discovery	30 days (except no report for suspicious activity) and periodic updates after report (if subsequent substantive information)	32 IAC 337.3060(c) 32 IAC 337.3060(g) 32 IAC 337.3060(h)
Discovery of any actual or attempted theft or diversion, or suspicious activity, related to a Category 2 quantity of material in transport	As soon as possible	30 days (except no report for suspicious activity) and periodic updates after report (if subsequent substantive information)	32 IAC 337.3060(d) 32 IAC 337.3060(g) 32 IAC 337.3060(h)
Upon recovery of any lost or missing Category 1 quantity of material	As soon as possible. Also notify the LLEA as soon as possible	To be included in the 30-day report of an event described in 32 IAC 337.3060(g), if recovered during that time or in a subsequent update	32 IAC 337.3060(e) 32 IAC 337.3060(h)

Note: Telephone notifications shall be made to the IEMA Operations Center at 217-782-7860, except as noted. The Center is staffed 24 hours a day.

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Duties and Responsibilities of the Radiation Safety Officer

Among the specific duties and responsibilities of the RSO are the following:

1. Stop activities involving licensed material that the RSO considers unsafe.
2. Possession, use, storage, routine maintenance, and non-routine operations of sealed source and devices are consistent with the limitations in the license, the Sealed Source and Device Registration certificate(s), and the manufacturer's recommendations and instructions.
3. Assure that only individuals properly trained and authorized by the license use radioactive material.
4. Radiation exposures are kept as low as is reasonably achievable (ALARA).
5. Assure that radioactive material possessed by the licensee conforms to the material authorized by the license.
6. Instruct personnel in proper radiation protection practices and maintain training records.
7. Documentation is maintained to demonstrate, by measurement or calculation, that the total effective dose equivalent (TEDE) to the individual member of the public likely to receive the highest dose from the licensed operation does not exceed the annual limit in Part 340.310.
8. Assure that personnel monitoring devices are used where indicated, exchanged at required intervals and that records are maintained of the results of such monitoring.
9. Up-to-date operating, emergency and security procedures are developed, implemented, maintained, and distributed.
10. For applicants who perform their own maintenance, repair or analysis of test samples for leakage and/or contamination (leak/wipe tests), conduct radiation monitoring where indicated and keep records of such monitoring, including summaries of corrective measures recommended and/or instituted.
11. Ensure non-routine operations are performed by the manufacturer, distributor, or person specifically authorized by IEMA-OHS, the NRC or an Agreement State.
12. Ensure safety consequences of non-routine operations are analyzed before conducting any such activities that have not been previously analyzed.
13. Assure that licensed materials are properly secured against unauthorized removal at all times when they are not in use, including storage at temporary job sites.
14. Investigate each known or suspected case of excessive or abnormal exposure to determine the cause and take steps to prevent its recurrence.
15. Assure that the proper authorities (i.e., IEMA-OHS, local police, U.S. Department of Transportation, etc.) are notified promptly in case of accident, damage, theft or loss of licensed materials.
16. Unusual occurrences involving a sealed source or device (e.g., malfunctions, accident, damage, theft, etc.) are investigated, cause(s) and appropriate corrective action are identified, and corrective action is taken.

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17. Be immediately available to serve as a point of contact with the Agency and give assistance in case of emergency (e.g., portable gauge damage, fire, theft, etc.).
18. Assure that the Radiation Protection Program is implemented and reviews are performed in accordance with the regulations. When the licensee identifies violation(s) of regulations or license conditions or program weaknesses, corrective action(s) are developed, implemented and documented.
19. Audits are performed at least annually and documented, and corrective actions are taken.
20. Assure that the terms and conditions of the license (e.g., periodic leak/wipe tests, inventories, etc.) are met and that the required records (e.g., personnel exposure, leak/wipe test, accountability, inventory, etc.) are maintained and periodically reviewed for compliance with IEMA-OHS regulations and license conditions.
21. Assure that the licensed materials are transported in compliance with all applicable IEMA-OHS and U.S. Department of Transportation regulations (e.g., labeling, marking, shipping papers, container blocking and bracing, etc.).
22. An up-to-date license is maintained and amendment and renewal requests are submitted in a timely manner.
23. Ensure all licensed radioactive material is properly transferred and disposed and the appropriate records are maintained.
24. Documents are posted as required by 32 Ill. Adm. Code 400.110: regulations, license and associated documents, operating procedures and notice of violation or order or posting a notice indicating where these documents can be examined. Licensees are also required to post Agency form KLA.001, "Notice to Employees".
25. If the licensee possesses an aggregated Category 1 or Category 2 quantity of radioactive material, support development and implementation of a security program for radioactive material in accordance with 32 Ill. Adm. Code 337.

Appendix P

Model Delegation of Authority to Radiation Safety Officer

Memo To: Radiation Safety Officer
From: Chief Executive Officer
Subject: **Delegation of Authority**

You, _____, have been appointed radiation safety officer and are responsible for ensuring the safe use of radiation. You are responsible for managing the Radiation Protection Program; identifying radiation protection problems; initiating, recommending, or providing corrective actions; verifying implementation of corrective actions; stopping unsafe activities; and ensuring compliance with regulations. You are hereby delegated the authority necessary to meet those responsibilities, including prohibiting the use of radioactive material by employees who do not meet the necessary requirements and shutting down operations, when justified, to maintain radiation safety. You are required to notify management if staff does not cooperate and does not address radiation safety issues. In addition, you are free to raise issues with the Illinois Emergency Management Agency and Office of Homeland Security at any time. It is estimated that you will spend _____ hours per week conducting radiation protection activities.

I accept the above responsibilities,

Signature of Radiation Safety Officer

Date

RSO Printed Name

RSO Email

RSO Work Address

RSO Phone and/or Mobile Number

Signature of Management Representative

Date

cc: Affected department head