May 21, 2013

Joseph G. Klinger, Assistant Director
Illinois Emergency Management Agency
Division of Nuclear Safety
2200 South Dirksen Parkway
Springfield, IL 62703

Dear Mr. Klinger:

The U.S. Nuclear Regulatory Commission (NRC) uses the Integrated Materials Performance Evaluation Program (IMPEP) in the evaluation of Agreement State programs. Enclosed for your review is the draft IMPEP report, which documents the results of the Agreement State review held in Illinois on April 22-26, 2013. I was the team leader for the review. The review team's preliminary findings were discussed with you and your staff on the last day of the review. The review team's proposed recommendations are that the Illinois Agreement State Program be found adequate to protect public health and safety and compatible with the NRC's program.

The NRC conducts periodic reviews of Agreement State programs to ensure that public health and safety are adequately protected from the potential hazards associated with the use of radioactive materials and that Agreement State programs are compatible with the NRC's program. The process, titled IMPEP, employs a team of the NRC and Agreement State staff to assess Agreement States' and the NRC Regional Offices' radioactive materials programs. All reviews use common criteria in the assessment and place primary emphasis on performance. Three additional areas applicable to your program have been identified as non-common performance indicators and are also addressed in the assessment. The final determination of adequacy and compatibility of each Agreement State program, based on the review team's report, is made by a Management Review Board (MRB) composed of NRC managers and an Agreement State program manager who serves as a liaison to the MRB.

In accordance with procedures for implementation of IMPEP, we are providing you with a copy of the draft team report for your review and comment prior to submitting the report to the MRB. Comments are requested within 4 weeks from your receipt of this letter. This schedule will permit the issuance of the final report in a timely manner that will be responsive to your needs.

The team will review the response, make any necessary changes to the report, and issue it to the MRB as a proposed final report. Our preliminary scheduling places the Illinois MRB meeting on July 8, 2013. The NRC will provide invitational travel for you or your designee to attend the MRB meeting at the NRC Headquarters in Rockville, Maryland. The NRC has video conferencing capability if it is more convenient for the State to participate through this medium. Please contact me if you desire to establish a video conference for the meeting.

If you have any questions regarding the enclosed report, please contact me at (610) 337-5371.

Thank you for your cooperation.

Sincerely,

/RA S. Poy for/

Donna M. Janda
Regional State Agreements Officer
Division of Nuclear Materials Safety

Enclosure:
Illinois IMPEP Draft Report

cc w/ encl: Don Agnew, Acting Chief
Bureau of Radiation Safety

Gibb Vinson, Head
Radioactive Materials Section

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF THE ILLINOIS AGREEMENT STATE PROGRAM

APRIL 22-26, 2013

DRAFT REPORT

Enclosure

EXECUTIVE SUMMARY

This report presents the results of the Integrated Materials Performance Evaluation Program (IMPEP) review of the Illinois Agreement State Program. The review was conducted during the period of April 22-26, 2013, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC), the State of Colorado, and the State of Texas.

Based on the results of this review, Illinois performance was found satisfactory for all indicators reviewed. The review team did not make any recommendations regarding program performance by the State and determined that the recommendation from the 2009 IMPEP review, regarding issuance of inspection findings to licensees within the State's required timeframe, should be closed.

Accordingly, the review team recommends that the Illinois Agreement State Program is adequate to protect public health and safety and is compatible with the NRC's program. The review team recommends that the next IMPEP review take place in approximately five years.

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1.0 INTRODUCTION

This report presents the results of the review of the Illinois Agreement State Program. The review was conducted during the period of April 22 – 26, 2013, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC), the State of Colorado, and the State of Texas. Team members are identified in Appendix A. The review was conducted in accordance with the "Implementation of the Integrated Materials Performance Evaluation Program and Rescission of Final General Statement of Policy," published in the *Federal Register* on October 16, 1997, and NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)," dated February 26, 2004. Preliminary results of the review, which covered the period of May 16, 2009 to April 26, 2013, were discussed with Illinois managers on the last day of the review.

[A paragraph on the results of the Management Review Board (MRB) meeting will be included in the final report.]

The Illinois Agreement State Program is administered by the Radioactive Materials Section (the RAM Section), which is located within the Bureau of Radiation Safety (the Bureau), with uranium recovery, decommissioning and financial assurance support from the Environmental Management Section (the EM Section) of the Bureau of Environmental Radiation Safety. In addition, since 2012, the Bureau of Environmental Safety took the lead for monitor trip response. Both Bureaus are part of the Illinois Emergency Management Agency (the Agency). Organization charts for the Agency, the Bureau, and the Bureau of Environmental Radiation Safety are included as Appendix B.

At the time of the review, the Illinois Agreement State Program regulated 685 specific licenses authorizing possession and use of radioactive materials. The review focused on the radioactive materials program as it is carried out under the Section 274b. (of the Atomic Energy Act of 1954, as amended) Agreement between the NRC and the State of Illinois.

In preparation for the review, a questionnaire addressing the common and applicable non-common performance indicators was sent to the Bureau on January 31, 2013. The Bureau provided its response to the questionnaire on April 2, 2013, and an updated response on April 26, 2013. A copy of the questionnaire response can be found in NRC's Agencywide Documents Access and Management System (ADAMS) using the Accession Number ML13126A084.

The review team's general approach for conduct of this review consisted of (1) examination of the Bureau's response to the questionnaire, (2) review of applicable Illinois statutes and regulations, (3) analysis of quantitative information from the RAM Section's database, (4) technical review of selected regulatory actions, (5) field accompaniments of four inspectors, and (6) interviews with staff and managers. The review team evaluated the information gathered against the established criteria for each common and the applicable non-common performance indicator and made a preliminary assessment of the Illinois Agreement State Program's performance.

Section 2.0 of this report covers the State's actions in response to the recommendation made during the previous review.

Results of the current review of the common performance indicators are presented in Section 3.0. Section 4.0 details the results of the review of the applicable non-common performance indicators, and Section 5.0 summarizes the review team's findings.

2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

During the previous IMPEP review, which concluded on May 15, 2009, the review team made one recommendation regarding the Illinois Agreement State Program's performance. The status of the recommendation is as follows:

> Recommendation: The review team recommends that the State provide inspection documentation to its licensees within 30 days of a completed inspection in accordance with the Section's policies and procedures. (Section 3.2 of the 2009 IMPEP Report)
>
> Status: The review team evaluated the RAM Section's timeliness in providing inspection findings to licensees. The RAM Section's policy is to issue inspection findings to licensees within 30 days from the date of the inspection. Since the 2009 IMPEP review, the RAM Section refined their inspection documentation process, including the use of inspection forms similar to NRC Form 591, which can be used to close out inspection documentation while in the field. Inspection documentation is also tracked by the Bureau Chief on a monthly basis. Based on a review of 48 inspection cases, the review team identified one inspection report that was issued beyond the RAM Section's goal of 30 days after the inspection. This recommendation is closed.

3.0 COMMON PERFORMANCE INDICATORS

Five common performance indicators are used to review NRC regional and Agreement State radioactive materials programs. These indicators are (1) Technical Staffing and Training, (2) Status of Materials Inspection Program, (3) Technical Quality of Inspections, (4) Technical Quality of Licensing Actions, and (5) Technical Quality of Incident and Allegation Activities.

3.1 Technical Staffing and Training

Considerations central to the evaluation of this indicator include the RAM and EM Sections' staffing levels and staff turnover, as well as the technical qualifications and training histories of the staff. To evaluate these issues, the review team examined the Bureau's questionnaire response relative to this indicator, interviewed managers and staff, reviewed job descriptions and training records, and considered workload backlogs.

The RAM Section, which is supervised by the Section Head, is divided into three units: Materials Licensing, Inspection and Enforcement, and Materials Security. The RAM Section is responsible for licensing, inspection, and incident response activities. At the time of the review, there were 14 technical staff members and supervisors in the Bureau with various degrees of involvement in the radioactive materials program, totaling approximately 13.7 full-time equivalents (FTE).

Since the 2009 IMPEP review, five individuals left the radioactive materials program, including the Bureau Chief, Acting Materials Licensing Supervisor, and three technical staff members.

Five individuals were hired into the RAM Section, including four license reviewers and one inspector. Two positions were vacant at the time of this review including the Bureau Chief position. The license reviewer/regulations position has been vacant since January 1, 2012. The position will be posted once approval is granted. The Bureau Chief's position has been vacant since January 1, 2013. The Electronic Products Section Head is currently serving as the Acting Bureau Chief until the position is permanently filled.

The EM Section, which is supervised by the Section Head, is divided into three units: Environmental Monitoring, Environmental Compliance, and Low Level Radioactive Waste (LLRW) & Decommissioning. The EM Section employs one full-time technical staff member as a resident inspector at the former uranium recovery site in West Chicago. At the time of the review, there were five technical staff members and managers, totaling approximately 3.7 FTE, in the EM Section who provide technical support to the Bureau by managing the uranium recovery, financial assurance, and orphan source programs. They also provide decommissioning and license termination support. In addition, since 2012, the Bureau of Environmental Safety took the lead for monitor trip response.

Since the 2009 IMPEP review, four individuals left the Bureau of Environmental Safety, including the Bureau Chief and staff from the LLRW and Decommissioning Unit. All of these positions have been filled. At the time of this review, there were no vacant positions in the LLRW and uranium recovery programs.

The Bureau of Environmental Safety also uses approximately four FTE from contractor personnel for engineering technical support for license review and evaluation and construction oversight of decommissioning activities at the site. Bureau and contractor staffing levels have remained stable throughout the IMPEP review period. The staff has expertise in various technical disciplines including health physics, geology, hydrology, environmental laboratory analysis and engineering.

The review team determined that staffing levels in both the RAM Section and EM Section were adequate for the Agreement State program.

The RAM Section has a documented training plan for technical staff that is consistent with the requirements in the NRC/Organization of Agreement States Training Working Group Report and NRC's Inspection Manual Chapter (IMC) 1246, "Formal Qualification Programs in the Nuclear Material Safety and Safeguards Program Area." This training and qualification plan includes a plan for the EM Section staff positions which provide technical support to the radioactive materials program. The new RAM Section license reviewers and materials inspector are in various stages of their qualification process. Qualification is achieved through a combination of education and experience, formal classroom training, and on-the-job training. Staff members are required to have a Bachelor's degree or equivalent experience in a physical or biological science or engineering. The review team concluded that the RAM Section's training program is adequate to carry out its regulatory duties and noted that Illinois management supports the training program.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Technical Staffing and Training, be found satisfactory.

3.2 Status of Materials Inspection Program

The review team focused on five factors while reviewing this indicator: inspection frequency, overdue inspections, initial inspections of new licenses, timely dispatch of inspection findings to licensees, and performance of reciprocity inspections. The review team's evaluation was based on the Bureau's questionnaire response relative to this indicator, data gathered from the RAM Section's database, examination of completed inspection casework, and interviews with managers and staff members.

The RAM Section tracks all inspection activities in a computer database. The review team observed that the database could easily be queried by managers and staff to determine the inspection status for any licensed facility. In addition, the RAM Section maintains separate records reflecting which reciprocity licenses are candidates for inspection on a calendar year basis. The RAM Section's database identified these licensees as "current" or "not current" on a calendar year basis.

The review team concluded that the RAM Section's inspection frequencies for all types of radioactive materials licenses are at least as frequent as those listed in NRC's Inspection Manual Chapter (IMC) 2800, "Materials Inspection Program." The review team confirmed the RAM Section is conducting Increased Controls inspections in conjunction with the routine health and safety inspections.

The RAM Section conducted 655 Priority 1, 2, and 3 inspections during the review period based on the inspection frequencies established in IMC 2800. Three of these inspections were conducted overdue by more than 25 percent of the inspection frequency prescribed in IMC 2800. The review team verified there were no overdue routine Priority 1, 2, and 3 inspections at the time of the review. In addition, the RAM Section performed 21 initial inspections during the review period. All initial inspections were conducted within 12 months after license issuance as prescribed by IMC 2800. Overall, the review team calculated that that the RAM Section performed less than one percent of its Priority 1, 2, and 3 and initial inspections overdue during the review period.

The review team evaluated the RAM Section's timeliness in providing inspection findings to licensees. The RAM Section's policy is to issue inspection findings to licensees within 30 days from the date of the inspection. All inspection reports are submitted for a supervisory review. Based on a review of 48 inspection cases, the review team identified one inspection report that was issued beyond the RAM Section's goal of 30 days after the inspection.

The RAM Section's reciprocity inspection goals are equivalent to the requirements in IMC 1220, "Processing of NRC Form 241 and Inspection of Agreement State Licensees Operating under 10 CFR150.20," which is 20 percent of candidate licensees. During the review period, the RAM Section granted 67 reciprocity permits and exceeded the NRC's criteria of inspecting 20 percent of candidate licensees operating under reciprocity in each of the four years covered by the review period.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Status of Materials Inspection Program, be found satisfactory.

3.3 Technical Quality of Inspections

The review team evaluated inspection reports, enforcement documentation, and inspection field notes for 27 radioactive materials inspections conducted during the review period. The casework reviewed included inspections conducted by one former and seven current RAM Section inspectors and one EM Section inspector and covered inspections of various license types, including: medical broad scope, high dose rate remote afterloader (HDR), positron emission tomography, portable gauge, industrial radiography, panoramic irradiator, gamma knife, nuclear pharmacy, mobile nuclear medicine, manufacturing, well logging, decommissioning, and reciprocity, as well as initial and Increased Controls inspections. Appendix C lists the inspection casework files reviewed as well as the results of the inspector accompaniments.

Based on the evaluation of casework, the review team determined that inspections covered all aspects of the licensees' radiation safety programs. The review team found that inspection reports were thorough, complete, consistent, and of high quality, with sufficient documentation to ensure that licensee performance with respect to health, safety, and security was acceptable. The review team noted that the inspections covered the Increased Controls, fingerprinting, and the National Source Tracking System when appropriate. Inspection report documentation supported violations, recommendations made to licensees, unresolved safety issues, the effectiveness of corrective actions taken to resolve previous violations and discussions held with licensees during exit interviews. The review team noted that inspectors worked as a team for large, complex licensees and for training purposes.

The RAM Section's inspection procedures are consistent with the inspection guidance in IMC 2800. Inspectors have the option to issue inspection results on a form similar to NRC's Form 591 or to send results from the office. All inspection documentation sent from the office is dispatched under the signature of the Inspection and Enforcement Unit Supervisor, or the Licensing Security Manager for security inspections. When the RAM Section issues a Notice of Violation (NOV) in letter format, the licensee is required to provide a written corrective action plan, based on the violations cited, within 30 days.

The review team verified that the RAM Section has an adequate supply of survey instruments to support the inspection program. The State has its own accredited calibration laboratory in Springfield. The State Radiation Safety Officer heads the lab and is responsible for ensuring that the calibration lab maintains its accreditation and that survey instruments are properly calibrated and distributed. The RAM Section receives laboratory and sample analysis support from the State laboratory.

The RAM Section has a policy to perform supervisory accompaniments of all inspectors annually. The supervisor in the Chicago area office performs accompaniments for the inspectors in that area annually. The Inspection and Enforcement Unit Supervisor accompanies the one inspector in the southern part of the State annually.

The review team accompanied four RAM Section inspectors in March 2013 during health and safety inspections of industrial radiography, panoramic irradiator, medical therapy, and gamma knife licensees. Two of the inspections included a review of the licensees' implementation of the Increased Controls. Appendix C lists the inspector accompaniments. The inspectors

demonstrated appropriate inspection techniques, knowledge of the regulations, and conducted performance- based inspections. The inspectors were trained, well-prepared for the inspection, and thorough in their audits of the licensees' radiation safety programs. The inspectors conducted interviews with appropriate personnel, observed licensed operations, conducted confirmatory measurements, and utilized good health physics practices. The inspections were adequate to assess radiological health and safety and security at the licensed facilities.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Technical Quality of Inspections, be found satisfactory.

3.4 Technical Quality of Licensing Actions

The review team examined completed licensing casework and interviewed license reviewers for 23 specific licensing actions. Licensing actions were reviewed for completeness, consistency, proper radioisotopes and quantities, qualifications of authorized users, adequacy of facilities and equipment, adherence to good health physics practices, financial assurance, operating and emergency procedures, appropriateness of license conditions, and overall technical quality. The casework was also reviewed for timeliness, use of appropriate deficiency letters and cover letters, reference to appropriate regulations, supporting documentation, consideration of enforcement history, pre-licensing visits, peer/supervisory review, and proper signatures.

The licensing casework was selected to provide a representative sample of licensing actions completed during the review period. Licensing actions selected for evaluation included 4 new licenses, 6 renewals, 1 decommissioning and termination action, and 12 amendments. Files reviewed included a cross-section of license types, including: academic broadscope, medical diagnostic and therapy (including: mobile services, high dose rate remote afterloader, unsealed therapy, and brachytherapy), industrial radiography, research and development, nuclear pharmacy, portable and fixed gauges, manufacturer and distribution, panoramic and self-shielded irradiators, service providers, veterinary, measuring systems, and well logging. The casework sample represented work from eight license reviewers. A list of the licensing casework evaluated is provided in Appendix D.

Overall, the review team found that the licensing actions were thorough, complete, consistent, and of high quality with health, safety, and security issues properly addressed. License tie-down conditions were stated clearly and were supported by information contained in the file. Deficiency letters clearly stated regulatory positions, were used at the proper time, and identified substantive deficiencies in the licensees' documents. Terminated licensing actions were well documented, showing appropriate transfer and survey records. License reviewers use both the RAM Section's licensing guides and NRC NUREG-1556 series guidance documents, policies, checklists, and standard license conditions specific to the type of licensing actions to ensure consistency in licenses.

All licensing actions are signed by the Licensing Supervisor or other management personnel. The four main license reviewers are new to the program since the last IMPEP review and are in various stages of their training and qualification process. A secondary review is conducted for all licensing actions, usually by the Licensing Supervisor, but occasionally by one of the other managers with appropriate signature authority. Licenses are issued for a five-year period under a timely renewal system.

Based on the casework evaluated, the review team concluded that the licensing actions were of high quality and consistent with the RAM Section's licensing procedures and/or NUREG-1556 guidance documents, the State's regulations, and good health physics practices. The review team attributed the consistent use of templates, second reviews, and quality assurance audits to the overall quality noted in the casework reviews.

The RAM Section performs pre-licensing checks of all new applicants and existing licenses requesting a new location of use. The RAM Section's pre-licensing review methods incorporate the essential elements of NRC's revised pre-licensing guidance to verify that the applicant will use requested radioactive materials as intended. All new licensees and existing licenses requesting a new location of use receive a pre-licensing site visit which includes an evaluation of the applicant's radiation safety and security programs prior to receipt of the initial license.

The review team examined the RAM Section's licensing practices regarding the Increased Controls and Fingerprinting Orders. The review team noted that the State uses legally binding license conditions that meet the criteria for implementing the Increased Controls Orders, including fingerprinting, as appropriate. The review team analyzed the RAM Section's methodology for identifying those licenses and found the rationale was thorough and accurate. The review team confirmed that license reviewers evaluated new license applications and license amendments using the same criteria. The RAM Section requires full implementation of the Increased Controls prior to issuance of a new license or license amendment that meets the established criteria.

The review team examined the RAM Section's implementation of its procedure for the control of sensitive information. This procedure addresses the identification, marking, control, handling, preparation, transportation, transmission, and destruction of documents that contain sensitive information related to the Increased Controls.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Technical Quality of Licensing Actions, be found satisfactory.

3.5 Technical Quality of Incident and Allegation Activities

In evaluating the effectiveness of the RAM Section's actions in responding to incidents and allegations, the review team examined the Bureau's response to the questionnaire relative to this indicator, evaluated selected incidents reported for Illinois in the Nuclear Material Events Database (NMED) against those contained in the RAM Section's files, and evaluated the casework for 22 of 36 reported radioactive materials incidents. A listing of the casework examined can be found in Appendix E. The review team also evaluated the RAM Section's response to eleven allegations involving radioactive materials reported during the review period.

The incidents selected for review included medical events, lost/stolen radioactive material, overexposures, damaged equipment, transportation events, leaking sources, and equipment failures. The review team determined that the RAM Section's response to incidents were thorough, complete, and comprehensive. Initial responses were prompt and were well coordinated, and the level of effort was commensurate with the health and safety significance. The RAM Section dispatched inspectors for on-site investigations in seven of the cases reviewed and took suitable enforcement and follow-up actions. When no immediate threat was

present and the RAM Section determined that the licensee had qualified, competent individuals investigating the incident, the RAM Section generally responded by telephone with a follow-up review during the next inspection. The review team noted that, at the conclusion of investigations, inspectors generated narrative reports that thoroughly documented the investigations.

If an incident meets the reporting criteria established in FSME Procedure SA-300, "Reporting Material Events," the RAM Section promptly notifies NRC's Headquarters Operations Center, typically by e-mail, using the information template established for NMED. If the investigation is complex and extends over a period of time, NMED is updated as additional information becomes available. Of the incidents evaluated by the review team, all had been reported to NRC within the required time frame and submitted for inclusion in NMED.

The review team examined the RAM Section's implementation of its incident and allegation processes, including written procedures for handling allegations and incident response, file documentation, notification of incidents to the NRC Headquarters Operations Center, and the use of NMED software. When notification of an incident or an allegation is received, the Inspection and Enforcement Manager determines the appropriate level of initial response.

The RAM Section receives approximately 75 to 100 incidents involving radioactive material annually, of which approximately 75 percent are radiation monitor trips at scrap facilities and landfills. Since 2012, the Bureau of Environmental Safety took the lead for monitor trip response. All monitor trips are responded to with an onsite visit. The State has made this activity a priority because it believes that orphan sources at non-licensed facilities present a serious risk for unnecessary public exposure.

In evaluating the effectiveness of the RAM Section's response to allegations, the review team evaluated the casework for seven allegations reported directly to the State and four allegations referred to the State from the NRC during the review period. The review team concluded that the RAM Section consistently took prompt and appropriate action in response to concerns raised. The review team also noted that the RAM Section thoroughly documented the investigations and retained all necessary documentation to appropriately close the allegations. The RAM Section notified the allegers of the conclusion of their investigation. Additionally, the review team determined that the RAM Section adequately protected the identity of allegers.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Technical Quality of Incident and Allegation Activities, be found satisfactory.

4.0 NON-COMMON PERFORMANCE INDICATORS

Four non-common performance indicators are used to review Agreement State programs: (1) Compatibility Requirements, (2) Sealed Source and Device Evaluation Program, (3) Low-Level Radioactive Waste Disposal Program, and (4) Uranium Recovery Program. NRC's Agreement with Illinois does not relinquish regulatory authority for a low level radioactive waste disposal program; therefore, this non-common performance indicator did not apply to this review.

4.1 Compatibility Requirements

4.1.1 Legislation

Illinois became an Agreement State on June 1, 1987. In its response to the questionnaire, the Bureau provided a listing of legislation that affects the radiation control program. The Agency is designated as the State radiation protection agency under the provisions of the Radiation Protection Act of 1990, as amended (420 Illinois Compiled Statutes (ILCS) 40). The Bureau implements the program for the Agency. The Radiation Protection Act of 1990 grants the Agency the authority to promulgate rules and regulations to be followed in the administration of the State's radiation protection program. This is the only legislation that affects the program that is subject to sunset laws. Public Act 91-752, which was effective June 1, 2005, extended the sunset date for the Radiation Protection Act until January 1, 2021.

Other legislation that affects the radiation control program is as follows: the Illinois Emergency Management Agency Act (20 ILCS 3305); the Nuclear Safety Law of 2004 (20 ILCS 3310); the Radioactive Waste Storage Act (420 ILCS 35); the Illinois Low-level Radioactive Waste Management Act (420 ILCS 20); and the Uranium and Thorium Mill Tailings Control Act (420 ILCS 42), which provide authority for the low-level radioactive waste disposal and uranium recovery programs; Freedom of Information Act [5 ILCS 140]; and Illinois Administrative Procedure Act [5 ILCS 100].

4.1.2 Program Elements Required for Compatibility

The State's regulations for control of radiation are located in Title 32 of the Illinois Administrative Code and apply to all ionizing radiation, whether emitted from radionuclides or devices. Illinois requires a license for possession and use of all radioactive materials.

The public, the NRC, other agencies, and all potentially affected licensees and registrants are offered an opportunity to comment during the rulemaking process. Comments are considered and incorporated, as appropriate, before the regulations are finalized, approved, and filed. The Agency also has the authority to issue legally binding requirements (e.g., license conditions) in lieu of regulations until compatible regulations become effective. This process generally takes approximately one year to complete. Regulations are not subject to sunset laws.

Once drafted, a proposed regulation is sent to the Agency Director's office and to the Governor's office for initial approval. Next, the proposed regulation is submitted to the Joint Committee on Administrative Rules (JCAR), a bipartisan legislative committee. Comments on the regulation are then requested with publication in the Illinois Register. After comment resolution and a hearing before JCAR, the Agency may file for regulation adoption. An expedited process may be used for regulations that require strict compatibility with NRC regulations.

The review team evaluated the Bureau's response to the questionnaire, reviewed the status of regulations required to be adopted by the State under the Commission's adequacy and compatibility policy, and verified the adoption of regulations with data obtained from the State Regulation Status Sheet that FSME maintains. Current NRC policy requires that Agreement

States adopt certain equivalent regulations or legally binding requirements no later than 3 years after they are effective unless otherwise mandated by the Commission.

Since the last IMPEP review, the State submitted two packages covering six amendments for compatibility reviews. The review team noted that Illinois is up to date on all NRC regulatory amendments currently required for compatibility.

A list of regulations that are due for adoption may be found at: http://nrc-stp.ornl.gov/rss_regamendents.html.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Compatibility Requirements, be found satisfactory.

4.2 Sealed Source and Device Evaluation Program

In reviewing this indicator, the review team used three subelements to evaluate the RAM Section's performance regarding the Sealed Source and Device (SS&D) Evaluation Program. These subelements are (1) Technical Staffing and Training, (2) Technical Quality of the Product Evaluation Program, and (3) Evaluation of Defects and Incidents Regarding SS&Ds.

In assessing the State SS&D evaluation activities, the review team examined the information provided in response to the IMPEP questionnaire and evaluated the SS&D registry sheets and supporting documents processed during the review period. The team also evaluated SS&D staff training records, the use of guidance documents and procedures, and interviewed the staff currently conducting SS&D evaluations.

4.2.1. Technical Staffing and Training

The RAM Section has a documented qualification program for SS&D reviewers as a subsection of its overall staff qualification procedures. The RAM Section currently has three qualified reviewers, all of whom have completed the NRC SS&D Workshop/course. One of the reviewers primarily performs concurrence reviews. The RAM Section intends to seek training for at least one additional staff member when the NRC SS&D training course is offered in 2014.

4.2.2 Technical Quality of the Product Evaluation Program

During the review period, the RAM Section processed 19 SS&D actions: 9 inactivations, 9 amendments, and 1 new application. There were no emerging technology evaluations processed during the review period. The review team evaluated six actions processed during the review period. The casework selected for review was representative of two of the three primary qualified reviewers. A listing of the SS&D registries reviewed by the review team may be found in Appendix F.

The review team identified that all of the SS&D registries issued were signed by two qualified individuals. The RAM Section performed evaluations based on sound conservative assumptions and good health physics practices to ensure public health and safety was adequately protected.

In assessing the RAM Section's SS&D evaluation activities, the review team examined information contained in the questionnaire response, and interviewed program staff and supervisors. The review team confirmed that the RAM Section follows the recommended guidance from the NRC SS&D Workshop, NUREG-1556 Series Guidance, applicable and pertinent American National Standards Institute (ANSI) standards and Illinois regulations, statutes, policies and procedures. The review team verified these documents were available and used appropriately in performing SS&D evaluations.

Reviewers documented detailed information pertaining to the SSD review process in the files. The review team determined that product evaluations were complete and adequately addressed the integrity of the products during use and in the event of accidents.

4.2.3 Evaluation of Defects and Incidents Regarding SS&Ds

Utilizing NMED, the review team determined that no events were reported during the review period that involved sources/devices manufactured or distributed by a licensee with a SS&D registered in Illinois. The review team also interviewed program staff who confirmed that no devices registered in Illinois had been involved in an incident during the review period.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Sealed Source and Device Evaluation Program, be found satisfactory.

4.3 Low-level Radioactive Waste Disposal Program

In 1981, the NRC amended its Policy Statement, "Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement," to allow a State to seek an amendment for the regulation of LLRW as a separate category. Although the Illinois Agreement State Program has LLRW disposal authority, NRC has not required States to have a program for licensing a LLRW disposal facility until such time as the State has been designated as a host State for a LLRW disposal facility. When an Agreement State has been notified or becomes aware of the need to regulate a LLRW disposal facility, they are expected to put in place a regulatory program which will meet the criteria for an adequate and compatible LLRW disposal program. There are no plans for a LLRW disposal facility in Illinois. Accordingly, the review team did not review this indicator.

4.4 Uranium Recovery Program

In reviewing this indicator, the review team used five subelements to evaluate the State's performance regarding the uranium (source material) recovery program. These subelements are (1) Technical Staffing and Training, (2) Status of Uranium Recovery Inspection Program, (3) Technical Quality of Inspections, (4) Technical Quality of Licensing Actions, and (5) Technical Quality of Incident and Allegation Activities.

The Bureau of Environmental Safety administers the State's uranium recovery program. At the time of the IMPEP review, the Bureau of Environmental Safety regulated one uranium recovery license, which is in the process of decommissioning. During the review period, the site has operated primarily in maintenance and monitoring mode. Site activities have

consisted of handling, packaging, and shipment of overburden from offsite properties being remediated under the U.S. Environmental Protection Agency Superfund program. In addition, limited site remediation and ongoing environmental monitoring activities continue to be performed. The final phases of decommissioning are expected to continue in 2013-2014, pending issuance of a license which was under timely renewal at the time of the IMPEP review.

4.4.1 Technical Staffing and Training

In reviewing this subelement, the review team considered staffing level, technical qualifications of the staff, staff training, and staff turnover.

The duties and responsibilities for the Illinois uranium recovery program are assigned to staff within the Environmental Management Section (the EM Section) of the Bureau of Environmental Radiation Safety. Bureau staff members and management are responsible for licensing actions associated with source material licenses. Program staff members are responsible for routine/on-going inspections of uranium recovery facilities.

The EM Section, which is supervised by the Section Head, is divided into three units: Environmental Monitoring, Environmental Compliance, and Low Level Radioactive Waste (LLRW) & Decommissioning. The EM Section also employs one full-time technical staff member as a resident inspector at the former uranium recovery site in West Chicago. At the time of the review, there were five technical staff members and managers, totaling approximately 3.7 FTE, in the EM Section who provide technical support to the Bureau by managing the uranium recovery, financial assurance, and orphan source programs. They also provide decommissioning and license termination support.

Since the 2009 IMPEP review, four individuals left the Bureau of Environmental Safety, including the Bureau Chief and staff from the LLRW and Decommissioning Unit. All of these positions have been filled. At the time of this review, there were no vacant positions in the LLRW and uranium recovery programs.

The Bureau of Environmental Safety also uses approximately 4.0 FTE from contractor personnel for engineering technical support for license review and evaluation and construction oversight of decommissioning activities at the site. Bureau and contractor staffing levels have remained stable throughout the IMPEP review period. The staff has expertise in various technical disciplines including health physics, geology, hydrology, environmental laboratory analysis and engineering.

The review team examined staff training records as well as interviewed various staff members regarding training and areas of expertise. The RAM Section's training and qualification plan includes a plan for the EM Section staff positions which provide technical support to the radioactive materials program. Staff members are assigned increasingly complex duties as they progress through the qualification process. The review team concluded that the RAM Section's training program is adequate to carry out its regulatory duties. The review team determined that the staffing levels, staff qualifications, and training levels for the uranium recovery program are adequate.

4.4.2 Status of Uranium Recovery Inspection Program

In reviewing this subelement, the review team evaluated the inspection frequency for uranium recovery licensees and the timeliness of inspection finding communications to the licensee. The review team's evaluation is based on Illinois's response to the questionnaire relative to this indicator, the uranium recovery inspection schedule, selected inspection casework records, and interviews with inspection staff and managers.

The site evaluated under the uranium recovery program has an onsite resident inspector who performs ongoing, continuous site assessment and inspection related activities. Interviews with the onsite inspector and program management indicated that issues and findings are reported to management primarily through email and phone contact and are followed up with formal correspondence to the licensee when warranted. The review team noted that the Bureau of Environmental Safety does not issue a formal inspection report. After discussions of this matter with the review team, the Bureau Chief and the EM Section Head agreed that a formal report, issued on a periodic basis, summarizing the inspection-related activities at the uranium recovery site, would be appropriate and beneficial to the Program.

In addition to the onsite resident inspector, the Bureau of Environmental Radiation Safety relies upon contractors who perform periodic site assessments and quality assurance audits and evaluations of activities at the site. The licensee also performs similar audits which are reported to the Bureau of Environmental Safety, which reviews the contractor audits and reports and takes the appropriate enforcement actions.

The frequency identified for the source material recovery category is five years. With the presence of an on-site inspector on an ongoing basis, and the audit functions performed by agency contractors the review team concluded that there were no overdue inspections in the uranium recovery program.

The review team determined that inspection finding reports were issued within 30 days of the inspections or audits. Program management reviewed all inspection findings. Appropriate follow-up actions were conducted when items of noncompliance were identified by the staff resident inspector, Bureau of Environmental Safety contractors, or as a result of audit findings by the licensee.

4.4.3 Technical Quality of Inspections

In reviewing this subelement, the review team examined contractor audit reports and contractor environmental reports, and interviewed the program management and resident inspector. The uranium recovery program inspection files evaluated by the review team are listed in Appendix C.

The inspector interviews and casework reviews confirmed that Illinois inspections were adequate and included reviews of operational activities and pertinent records. The review team also confirmed that the State appropriately communicated issues and violations to the licensee.

The review team determined that the ongoing activities of the onsite inspector and periodic site and contractor audit reports provided appropriate depth of coverage, addressed license conditions and regulatory requirements, and demonstrated that the Agency pursued corrective actions for items of noncompliance that were identified. Inspection and audit files contained information, data, and diagrams documenting both general facility features and items of interest or concerns.

4.4.4 Technical Quality of Licensing Actions

For this subelement, the review team examined licenses and associated documentation related to licensing, license amendments and other licensing documentation of the uranium recovery site undergoing decommissioning. Appendix D lists the licensing files reviewed.

For the uranium recovery facility evaluated, license renewals occurred on an annual basis with limited changes in license conditions. During the review period, there was a transition of the facility from the licensee who held the license for many years, to a licensee that subsequently filed for bankruptcy in 2009. In 2011, through court actions, the site was transitioned to the current licensee who also acts as the site trustee. The transition in license to the trustee was tied to court action files and activities, making the review complex. Interviews with staff legal counsel involved in the transition indicated that the licensing process of the trustee was conducted through the legal processes surrounding the site.

Based on the casework evaluated, the review team concluded that the licensing actions were of adequate quality and consistent with Illinois procedures, State regulations, and good health physics practices.

4.4.5 Technical Quality of Incident and Allegation Activities

For this subelement, the review team examined files and associated documentation and correspondence related to incident and allegation activities, response timeliness, and inspection and audit reports, and interviewed the personnel involved with incident and allegation activities.

The review team evaluated Illinois's response to one incident associated with the uranium/source recovery program site. The State's investigation of the incident was thorough and results of the incident investigation were discussed with the licensee and other regulatory entities. Appropriate enforcement actions were taken given the scope of the violations noted. A listing of the incident casework examined can be found in Appendix E. No allegations pertaining to the site were indicated for the review period.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Uranium Recovery Program, be found satisfactory.

5.0 SUMMARY

As noted in Sections 3.0 and 4.0 above, Illinois' performance was found satisfactory for all performance indicators reviewed. The review team did not make any recommendations

regarding program performance by the State and determined that the recommendation from the 2009 IMPEP review should be closed.

Accordingly, the review team recommends that the Illinois Agreement State Program be found adequate to protect public health and safety and compatible with the NRC's program. Based on the results of the current IMPEP review, the review team recommends that the next full IMPEP review take place in approximately 5 years.

LIST OF APPENDICES

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	**Area of Responsibility**
Donna Janda, Region I	Team Leader Technical Staffing and Training Inspection Accompaniments
Stephen Hammann, Region I	Technical Quality of Licensing Actions
James Lynch, Region III	Technical Quality of Incident and Allegation Activities Compatibility Requirements Inspection Accompaniments
Maria Arribas-Colon, FSME	Status of Materials Inspection Program
James Jarvis, State of Colorado	Sealed Source and Device Evaluation Program Uranium Recovery Program
Vanessa Danese, State of Texas	Technical Quality of Inspections

APPENDIX B

ILLINOIS ORGANIZATION CHARTS

ADAMS ACCESSION NO.: ML13122A397

APPENDIX C

INSPECTION CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1
Licensee: Caterpillar, Inc. License No.: IL-01463-01
Inspection Type: Routine/Special, Announced Priority: 1
Inspection Date: 07/15/10 Inspectors: GM, SK

File No.: 2
Licensee: Richardson Electronics, Ltd. License No.: IL-01477-01
Inspection Type: Routine, Announced Priority: 3
Inspection Date: 03/11/11 Inspector: JP

File No.: 3
Licensee: Illinois Testing Services, Inc. License No.: IL-01545-01
Inspection Type: Routine/Special, Unannounced Priority: 1
Inspection Date: 05/11-14/12 Inspector: AG

File No.: 4
Licensee: St. Joseph Medical Center License No.: IL-01206-01
Inspection Type: Routine, Unannounced Priority: 3
Inspection Date: 01/05-06/11 Inspector: SK

File No.: 5
Licensee: Northwest Cardiovascular Associates, S.C. License No.: IL-02018-01
Inspection Type: Routine, Unannounced Priority: 3
Inspection Date: 08/27/10 Inspector: JK

File No.: 6
Licensee: Alexian Brothers Medical Center License No.: IL-01418-01
Inspection Type: Routine/Special, Announced Priority: 2
Inspection Date: 10/25-26/12 Inspector: WH

File No.: 7
Licensee: GeoLog Well Services, Inc. License No.: IL-02277-01
Inspection Type: Routine, Announced Priority: 3
Inspection Date: 10/27/10 Inspector: WH

File No.: 8
Licensee: McDonough District Hospital License No.: IL-01201-01
Inspection Type: Routine, Announced Priority: 3
Inspection Date: 02/07/13 Inspector: BC

File No.: 9
Licensee: Advanced Heart Group, S.C. License No.: IL-02254-01
Inspection Type: Routine, Unannounced Priority: 2
Inspection Date: 03/30/12 Inspector: JK

File No.: 10
Licensee: Northern Illinois Cancer Treatment Center License No.: IL-02258-01
Inspection Type: Routine, Unannounced Priority: 2
Inspection Date: 12/12/11 Inspector: RM

File No.: 11
Licensee: Colby-Thielmeier Testing Co. License No.: IL-00144-01
Inspection Type: Reciprocity, Announced Priority: 1
Inspection Date: 10/02/09 Inspector: GM

File No.: 12
Licensee: Triad Isotopes, Inc. License No.: IL-01117-01
Inspection Type: Routine, Unannounced Priority: 2
Inspection Date: 02/24/10 Inspector: JP

Comment: Inspection documentation issued to licensee 12 days late.

File No.: 13
Licensee: Northern Shared Medical Services Inc. License No.: IL-02204-01
Inspection Type: Routine, Announced Priority: 2
Inspection Date: 11/29/12 Inspector: BC

File No.: 14
Licensee: Northwestern University License No.: IL-01879-01
Inspection Type: Routine/Special, Announced Priority: 3
Inspection Date: 07/16-18/12 Inspector: RM, JP

File No.: 15
Licensee: Northwestern Memorial Healthcare License No.: IL-01037-02
Inspection Type: Routine/Special, Announced Priority: 2
Inspection Date: 07/22-24/09 Inspector: WH, AG

File No.: 16
Licensee: STERIS, Inc. License No.: IL-01123-02
Inspection Type: Routine/Special, Unannounced Priority: 2
Inspection Date: 05/17-18/10 Inspector: JP

File No.: 17
Licensee: Children’s Hospital of Chicago Medical Center License No.: IL-01165-01
Inspection Type: Routine/Special, Announced Priority: 3
Inspection Date: 07/07-08/11 Inspector: RM

File No.: 18
Licensee: Triumph Radiology, Inc. License No.: IL-01816-01
Inspection Type: Routine, Announced Priority: 3
Inspection Date: 06/02/11 Inspector: JK

File No.: 19
Licensee: Alliance Healthcare Services, Inc. License No.: IL-02133-01
Inspection Type: Routine, Announced Priority: 2
Inspection Date: 06/08/10 Inspector: JP

File No.: 20
Licensee: Mistras Group, Inc. License No.: IL-01225-22
Inspection Type: Routine/Special, Announced Priority: 1
Inspection Date: 05/18/11 Inspector: SK

File No.: 21
Licensee: Elgiloy Specialty Metals License No.: IL-02397-01
Inspection Type: Initial, Unannounced Priority: 5
Inspection Date: 08/27/10 Inspector: AG

File No.: 22
Licensee: Chase Environmental Group, Inc. License No.: IL-00386-01
Inspection Type: Reciprocity, Unannounced Priority: 2
Inspection Date: 07/06/09 Inspector: KG

File No.: 23
Licensee: Mercy Health Systems License No.: IL-02437-01
Inspection Type: Initial, Unannounced Priority: 3
Inspection Date: 11/26/12 Inspector: JP

File No.: 24
Licensee: GEO Consultants, Inc. License No.: IL-02363-01
Inspection Type: Initial, Announced Priority: 2
Inspection Date: 10/19/09 Inspector: GM

File No.: 25
Licensee: Knight Hawk Coal, LLC License No.: IL-02431-01
Inspection Type: Initial, Unannounced Priority: 5
Inspection Date: 01/30/13 Inspector: JP

File No.: 26
Licensee: Toshiba Medical Research Institute USA, Inc. License No.: IL-02373-01
Inspection Type: Initial, Announced Priority: 5
Inspection Date: 10/27/09 Inspector: JK

File No.: 27
Licensee: Material Service Testing, Inc. License No.: IL-02408-01
Inspection Type: Initial, Unannounced Priority: 5
Inspection Date: 08/06/10 Inspector: JP

Uranium Recovery Program

File No.: 28
Licensee: Tronox, LLC License No.: STA-583
Inspection Type: Special Priority: 5
Inspection Date: 2010 Inspector(s): Licensee contractor

File No.: 29
Licensee: Weston Solutions, Inc. License No.: STA-583
Inspection Type: Special Priority: 5
Inspection Date: November 2012 (Draft) Inspector: Bureau contractor

File No.: 30
Licensee: Weston Solutions, Inc. License No.: STA-583
Inspection Type: Special Priority: 5
Inspection Date: 08/08/12 Inspector: Bureau contractor

INSPECTOR ACCOMPANIMENTS

The following inspector accompaniments were performed prior to the on-site IMPEP review:

Accompaniment No.: 1
Licensee: Quad City Testing Laboratory, Inc. License No.: IL-01089-01
Inspection Type: Routine/Special, Announced Priority: 1
Inspection Date: 03/13/13 Inspector: RM

Accompaniment No.: 2
Licensee: Sterigenics U.S., LLC License No.: IL-01220-01
Inspection Type: Routine, Announced Priority: 2
Inspection Date: 03/14/13 Inspector: WH

Accompaniment No.: 3
Licensee: St. Francis Medical Center License No.: IL-01361-01
Inspection Type: Routine, Announced Priority: 2
Inspection Date: 03/19/13 Inspector: BC

Accompaniment No.: 4
Licensee: St. Francis Medical Center License No.: IL-01361-01
Inspection Type: Routine/Special, Announced Priority: 2
Inspection Date: 03/20/13 Inspector: SK

APPENDIX D

LICENSE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1
Licensee: Granite City Illinois Hospital Company, LLC — License No.: IL-01061-01
Type of Action: Renewal — Amendment No.: 29
Date Issued: 06/29/12 — License Reviewer: NA

File No.: 2
Licensee: Siemens Medical Solutions USA, Inc. — License No: IL-01130-02
Type of Action: Amendment — Amendment No.: 46
Date Issued: 04/14/13 — License Reviewer: MB

File No.: 3
Licensee: Terracon Consultants, Inc. — License No.: IL-01402-01
Type of Action: Amendment — Amendment No.: 32
Date Issued: 08/24/12 — License Reviewer: NA

File No.: 4
Licensee: Varian Medical Systems Security & Inspection Products — License No: IL-01555-01
Type of Action: Amendment — Amendment No.: 14
Date Issued: 03/18/11 — License Reviewer: MB

File No.: 5
Licensee: Central DuPage Hospital — License No.: IL-01208-01
Type of Action: Amendment — Amendment No.: 26
Date Issued: 12/12/11 — License Reviewer: MB

File No.: 6
Licensee: Civil Constructors, Inc. — License No: IL-01730-01
Type of Action: Renewal — Amendment No.: 07
Date Issued: 12/27/11 — License Reviewer: RH

File No.: 7
Licensee: REVISS Services, Inc. — License No.: IL-02058-01
Type of Action: Amendment — Amendment No.: 22
Date Issued: 03/29/12 — License Reviewer: CV

File No.: 8
Licensee: Abb Vie, Inc. — License No: IL-01478-01
Type of Action: Renewal — Amendment No.: 25
Date Issued: 06/04/10 — License Reviewer: SK

File No.: 9
Licensee: Northwestern University — License No.: IL-01879-01
Type of Action: Renewal — Amendment No.: 23
Date Issued: 06/10/11 — License Reviewer: MB

File No.: 10
Licensee: Keeley & Sons, Inc. License No: IL-01505-01
Type of Action: Amendment Amendment No.: 08
Date Issued: 01/08/13 License Reviewer: WC

File No.: 11
Licensee: Sterigenics U.S., LLC License No.: IL-01220-01
Type of Action: Amendment Amendment No.: 38
Date Issued: 04/19/12 License Reviewer: MB

File No.: 12
Licensee: Cardinal Health 414, LLC License No: IL-01721-03
Type of Action: Amendment (Financial Assurance) Amendment No.: 03
Date Issued: 08/24/12 License Reviewer: MK

File No.: 13
Licensee: Hot Shots NM, LLC License No.: IL-02322-01
Type of Action: Amendment Amendment No.: 08
Date Issued: 07/11/12 License Reviewer: RH

File No.: 14
Licensee: Chemtura Corporation License No: IL-01314-01
Type of Action: Renewal Amendment No.: 15
Date Issued: 05/26/10 License Reviewer: RH

File No.: 15
Licensee: Landauer, Inc. License No.: IL-01376-01
Type of Action: Amendment Amendment No.: 14
Date Issued: 03/18/13 License Reviewer: TL

File No.: 16
Licensee: Baker Atlas License No: IL-01508-01
Type of Action: Amendment Amendment No.: 18
Date Issued: 07/09/10 License Reviewer: TL

File No.: 17
Licensee: McNDT Pipeline, Ltd. License No.: IL-01875-01
Type of Action: Renewal Amendment No.: 11
Date Issued: 09/29/12 License Reviewer: TL

File No.: 18
Licensee: Veterinary Speciality Center License No: IL-02071-02
Type of Action: New Amendment No.: 0
Date Issued: 12/07/10 License Reviewer: TL

File No.: 19
Licensee: Illinois Regional Cancer Center (IRCC) License No.: IL-02427-01
Type of Action: New Amendment No.: 0
Date Issued: 12/01/11 License Reviewer: TL

File No.: 20
Licensee: Acuren Inspections, Inc. License No: IL-01899-01
Type of Action: Amendment Amendment No.: 25
Date Issued: 02/20/13 License Reviewer: TL

File No.: 21
Licensee: STERIS, Inc. License No.: IL-01123-01
Type of Action: Termination (decommissioning) Amendment No.: 17
Date Issued: 03/19/12 License Reviewer: SK

File No.: 22
Licensee: Advanced Radiotherapy Specialists License No: IL-02433-01
Type of Action: New (denial of application) Amendment No.: NA
Date Issued: 11/27/12 License Reviewer: TL

File No.: 23
Licensee: Rockford Testing Company, Inc. License No.: IL-02421-01
Type of Action: New Amendment No.: 0
Date Issued: 05/24/11 License Reviewer: MB

Uranium Recovery Program

File No.: 1
Licensee: Tronox (Formerly Kerr-McGee Chemical LLC) License No.: STA-583
Type of Action: Renewal Amendment No.: 74
Date Issued: 02/22/10 License Reviewer: GM

File No.: 2
Licensee: Weston Solutions, Inc. License No: STA-583
Type of Action: Amendment Amendment No.: 75
Date Issued: 02/14/11 License Reviewer: GM

File No.: 3
Licensee: Weston Solutions, Inc. License No.: STA-583
Type of Action: Renewal Amendment No.: 76
Date Issued: 02/10/12 License Reviewer: GM

File No.: 4
Licensee: Weston Solutions, Inc. License No.: STA-583
Type of Action: Renewal Amendment No.: 77
Date Issued: 09/07/12 License Reviewer: AK

APPENDIX E

INCIDENT CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1
Licensee: Iroquois Paving Corporation — License No.: IL-01909-01
Date of Incident: 06/05/09 — NMED Log No.: 090534
Investigation Date: 06/05/09 — Type of Incident: Damaged Equipment
Type of Investigation: Site

File No.: 2
Licensee: GE Healthcare — License No.: IL-01052-01
Date of Incident: 07/27/09 — NMED Log No.: 090648
Investigation Date: 07/29/09 — Type of Incident: Lost/Stolen Material
Type of Investigation: Telephone

File No.: 3
Licensee: H.H. Holmes Testing Laboratories, Inc. — License No.: IL-01828-01
Date of Incident: 08/03/09 — NMED Log No.: 090652
Investigation Date: 08/03/09 — Type of Incident: Lost/Stolen Material
Type of Investigation: Telephone

File No.: 4
Licensee: Chicago Prostate Cancer Center — License No.: IL-02015-01
Date of Incident: 08/18/09 — NMED Log No.: 090704
Investigation Date: 08/18/09 — Type of Incident: Leaking Source
Type of Investigation: Telephone

File No.: 5
Licensee: Loyola University Medical Center — License No.: IL-01131-02
Date of Incident: 09/21/09 — NMED Log No.: 090755
Investigation Date: 09/30/09 — Type of Incident: Overexposure
Type of Investigation: Telephone

File No.: 6
Licensee: Terracon Consultants — License No.: IL-01402-01
Date of Incident: 10/03/09 — NMED Log No.: 090762
Investigation Date: 10/03/09 — Type of Incident: Lost/Stolen Material
Type of Investigation: Telephone

File No.: 7
Licensee: Mohamed Megahy, MD, Ltd. — License No.: IL-02032-01
Date of Incident: 05/01/07 (reported on 06/17/10) — NMED Log No.: 100319
Investigation Date: 06/17/10 — Type of Incident: Overexposure
Type of Investigation: Telephone

File No.: 8
Licensee: Riverside Medical Center
Date of Incident: 07/13/10
Investigation Date: 07/15/10
License No.: IL-01242-01
NMED Log No.: 100362
Type of Incident: Lost/Stolen Material
Type of Investigation: Site

File No.: 9
Licensee: Rush University Medical Center
Date of Incident: 08/18/10
Investigation Date: 08/18/10
License No.: IL-01766-01
NMED Log No.: 100427
Type of Incident: Medical Event
Type of Investigation: Telephone

File No.: 10
Licensee: Methodist Hospital of Chicago
Date of Incident: 10/21/10
Investigation Date: 11/12/10
License No.: IL-01144-01
NMED Log No.: 110012
Type of Incident: Lost/Stolen Material
Type of Investigation: Telephone

File No.: 11
Licensee: Rush University Medical Center
Date of Incident: 11/23/10
Investigation Date: 01/19/11
License No.: IL-01766-01
NMED Log No.: 110032
Type of Incident: Medical Event
Type of Investigation: Site

File No.: 12
Licensee: Northwestern Memorial Hospital
Date of Incident: 04/26/11
Investigation Date: 04/26/11
License No.: IL-01037-02
NMED Log No.: 110192
Type of Incident: Medical Event
Type of Investigation: Telephone

File No.: 13
Licensee: Advocate Christ Hospital and Medical Center
Date of Incident: 05/13/11
Investigation Date: 05/18/11
License No.: IL-01720-01
NMED Log No.: 120582
Type of Incident: Medical Event
Type of Investigation: Telephone

File No.: 14
Licensee: Wood River Refinery
Date of Incident: 07/22/11
Investigation Date: 08/8/11
License No.: IL-01282-01
NMED Log No.: 110403
Type of Incident: Damaged Equipment
Type of Investigation: Telephone

File No.: 15
Licensee: Swedish American Hospital
Date of Incident: 09/13/11
Investigation Date: 09/26/11
License No.: IL-01067-01
NMED Log No.: 110505
Type of Incident: Medical Event
Type of Investigation: Site

File No.: 16
Licensee: Steris, Inc.
Date of Incident: 01/04/12
Investigation Date: 01/09/12
License No.: IL-01123-02
NMED Log No.: 120052
Type of Incident: Equipment Failure
Type of Investigation: Telephone

File No.: 17
Licensee: Midwest Regional Medical Center
Date of Incident: 03/20/12
Investigation Date: 04/04/12
License No.: IL-01104-01
NMED Log No.: 120209
Type of Incident: Medical Event
Type of Investigation: Site

File No.: 18
Licensee: IBA Molecular
Date of Incident: 05/14/12
Investigation Date: 05/18/12
License No.: IL-02074-01
NMED Log No.: 120334
Type of Incident: Leaking Source
Type of Investigation: Telephone

File No.: 19
Licensee: Interra, Inc.
Date of Incident: 06/26/12
Investigation Date: 06/26/12
License No.: IL-02000-01
NMED Log No.: 120381
Type of Incident: Damaged Equipment
Type of Investigation: Site

File No.: 20
Licensee: GE Healthcare
Date of Incident: 01/21/13
Investigation Date: 01/22/13
License No.: IL-01044-01
NMED Log No.: 130119
Type of Incident: Lost/Stolen Material
Type of Investigation: Telephone

File No.: 21
Licensee: Non-Licensee
Date of Incident: 04/12/13
Investigation Date: 04/12/13
License No.: N/A
NMED Log No.: N/A
Type of Incident: Transportation Event
Type of Investigation: Site

Uranium Recovery Program

File No.: 22
Licensee: Tronox
Date of Incident: 09/28/10
Investigation Date: 09/28/10
License No.: STA-583
NMED Log No.: N/A
Type of Incident: Transportation Event
Type of Investigation: Telephone

APPENDIX F

SEALED SOURCE AND DEVICE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1
Registry No.: IL-1325-D-101-G
Applicant Name: Dewpointer Repair
Date Issued: 06/07/10
SS&D Type: (G) Portable Moisture Gauge
Type of Action: New
SS&D Reviewer(s): MEB, CGV

File No.: 2
Registry No.: IL-136-D-931-S
Applicant Name: GE Healthcare
Date Issued: 01/05/12
SS&D Type: "General Medical Use"
Type of Action: Inactivation
SS&D Reviewer: SMK, MEB

File No.: 3
Registry No.: IL-1079-D-101-G
Applicant Name: Indev Gauging Systems, Inc.
Date Issued: 12/22/11
SS&D Type: (E) Beta Gauge
Type of Action: Amendment
SS&D Reviewer(s): SMK, MEB

File No.: 4
Registry No.: IL-8230-D-801-G
Applicant Name: Stan A. Huber Consultants, Inc.
Date Issued: 01/25/11
SS&D Type: (D) Gamma Gauging
Type of Action: Inactivation
SS&D Reviewer: MEB, CGV

File No.: 5
Registry No.: IL-422-D-101-S
Applicant Name: Lixi, Inc.
Date Issued: 04/20/10
SS&D Type: (A) Industrial Radiography
Type of Action: Amendment
SS&D Reviewer(s): SMK, MEB

File No.: 6
Registry No.: IL-422-D-101-S
Applicant Name: Lixi, Inc.
Date Issued: 05/26/11
SS&D Type: (A) Industrial Radiography
Type of Action: Amendment
SS&D Reviewer(s): SMK, MEB