



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

August 23, 2023

Mr. Adnan Khayyat, Chief
Bureau of Radiation Safety
Illinois Emergency Management Agency
and Office of Homeland Security
1035 Outer Park Dr.
Springfield, IL 62704

Dear Mr. Khayyat:

On August 3, 2023, the Management Review Board (MRB), which consisted of the U.S. Nuclear Regulatory Commission (NRC) senior managers and an Organization of Agreement States MRB member, met to consider the results of the Integrated Materials Performance Evaluation Program (IMPEP) review of the Illinois Agreement State Program. The MRB Chair, in consultation with the MRB, found the Illinois Agreement State Program adequate to protect public health and safety and compatible with the NRC's program.

The enclosed final report documents the IMPEP team's findings and summarizes the results of the MRB meeting. Because the last four IMPEP reviews have resulted in all performance indicators being found satisfactory, the MRB Chair determined that the next periodic meeting take place in approximately 2.5 years with the next IMPEP review taking place in approximately 5 years.

I appreciate the courtesy and cooperation extended to the IMPEP team during the review. I also wish to acknowledge your continued support for the Agreement State program. I look forward to our agencies continuing to work cooperatively in the future.

Sincerely,



Signed by Haney, Cathy
on 08/23/23

Catherine Haney
Deputy Executive Director for Materials, Waste,
Research, State, Tribal, Compliance, Administration,
and Human Capital Programs
Office of the Executive Director for Operations

Enclosures:

1. 2023 Illinois Final IMPEP Report
2. 2023 Illinois MRB Meeting
Participants

cc: Gary Forsee, Chief
Radioactive Materials Division
Office of Nuclear Safety
Emergency Management Agency
and Office of Homeland Security

SUBJECT: FINAL ILLINOIS FY2023 IMPEP REPORT DATED August 23, 2023.

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM
REVIEW OF THE ILLINOIS AGREEMENT STATE PROGRAM

April 24-28, 2022

FINAL REPORT

EXECUTIVE SUMMARY

The results of the Integrated Materials Performance Evaluation Program (IMPEP) review of the Illinois Agreement State Program are discussed in this report. The review was conducted on-site from April 24-28, 2023. In-person inspector accompaniments were conducted between September 2022, and April 2023.

The team found Illinois' performance to be satisfactory for all seven performance indicators, and the Management Review Board (MRB) Chair agreed. There were no recommendations from the 2018 IMPEP review for the team to consider and the team did not make any new recommendations for the Program. With respect to the process for future IMPEPs, the team recommended and the MRB Chair agreed that the Weston Solutions Inc. facility no longer be reviewed as a uranium recovery site in future IMPEP reviews. This site can be reviewed as a complex decommissioning facility under the Technical Quality of Licensing Actions performance indicator until final site closure.

Accordingly, the team recommended and the MRB Chair agreed that the Illinois Agreement State Program be found adequate to protect public health and safety and compatible with the NRC's program. Since this is Illinois' fourth consecutive IMPEP review in which they were found to be satisfactory for all performance indicators, the team recommended and the MRB Chair agreed that a periodic meeting take place in approximately 2.5 years with the next IMPEP review to take place in approximately 5 years.

1.0 INTRODUCTION

The Integrated Materials Performance Evaluation Program (IMPEP) review was conducted in-person by a team of U.S. Nuclear Regulatory Commission (NRC) and Agreement State technical staff during the week of April 24-28, 2023. Team members are identified in Appendix A. In-person inspector accompaniments were conducted between September 2022 and April 2023. The inspector accompaniments are identified in Appendix B. The review was conducted in accordance with the “Agreement State Program Policy Statement,” published in the *Federal Register* (FR) on October 18, 2017 (82 FR 48535), and NRC Management Directive (MD) 5.6, “Integrated Materials Performance Evaluation Program (IMPEP),” dated July 24, 2019. Preliminary results of the review, which covered the period of April 21, 2018, to April 28, 2023, were discussed with Illinois managers on the last day of the review.

In preparation for the review, a questionnaire addressing the common performance indicators and applicable non-common performance indicators was sent to Illinois on January 6, 2023. Illinois provided its response to the questionnaire by electronic mail on April 7, 2023. A copy of the questionnaire response is available in Agencywide Documents Access and Management System (ADAMS) [ML23101A047](#).

The Illinois Agreement State Program is administered by the Radioactive Materials Branch (RAM Branch) and the Radiation Protection Services Branch (RPS Branch), which are located within the Division of Nuclear Safety (the Division). The RAM Branch performs the licensing, inspection, decommissioning, and sealed source and device (SS&D) evaluations for the Division. The RPS Branch regulates low-level radioactive waste (LLRW) disposal and uranium recovery for the Division. In addition since 2014, the RPS Branch has been the lead for responses to triggered alarms for radioactive material at scrap yards and landfills. They also coordinate the Division’s orphan source recovery program. The Division is part of the Illinois Emergency Management Agency and Office of Homeland Security (the Agency). Organization charts for Illinois are in ADAMS [ML23101A046](#).

The 2023 IMPEP team issued a draft report to Illinois for factual comment on June 2, 2023, ([ML23143A242](#)). Illinois responded to the draft report with comments in a letter dated June 21, 2023, from Mr. Gary Forsee, Radioactive Materials Division Chief ([ML23187A450](#)). The MRB was conducted on August 3, 2023, to discuss the team’s findings and recommendations.

At the time of the review, Illinois regulated 521 specific licenses authorizing possession and use of radioactive materials. The review focused on the radiation control program as it is carried out under Section 274b. (of the Atomic Energy Act of 1954, as amended) Agreement between the NRC and the State of Illinois.

The team evaluated the information gathered against the established criteria for each common and applicable non-common performance indicators and made a preliminary assessment of Illinois’ performance.

2.0 PREVIOUS IMPEP REVIEW AND STATUS OF RECOMMENDATIONS

The previous IMPEP review concluded on April 20, 2018. The final report is available in ADAMS [ML18207A322](#). The results of the review are as follows:

Technical Staffing and Training: Satisfactory
Recommendation: None

Status of Materials Inspection Program: Satisfactory
Recommendation: None

Technical Quality of Inspections: Satisfactory
Recommendation: None

Technical Quality of Licensing Actions: Satisfactory
Recommendation: None

Technical Quality of Incident and Allegation Activities: Satisfactory
Recommendation: None

Legislation, Regulations, and Other Program Elements: Satisfactory
Recommendation: None

SS&D Evaluation Program: Satisfactory
Recommendation: None

LLRW Program: Not Reviewed
Recommendation: None

Uranium Recovery: Satisfactory
Recommendation: None

Overall finding: Adequate to protect public health and safety and compatible with the NRC's program.

3.0 COMMON PERFORMANCE INDICATORS

Five common performance indicators are used to review the NRC and Agreement State radiation control 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

The ability to conduct effective licensing and inspection programs is largely dependent on having a sufficient number of experienced, knowledgeable, well-trained technical personnel. Under certain conditions, staff turnover could have an adverse effect on the implementation of these programs and could affect public health and safety. Apparent trends in staffing must be assessed. Review of staffing also requires consideration and evaluation of the levels of training and qualification. The evaluation standard measures the overall quality of training available to, and taken by, materials program personnel.

a. Scope

The team used the guidance in State Agreements (SA) procedure [SA-103](#), "Reviewing the Common Performance Indicator: Technical Staffing and Training," and evaluated Illinois' performance with respect to the following performance indicator objectives:

- A well-conceived and balanced staffing strategy has been implemented throughout the review period.
- Any vacancies, especially senior-level positions, are filled in a timely manner.
- There is a balance in staffing of the licensing and inspection programs.
- Management is committed to training and staff qualification.
- Agreement State training and qualification program is equivalent to NRC Inspection Manual Chapter (IMC) 1248, "Formal Qualifications Program for Federal and State Material and Environmental Management Programs."
- Qualification criteria for new technical staff are established and are followed, or qualification criteria will be established if new staff members are hired.
- Individuals performing materials licensing and inspection activities are adequately qualified and trained to perform their duties.
- License reviewers and inspectors are trained and qualified in a reasonable period of time.

b. Discussion

The Illinois radiation control program (Illinois) is comprised of 18 technical and 1 administrative staff member equaling 19 full-time equivalents. For the first 2 years of the review period, there were staffing transitions. At the time of the review, Illinois had three recent vacancies. Illinois obtained approval to post these three vacancies and submitted the paperwork to fill the positions. During the review period, 8 staff members left the program for various reasons and 11 staff members were hired. Of the eight staff who left, three retired and each accepted limited contracts to continue working while replacements were trained, three other staff did not advance through their training and ultimately left the program, and two staff transferred to other positions within the Agency. Most vacant positions were vacant for 30 days or less before being posted. The team confirmed that even with the departures, and due in part to the ability to contract with retiring employees, there was minimal impact to their ability to train staff and maintain work activities.

The team found that Illinois had a training and qualification program compatible with the NRC's IMC 1248. The team also confirmed that licensing and inspection staff were completing and documenting at a minimum 24 hours of refresher training every 2 years, and in most cases refresher training far exceeded the required hours.

c. Evaluation

The team determined that, during the review period, Illinois met the performance indicator objectives listed in Section 3.1.a. Based on the criteria in MD 5.6, the team recommended that Illinois' performance with respect to the indicator, Technical Staffing and Training, be found satisfactory.

d. Management Review Board (MRB) Chair's Determination

The MRB Chair agreed with the team's recommendation and found Illinois' performance with respect to this indicator satisfactory.

3.2 Status of Materials Inspection Program

Inspections of licensed operations are essential to ensure that activities are being conducted in compliance with regulatory requirements and consistent with good safety

and security practices. The frequency of inspections is specified in [IMC 2800](#), “Materials Inspection Program,” and is dependent on the amount and type of radioactive material, the type of operation licensed, and the results of previous inspections. There must be a capability for maintaining and retrieving statistical data on the status of the inspection program.

a. Scope

The team used the guidance in [SA-101](#), “Reviewing the Common Performance Indicator: Status of the Materials Inspection Program,” and evaluated Illinois’ performance with respect to the following performance indicator objectives:

- Initial inspections and inspections of Priority 1, 2, and 3 licensees are performed at the prescribed frequencies (<https://www.nrc.gov/materials/miau/mat-toolkits.html>).
- Deviations from inspection schedules are normally coordinated between technical staff and management.
- There is a plan to perform any overdue inspections and reschedule any missed or deferred inspections or a basis has been established for not performing any overdue inspections or rescheduling any missed or deferred inspections.
- Candidate licensees working under reciprocity are inspected in accordance with the criteria prescribed in IMC 2800 and other applicable guidance or compatible Agreement State Procedure.
- Inspection findings are communicated to licensees in a timely manner (30 calendar days, or 45 days for a team inspection), as specified in [IMC 0610](#), “Nuclear Material Safety and Safeguards Inspection Reports.”

b. Discussion

Illinois performed a total of 392 inspections during the review period, of which 357 were Priority 1, 2, 3, and 35 were initial inspections. Of the 392 total inspections, 37 or 9.7 percent were performed overdue. The team found that the overdue inspections were directly related to staffing challenges in the first two years of the review period. It took Illinois time to hire staff, get them fully trained, and catch up on the overdue inspections. The team determined that the staffing challenges did not impact Illinois’ ability to protect public health and safety. The team found that 34 of the 37 inspections performed overdue during this review period occurred during those first two years and those numbers have dramatically declined once new inspectors were hired and staffing was stabilized. The team noted that in 2020, there were no overdue inspections, one overdue inspection in 2021, and two overdue inspections in 2022. The overdue inspections in 2022 were directly related to a change in use codes for two licensees which caused them to immediately go overdue once applied. At the time of review, there were no overdue inspections. The team found that Illinois’ inspection frequencies were the same or more frequent for similar license types in IMC 2800. The team evaluated a sampling of 22 inspection reports and found that no inspection findings were communicated past the 30-day goal.

During this review period, Illinois focused available staffing resources on performing Priority 1, 2, and 3 reciprocity inspections. During the beginning of this review period when staffing was in transition, Illinois developed a blended procedure requiring the inspection of 10 percent of all reciprocity candidates eligible for inspection, with an emphasis of inspecting risk-significant licensees. Illinois performed 11 percent of reciprocity inspections in 2018, 10 percent in 2019, 15 percent in 2020, 15 percent in

2021, and 23 percent in 2022. The team confirmed that Illinois complied with their reciprocity procedure.

The pandemic had negligible impact on Illinois' ability to perform inspections. In March of 2020, at the beginning of the pandemic, Illinois developed a blended procedure combining the use of virtual and on-site inspections. On-site inspections were completed within 30-60 days following the virtual portion of the inspection. Using this method, Illinois completed 28 blended inspections during this period with no inspections performed overdue.

c. Evaluation

The team determined that, during the review period, Illinois met the performance indicator objectives listed in Section 3.2.a. Based on the criteria in MD 5.6, the team recommended that Illinois' performance with respect to the indicator, Status of Materials Inspection Program, be found satisfactory.

d. MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Illinois' performance with respect to this indicator satisfactory.

3.3 Technical Quality of Inspections

Inspections, both routine and reactive, provide reasonable assurance that licensee activities are carried out in a safe and secure manner. Accompaniments of inspectors performing inspections and the critical evaluation of inspection records are used to assess the technical quality of an inspection program.

a. Scope

The team used the guidance in [SA-102](#), "Reviewing the Common Performance Indicator: Technical Quality of Inspections," and evaluated Illinois' performance with respect to the following performance indicator objectives:

- Inspections of licensed activities focus on health, safety, and security.
- Inspection findings are well-founded and properly documented in reports.
- Management promptly reviews inspection results.
- Procedures are in place and used to help identify root causes and poor licensee performance.
- Inspections address previously identified open items and violations.
- Inspection findings lead to appropriate and prompt regulatory action.
- Supervisors, or senior staff as appropriate, conduct annual accompaniments of each inspector to assess performance and assure consistent application of inspection policies.
- For programs with separate licensing and inspection staffs, procedures are established and followed to provide feedback information to license reviewers.
- Inspection guides are compatible with NRC guidance.
- An adequate supply of calibrated survey instruments is available to support the inspection program.

b. Discussion

The team evaluated 22 inspection reports, enforcement documentation, and interviewed inspectors involved in materials inspections conducted during the review period. The team reviewed casework for inspections conducted by 11 current and former Illinois inspectors and covered medical, industrial, commercial, academic, research, and service provider licenses.

The team completed seven in-person materials inspector accompaniments between September 2022 and January 2023. The team found that the seven inspectors were well-prepared, thorough in their evaluation of each licensee, and assessed the impact of licensed activities on health, safety, and security. Inspectors observed the use of radioactive materials whenever possible. During interviews of licensee staff, inspectors used open-ended questions, and were able to develop a basis of confidence that radioactive materials were being used safely and securely. Any findings observed were brought to the licensee staff member's attention at the time of the inspection and again to the licensee's management during the inspection exit meeting. All findings and conclusions were well-founded and appropriately documented. The inspector accompaniments are identified in Appendix B.

The team also found that supervisory accompaniments were performed annually for all qualified inspectors who performed inspections during each year of the review period.

The team identified that Illinois' inspection results were well documented, and violations were well supported. Illinois followed its own documented inspection and enforcement procedures. The team reviewed the Illinois inspection procedures and found them to be compatible with NRC inspection procedures.

The team noted that Illinois maintained sufficient radiation survey meters such as Geiger-Mueller meters, scintillation detectors, ion chambers, micro-R meters, and neutron detectors to support its inspection program. The portable instruments used during the inspector accompaniments were operational, calibrated, and were appropriate for the types of licensed activities inspected.

c. Evaluation

The team determined that, during the review period, Illinois met the performance indicator objectives listed in Section 3.3.a. Based on the criteria in MD 5.6, the team recommended that Illinois' performance with respect to the indicator, Technical Quality of Inspections be found satisfactory.

d. MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Illinois' performance with respect to this indicator satisfactory.

3.4 Technical Quality of Licensing Actions

The quality, thoroughness, and timeliness of licensing actions can have a direct bearing on public health and safety, as well as security. An assessment of licensing procedures, implementation of those procedures, and documentation of communications and associated actions between the Illinois licensing staff and regulated community is a significant indicator of the overall quality of the licensing program.

a. Scope

The team used the guidance in [SA-104](#), "Reviewing the Common Performance Indicator: Technical Quality of Licensing Actions," and evaluated Illinois' performance with respect to the following performance indicator objectives:

- Licensing action reviews are thorough, complete, consistent, and of acceptable technical quality with health, safety, and security issues properly addressed.
- Essential elements of license applications have been submitted and elements are consistent with current regulatory guidance (e.g., pre-licensing guidance, Title 10 of the *Code of Federal Regulation* (10 CFR) Part 37, financial assurance, etc.).
- License reviewers, if applicable, have the proper signature authority for the cases they review independently.
- License conditions are stated clearly and can be inspected.
- Deficiency letters clearly state regulatory positions and are used at the proper time.
- Reviews of renewal applications demonstrate a thorough analysis of a licensee's inspection and enforcement history.
- Applicable guidance documents are available to reviewers and are followed (e.g., NUREG-1556 series, pre-licensing guidance, regulatory guides, etc.).
- Licensing practices for risk-significant radioactive materials (RSRM) are appropriately implemented including the physical protection of Category 1 and Category 2 quantities of radioactive material (10 CFR Part 37 equivalent).
- Documents containing sensitive security information are properly marked, handled, controlled, and secured.

b. Discussion

During the review period, Illinois completed 3,307 radioactive materials licensing actions. The team evaluated 26 actions including 4 new applications, 11 amendments, 7 renewals, and 4 terminations. The team evaluated the casework of 11 current and former license reviewers which included broad scope, medical diagnostic and therapeutic, accelerator, commercial manufacturing and distribution, industrial radiography, research and development, academic, nuclear pharmacy, gauges, both panoramic and self-shielded irradiators, service providers, financial assurance, and bankruptcy actions.

The team reviewed Illinois' procedures, license templates, standard conditions, licensing checklists, and use of databases. Illinois uses the NUREG-1556 series and additional guidance for all license reviews. The Pre-Licensing Guidance and RSRM checklists were used for new license requests, change of control, and renewals. The team determined that Illinois completed on-site security reviews for all new license applications, new locations of use authorizations, and possession limit increases that would be identified using the NRC's RSRM checklist and was compatible with the NRC's requirements. The team noted that Illinois performed pre-licensing visits on all new licenses and transfers of control. The team found that all documents containing sensitive security related or protected information were properly marked and secured in accordance with their procedures for controlling sensitive information.

The team observed that Illinois' use of comprehensive checklists for its licensing actions assured that licensing decisions were well documented, and properly addressed health, safety, and security issues. The team observed that Illinois adequately considered the licensee's inspection and enforcement history in completing renewals. For all actions, secondary level reviews were performed by the Licensing Unit Supervisor. Peer reviews

of licensing actions and the consistent use of checklists helped ensure the technical quality of the actions.

In response to the pre-IMPEP questionnaire, Illinois identified 25 renewal applications that had been pending for more than a year. The team found that the backlog of renewals was due to the staffing issues experienced by the program at the beginning of the review period. As a result, Illinois developed a tool to track, streamline, and prioritize licensing actions, the renewal backlog has declined significantly.

The team would like to highlight and acknowledge the following two efforts as good practices which will be shared with the National Materials Program, if the MRB Chair agrees:

- To better track and streamline licensing actions, Illinois implemented a licensing process to better apply resources and reduce the workload on the licensing staff. The team noted that Illinois leveraged newer Microsoft applications (Teams, Power BI, and Power Query) to integrate with existing databases and display a live-time dashboard of outstanding licensing actions. Succinct information could be displayed on the “days in house,” assigned reviewer, “status,” as well as the “nature” and “date” of last contact with the licensee. This affords not only a caseload management tool for reviewers, but a dynamic supervisory tool to instantly assess progress on aging actions. This effort is being expanded to several other performance indicators allowing Illinois to better manage its program.
- Illinois has begun to develop state-specific versions of the NUREG-1556 series volumes. Specifically, Illinois license reviewers used license applications and authorized user forms specific to these areas of authorized use (i.e., medical, portable gauges, radiography, etc.). The tailored applications clearly request the needed information identified in the Illinois-specific guidance from the licensee. Staff and program performance metrics indicated the quality of submittals has improved as a result. Additionally, it was noted that the amount of correspondence required decreased, and the average completion time of licensing actions steeply declined.

c. Evaluation

The team determined that, during the review period, Illinois met the performance indicator objectives listed in Section 3.4.a. Based on the criteria in MD 5.6, the team recommended that Illinois’ performance with respect to the indicator, Technical Quality of Licensing Actions, be found satisfactory.

d. MRB Chair’s Determination

The MRB Chair agreed with the team’s recommendation and found Illinois’ performance with respect to this indicator satisfactory.

3.5 Technical Quality of Incident and Allegation Activities

The quality, thoroughness, and timeliness of response to incidents and allegations of safety concerns can have a direct bearing on public health, safety, and security. An assessment of incident response and allegation investigation procedures, actual implementation of these procedures internal and external coordination, timely incident reporting, and investigative and follow-up actions, are a significant indicator of the overall quality of the incident response and allegation programs.

a. Scope

The team used the guidance in [SA-105](#), "Reviewing the Common Performance Indicator: Technical Quality of Incident and Allegation Activities," and evaluated Illinois' performance with respect to the following performance indicator objectives:

- Incident response and allegation procedures are in place and followed.
- Response actions are appropriate, well-coordinated, and timely.
- On-site responses are performed when incidents have potential health, safety, or security significance.
- Appropriate follow-up actions are taken to ensure prompt compliance by licensees.
- Follow-up inspections are scheduled and completed, as necessary.
- Notifications are made to the NRC Headquarters Operations Center for incidents requiring a 24-hour or immediate notification to the Agreement State or NRC.
- Incidents are reported to the Nuclear Material Events Database (NMED) and closed when all required information has been obtained.
- Allegations are investigated in a prompt, appropriate manner.
- Concerned individuals are notified within 30 days of investigation conclusions.
- Concerned individuals' identities are protected, as allowed by law.

b. Discussion

During the review period, 104 incidents were reported to the NMED database by Illinois. The team evaluated 20 of the more RSRM incidents which included pool irradiator mechanical issues, lost packages, radiography source disconnects, damaged equipment, medical events, and potential personnel exposures. Illinois dispatched inspectors for on-site follow-up for each of the cases reviewed. The team found that Illinois' evaluation of incidents and their response to those incidents was timely, thorough, well balanced, complete, and comprehensive. The team found that Illinois' procedures for incident and allegation reviews were compatible with NRC procedures.

The team evaluated Illinois' reporting of incidents to the NRC's Headquarters Operations Center (HOC). The team noted that in each case requiring HOC notification, Illinois reported the incidents within the required time frame. The team also evaluated whether Illinois missed making a required report to the HOC. The team did not identify any missed reporting requirements.

During the review period, 16 allegations were received by Illinois. The team evaluated all 16 allegations, including 12 allegations received directly and 4 referred by the NRC. The team found that Illinois took prompt and appropriate action in response to the concerns raised. Documentation for each allegation reviewed was complete, concise, and thorough. Concerned individuals were notified within 30 days of the conclusion of the investigation whenever possible. Individuals' identities were protected in accordance with state law.

c. Evaluation

The team determined that, during the review period, Illinois met the performance indicator objectives listed in Section 3.5.a. Based on the criteria in MD 5.6, the team recommended that Illinois' performance with respect to the indicator, Technical Quality of Incident and Allegation Activities, be found satisfactory.

d. MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Illinois' performance with respect to this indicator satisfactory.

4.0 NON-COMMON PERFORMANCE INDICATORS

Four non-common performance indicators are used to review Agreement State programs: (1) Legislation, Regulations, and Other Program Elements; (2) SS&D Evaluation Program; (3) LLRW Disposal Program; and (4) Uranium Recovery Program. The NRC relinquished regulatory authority for these non-common performance indicators and all four were reviewed by the IMPEP team.

4.1 Legislation, Regulations, and Other Program Elements

State statutes should authorize the State to establish a program for the regulation of agreement material and provide authority for the assumption of regulatory responsibility under the State's agreement with the NRC. The statutes must authorize the State to promulgate regulatory requirements necessary to provide reasonable assurance of adequate protection of public health, safety, and security. The State must be authorized through its legal authority to license, inspect, and enforce legally binding requirements, such as regulations and licenses. The NRC regulations that should be adopted by an Agreement State for purposes of compatibility or health and safety should be adopted in a time frame so that the effective date of the State requirement is not later than 3 years after the effective date of the NRC's final rule. Other program elements that have been designated as necessary for maintenance of an adequate and compatible program should be adopted and implemented by an Agreement State within 6 months following NRC designation. A Program Element Table indicating the Compatibility Categories for those program elements other than regulations can be found on the NRC website at the following address: <https://scp.nrc.gov/regtoolbox.html>.

a. Scope

The team used the guidance in [SA-107](#), "Reviewing the Non-Common Performance Indicator: Legislation, Regulations, and Other Program Elements," and evaluated Illinois' performance with respect to the following performance indicator objectives. A complete list of regulation amendments can be found on the NRC website at the following address: <https://scp.nrc.gov/regtoolbox.html>.

- The Agreement State program does not create conflicts, duplications, gaps, or other conditions that jeopardize an orderly pattern in the regulation of radioactive materials under the Atomic Energy Act of 1954, as amended.
- Regulations adopted by the Agreement State for purposes of compatibility or health and safety were adopted no later than 3 years after the effective date of the NRC regulation.
- Other program elements, as defined in [SA-200](#), "Compatibility Categories and Health and Safety Identification for NRC Regulations and Other Program Elements" that have been designated as necessary for maintenance of an adequate and compatible program, have been adopted and implemented within 6 months of NRC designation.
- The State statutes authorize the State to establish a program for the regulation of agreement material and provide authority for the assumption of regulatory responsibility under the agreement.

- The State is authorized through its legal authority to license, inspect, and enforce legally binding requirements such as regulations and licenses.
- Sunset requirements, if any, do not negatively impact the effectiveness of the State's regulations.

b. Discussion

Illinois became an Agreement State on May 14, 1987. The Illinois Agreement State statutory authority is contained in the Radiation Protection Act of 1990, of the Illinois Statutes. The Office of Nuclear Safety within the Illinois Emergency Management Agency and Office of Homeland Security is designated as the State's radiation control agency. The following legislation affecting the radiation control program was passed during the review period.

- Illinois Emergency Management Agency Act [20 ILCS 3305/] -- AMENDED.
- Nuclear Safety Law of 2004 [20 ILCS 3310/] -- AMENDED.
- Radiation Protection Act of 1990 [420 ILCS 40/] -- AMENDED.
- Uranium and Thorium Mill Tailings Control Act [420 ILCS 42/]
- Illinois LLRW Management Act [420 ILCS 20/]
- Radioactive Waste Compact Enforcement Act [45 ILCS 141/]
- Radioactive Waste Tracking and Permitting Act [420 ILCS 37/]
- Radioactive Waste Storage Act [420 ILCS 35/]
- Illinois Administrative Procedure Act [5 ILCS 100/] -- AMENDED.
- Freedom of Information Act [5 ILCS 140/] -- AMENDED.

The amendments were to meet compatibility requirements and address technical issues. None had a negative impact on the program.

Illinois' administrative rulemaking process takes approximately 18 months from drafting to finalizing a rule. The public, NRC, other agencies, and potentially impacted licensees and registrants are offered an opportunity to comment during the process. Comments are considered and incorporated, as appropriate, before the regulations are finalized and approved by the Joint Commission on Administrative Rules. The team noted that the State's rules and regulations are subject to "sunset" laws.

During the review period, Illinois submitted 11 proposed regulation amendments, 8 final regulation amendments, and no legally binding requirements or license conditions to the NRC for a compatibility review. The team noted that during the review period, none of the proposed regulations were submitted late and no amendments were overdue for State adoption at the time of the review.

c. Evaluation

The team determined that, during the review period, Illinois met the performance indicator objectives listed in Section 4.1.a. Based on the criteria in MD 5.6, the team recommended that Illinois' performance with respect to the indicator, Legislation, Regulations, and Other Program Elements, be found satisfactory.

d. MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Illinois' performance with respect to this indicator satisfactory.

4.2 SS&D Evaluation Program

Adequate technical evaluations of SS&D designs are essential to ensure that SS&Ds will maintain their integrity and that the design is adequate to protect public health and safety. NUREG-1556, Volume 3, "Consolidated Guidance about Materials Licenses: Applications for Sealed Source and Device Evaluation and Registration," provides information on conducting the SS&D reviews and establishes useful guidance for teams. In accordance with MD 5.6, three sub-elements: Technical Staffing and Training, Technical Quality of the Product Evaluation Program, and Evaluation of Defects and Incidents Regarding SS&D's, are evaluated to determine if the SS&D program is satisfactory. Agreement States with authority for SS&D evaluation programs who are not performing SS&D reviews are required to commit in writing to having an SS&D evaluation program in place before performing evaluations.

a. Scope

The team used the guidance in [SA-108](#), "Reviewing the Non-Common Performance Indicator: Sealed Source and Device Evaluation Program," and evaluated Illinois' performance with respect to the following performance indicator objectives:

Technical Staffing and Training

- A well-conceived and balanced staffing strategy has been implemented throughout the review period.
- Qualification criteria for new technical staff are established and are being followed or qualification criteria will be established if new staff members are hired.
- Any vacancies, especially senior-level positions, are filled in a timely manner.
- Management is committed to training and staff qualification.
- Individuals performing SS&D evaluation activities are adequately qualified and trained to perform their duties.
- SS&D reviewers are trained and qualified in a reasonable period of time.

Technical Quality of the Product Evaluation Program

- SS&D evaluations are adequate, accurate, complete, clear, specific, and consistent with the guidance in NUREG-1556, Volume 3.

Evaluation of Defects and Incidents

- SS&D incidents are reviewed to identify possible manufacturing defects and the root causes of these incidents.
- Incidents are evaluated to determine if other products may be affected by similar problems. Appropriate action and notifications to the NRC, Agreement States, and others, as appropriate, occur in a timely manner.

b. Discussion

Technical Staffing and Training

Illinois had four staff qualified to perform primary SS&D reviews with two of these staff members in training to perform concurrence reviews. During the review period, two SS&D staff members left the program, and two staff members were hired. When a vacancy did occur, Illinois had a license reviewer begin training to become an SS&D

reviewer. Illinois does have a training program equivalent to NRC's IMC 1248, Appendix D.

Technical Quality of the Product Evaluation

Illinois had seven SS&D licensees and two custom registrations. The team evaluated 8 of 12 SS&D actions processed during the review period. These actions included amendments, new applications, and inactivations. The team noted that evaluations were adequate, accurate, complete, clear, specific, and consistent with the guidance in NUREG-1556, Volume 3.

Evaluation of Defects and Incidents Regarding SS&Ds

The team evaluated the only incident involving SS&D registered products during the review period. The incident was related to devices manufactured overseas and distributed by a licensee with a SS&D registered by Illinois. The overseas manufacturer began placing sealed sources that were not authorized by the SS&D registration into the devices without notifying the Illinois distributor. The distributor's quality assurance program did not catch the mistake for 8 years. The overseas manufacturer also compressed the lead source holder so that it would flow around the sealed source holder. This was done because neither the sealed source authorized by the registration, nor the sources used by the manufacturer, would fit into the source holder. Once notified, Illinois performed a thorough investigation of the event and worked to determine whether this situation could also affect other devices distributed by other companies. After consultation with the overseas manufacturer, it was determined that this situation was limited to these models distributed by the Illinois distributor. There were no safety impacts on these devices. The radiation profiles of both sealed source models were compared and were the same. From a functional standpoint, there was no difference between these sealed source models. There were five corrective actions: (1) The manufacturer implemented a new procedure to screen the sources placed in the device so that all sealed sources installed into these devices would fit into the source holder; (2) The Illinois distributor's Quality Assurance and Control Program had been updated to ensure more oversight for potential changes to the device by the foreign manufacturers; (3) Illinois updated the SS&D registration to include the new sealed source, updated diagrams and labels; (4) required relabeling of the devices with the correct source information and reissuance of the distributor reports to all affected jurisdictions; and (5) solicited a commitment for return/disposal of the Am-241 source since there is no domestic disposal option for foreign sourced Am. All corrective action had a set date for completion.

c. Evaluation

The team determined that, during the review period, Illinois met the performance indicator objectives listed in Section 4.2.a. Based on the criteria in MD 5.6, the team recommended that Illinois' performance with respect to the indicator, SS&D Evaluation Program, be found satisfactory.

d. MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Illinois' performance with respect to this indicator satisfactory.

4.3 LLRW Disposal Program

The objective is to determine if Illinois' LLRW disposal program is adequate to protect public health and safety, and the environment. Five sub-elements are used to make this determination: (1) Technical Staffing and Training; (2) Status of LLRW Inspection Program; (3) Technical Quality of Inspections; (4) Technical Quality of Licensing Actions; and (5) Technical Quality of Incident and Allegation Activities.

a. Scope

The team used the guidance in [SA-109](#), "Reviewing the Non-Common Performance Indicator: Low-Level Radioactive Waste Disposal Program," and evaluated Illinois' performance with respect to the following performance indicator objectives:

Technical Staffing and Training

- Qualified and trained technical staff are available to license, regulate, control, inspect, and assess the operation and performance of the LLRW disposal facility.
- Qualification criteria for new LLRW technical staff are established and are followed or qualification criteria will be established if new staff members are hired.
- Any vacancies, especially senior-level positions, are filled in a timely manner.
- There is a balance in staffing the LLRW licensing and inspection programs.
- Management is committed to training and staff qualification.
- Individuals performing LLRW licensing and inspection activities are adequately qualified and trained to perform their duties.
- LLRW license reviewers and inspectors are trained and qualified in a reasonable period of time.

Status of LLRW Inspection Program

- The LLRW facility is inspected at prescribed frequencies.
- Statistical data on the status of the inspection program are maintained and can be retrieved.
- Deviations from inspection schedules are coordinated between LLRW technical staff and management.
- There is a plan to perform any overdue inspections and reschedule any missed or deferred inspections; or a basis has been established for not performing any overdue inspections or rescheduling any missed or deferred inspections.
- Inspection findings are communicated to licensees in a timely manner.

Technical Quality of Inspections

- Inspections of LLRW licensed activities focus on health, safety, and security.
- Inspection findings are well-founded and properly documented in reports.
- Management promptly reviews inspection results.
- Procedures are in place and used to help identify root causes and poor licensee performance.
- Inspections address previously identified open items, non-compliances, and violations.
- Inspection findings lead to appropriate and prompt regulatory action.

- Supervisors, or senior staff as appropriate, conduct annual accompaniments of each LLRW inspector to assess performance and assure consistent application of inspection policies.
- Inspection guides are consistent with NRC guidance.
- An adequate supply of calibrated survey instruments is available to support the inspection program.

Technical Quality of Licensing Actions

- Licensing action reviews are thorough, complete, consistent, and of acceptable technical quality with health, safety, and security issues properly addressed.
- Applicable LLRW guidance documents are available to reviewers and are followed.
- Essential elements of license applications have been submitted and elements are consistent with current NRC or Agreement State regulatory guidance for describing the isotopes and quantities used, qualifications of authorized users, facilities, equipment, locations of use, operating and emergency procedures, and any other requirements necessary to ensure an adequate basis for the licensing action.
- LLRW license reviewers, if applicable, have the proper signature authority for the cases they review independently.
- License tie-down conditions are stated clearly and can be inspected.
- Deficiency letters clearly state regulatory positions and are used at the proper time.
- Reviews of renewal applications demonstrate a thorough analysis of a licensee's inspection and enforcement history.
- Licensing practices for RSRM are appropriately implemented including fingerprinting orders (10 CFR Part 37 equivalent).
- Documents containing sensitive security information are properly marked, handled, controlled, and secured.

Technical Quality of Incident and Allegation Activities

- LLRW incident response, and allegation procedures are in place and followed.
- Response actions are appropriate, well-coordinated, and timely.
- On-site responses are performed when incidents have potential health, safety, or security significance.
- Appropriate follow-up actions are taken to ensure prompt compliance by licensees.
- Follow-up inspections are scheduled and completed, as necessary.
- Notifications are made to the NRC HOC for incidents requiring a 24-hour or immediate notification to the Agreement State or NRC.
- Incidents are reported to the NMED and closed when required information is obtained.
- Allegations are investigated in a prompt, appropriate manner.
- Concerned individuals are notified of investigation conclusions.
- Concerned individuals' identities are protected, as allowed by law.

b. Discussion

Historical Background Information

The Sheffield LLRW disposal site is located approximately three miles southwest of the town of Sheffield in Bureau County, Illinois. The facility began disposing LLRW in 1967 and closed in 1978 upon reaching capacity. The Sheffield LLRW disposal site includes 3.2 million cubic feet of LLRW buried in 21 shallow earthen trenches on 20.4 acres.

Illinois began conducting an environmental monitoring program at the LLRW site in 1967. Between 1967 and 1980, the Illinois Department of Public Health (IDPH) was responsible. Since October 1980, Illinois Emergency Management Agency (IEMA); formerly the Illinois Department of Nuclear Safety (IDNS), managed the monitoring program. Results of monitoring conducted between 1967 and 1988 were reported by IDNS in February 1991 (IDNS 1991), and the results of monitoring during 1989 and 1990 were reported in June 1992 (IDNS 1992). The June 1992 report also described features of the site, including meteorological and hydrological factors, which control the concentrations of radioactive contaminants in ground and surface water.

Since disposal of LLRW took place in earthen trenches, the major monitoring effort had been directed toward detecting radioactive contamination of groundwater. Samples were analyzed for a variety of radionuclides. These radionuclides may emit alpha particles, beta particles, and/or gamma rays. The type of radioactive emission determines the type of analysis required to detect a radionuclide.

The performance of a LLRW disposal site has been measured by its ability to isolate the radioactive waste from the surrounding environment. The environmental monitoring program at the Sheffield LLRW disposal site was designed to evaluate the site's performance as defined above by monitoring radionuclide movement, or lack thereof, away from the site and into pathways of possible human exposure.

The LLRW disposal site regulated by IEMA is unique because in 1979, the site operator, US Ecology, attempted to abandon the LLRW disposal site, unilaterally terminating its NRC and IDPH licenses and state lease. This led to investigations which revealed that there were faulty trench caps. Both state and Federal regulators objected to the unilateral terminations, arguing that the site operator must first safely close the site before terminating either of the licenses. This resulted in both Federal and state litigation. The Federal litigation was administratively argued before the Atomic Safety and Licensing Board, which eventually ruled against the operator on all counts. Illinois' complaint was argued before the Bureau County Circuit Court. After 10 years of negotiations, in May 1988, Illinois and US Ecology came to an agreement and the litigation was resolved in the form of a settlement agreement known as the Sheffield Agreed Order. The Sheffield Agreed Order sets the provisions for the regulatory oversight at the Sheffield LLRW disposal site.

Technical Staffing and Training

Illinois had six qualified LLRW inspectors. However, 2 weeks prior to the IMPEP review, one inspector transferred to another division within the agency resulting in one new current vacancy. Illinois began recruiting for a replacement.

The team found that Illinois' training and qualification program was compatible with the NRC's IMC 1248. The team evaluated the training program and found an organized and well documented program. Each inspector had an individual training and development plan similar to IMC1248 Appendix E.

Status of LLRW Disposal Inspection Program

Illinois performed four quarterly inspections each year of the review period for the Sheffield LLRW disposal site. Each of the inspections were performed timely and the reports were well documented. Additionally, Illinois also had a site contractor who performed daily inspections at the Sheffield LLRW disposal site. The team reviewed

each of the inspection reports as well as each annual radiological environmental monitoring report. The quarterly reports were used to develop the annual Radiological Environmental Monitoring Report for Sheffield LLRW disposal site.

The team found that Illinois performed LLRW inspections more frequently than the NRC's inspection frequency. Although this is not a typical licensee regulatory relationship, Illinois makes the Sheffield annual reports publicly available for all stakeholders.

Technical Quality of Inspections

On April 6, 2023, the team accompanied two inspectors at the Sheffield LLRW disposal site. Under the Sheffield Agreed Order, the inspection involved site security, environmental monitoring, well sampling, postings, and radiation monitoring. The team found that the inspectors were well-prepared, thorough in their evaluation, and assessed the impact of licensed activities with respect to public health and safety, as well as protection of the environment. Inspectors were observed collecting air and environmental samples, touring well locations, and visually inspecting the cap. All findings and conclusions were well-founded and appropriately documented. The inspector accompaniments are identified in Appendix B.

The team evaluated five inspection files and four radiological environmental monitoring reports which included, hydrogeological, radiological, security, and environmental hazards. The team determined that the inspection reports were thorough, complete, consistent, and had sufficient documentation to ensure that the site performance with respect to health, safety and security was acceptable. The findings were well-founded, supported by regulations, and were appropriately documented.

Technical Quality of Licensing Actions

There were no licensing actions during the review period. There were no changes made to the Sheffield Agreed Order since it was issued.

Technical Quality of Incident and Allegation Activities

There were no incidents or allegations that occurred during the review period or for several years prior to the review period, including any referred by the NRC involving the Illinois LLRW program. The team noted that Illinois LLRW staff follows the procedures established by the radioactive materials program for the handling, review, analysis, response and follow-up of incidents and allegations.

c. Evaluation

The team determined that, during the review period, Illinois met the performance indicator objectives listed in Section 4.3.a. Based on the criteria in MD 5.6, the team recommended that Illinois' performance with respect to the indicator, LLRW Disposal Program, be found satisfactory.

d. MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Illinois' performance with respect to this indicator satisfactory.

4.4 Uranium Recovery Program

The objective is to determine if Illinois' uranium recovery Program is adequate to protect public health and safety, and the environment. Five sub-elements are used to make this determination: (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.

a. Scope

The team used the guidance in [SA-110](#), "Reviewing the Non-Common Performance Indicator: Uranium Recovery Program," and evaluated Illinois' performance with respect to the following performance indicator objectives:

Technical Staffing and Training

- Qualified and trained technical staff are available to license, regulate, control, inspect, and assess the operation and performance of the uranium recovery program.
- Qualification criteria for new uranium recovery technical staff are established and are being followed or qualification criteria will be established if new staff members are hired.
- Any vacancies, especially senior-level positions, are filled in a timely manner.
- There is a balance in staffing the uranium recovery licensing and inspection programs.
- Management is committed to training and staff qualification.
- Individuals performing uranium recovery licensing and inspection activities are adequately qualified and trained to perform their duties.
- Uranium recovery license reviewers and inspectors are trained and qualified in a reasonable period of time.

Status of Uranium Recovery Inspection Program

- The uranium recovery facility is inspected at prescribed frequencies.
- Statistical data on the status of the inspection program are maintained and can be retrieved.
- Deviations from inspection schedules are coordinated between uranium recovery technical staff and management.
- There is a plan to perform any overdue inspections and reschedule any missed or deferred inspections; or a basis has been established for not performing overdue inspections or rescheduling any missed or deferred inspections.
- Inspection findings are communicated to licensees in a timely manner.

Technical Quality of Inspections

- Inspections of uranium recovery licensed activities focus on health, safety, and security.
- Inspection findings are well-founded and properly documented in reports.
- Management promptly reviews inspection results.
- Procedures are in place and used to help identify root causes and poor licensee performance.

- Inspections address previously identified open items, non-compliance, and violations.
- Inspection findings lead to appropriate and prompt regulatory action.
- Supervisors, or senior staff as appropriate, conduct annual accompaniments of each uranium recovery inspector to assess performance and assure consistent application of inspection policies.
- Inspection guides are consistent with NRC guidance.
- An adequate supply of calibrated survey instruments is available to support the inspection program.

Technical Quality of Licensing Actions

- Licensing action reviews are thorough, complete, consistent, and of acceptable technical quality with health, safety, and security issues properly addressed.
- Applicable uranium recovery guidance documents are available to reviewers and are followed.
- Essential elements of license applications have been submitted and meet current NRC or Agreement State regulatory guidance (e.g., financial assurance, etc.).
- Uranium recovery license reviewers, if applicable, have the proper signature authority for the cases they review independently.
- License conditions are stated clearly and can be inspected.
- Deficiency letters clearly state regulatory positions and are used at the proper time.
- Reviews of renewal applications demonstrate a thorough analysis of a licensee's inspection and enforcement history.
- Licensing practices for RSRM are appropriately implemented including fingerprinting orders (10 CFR Part 37 equivalent).
- Documents containing sensitive security information are properly marked, handled, controlled, and secured.

Technical Quality of Incident and Allegation Activities

- Uranium recovery incident response, investigation, and allegation procedures are in place and followed.
- Response actions are appropriate, well-coordinated, and timely.
- On-site responses are performed when incidents have potential health, safety, or security significance.
- Appropriate follow-up actions are taken to ensure prompt compliance by licensees.
- Follow-up inspections are scheduled and completed, as necessary.
- Notifications are made to the NRC HOC for incidents requiring a 24-hour or immediate notification to the Agreement State or the NRC.
- Incidents are reported to the NMED and closed when required information is obtained.
- Allegations are investigated in a prompt, appropriate manner.
- Concerned individuals are notified of investigation conclusions.
- Concerned individuals' identities are protected, as allowed by law.

b. Discussion

The Kerr-McGee West Chicago Rare Earth facility located approximately 30 miles west of Chicago, Illinois, conducted manufacturing operations involving radioactive materials from 1932 to 1973. During its operational period, various chemical processes were used to extract thorium and rare earth compounds from monazite ore. During late 1930's and

early 1940's radium-228 was produced at the facility and used in the production of luminous dials. Under contract with the U.S. Atomic Energy Commission, thorium nitrate was produced from 1954 through 1963 at the site. In 1964, monazite operations were resumed and for a short period of time the site also processed bastnaesite, a rare earth fluorocarbonate, a material which contained no thorium. Kerr-McGee operated the site for a short period between 1967 and 1973 under license from the NRC, previously the Atomic Energy Commission. From 1932 to 1973, thorium was produced at the facility for commercial purposes and for the U.S. Department of Energy. In September 1993, Kerr-McGee submitted a license application to the IEMA to decommission the facility. In February of 1994, IEMA approved Kerr-McGee's license application for decommissioning of the facility. In 2004, Kerr-McGee created Tronox, LLC, as a subsidiary company. Tronox, LLC subsequently filed for bankruptcy in 2009. As the result of this bankruptcy, the settlement agreement created the West Chicago Environmental Response Trust. Weston Solutions Inc. was chosen by the trust beneficiaries as the Trustee. IEMA then issued a radioactive material license to Weston Solutions Inc. The soil remediation/surface cleanup at the facility was completed at the end of 2015. All waste from the site has been shipped for disposal and no waste was disposed of at the facility. IEMA's primary focus is on groundwater remediation.

In May 2021, IEMA discussed facility license termination options with the NRC. A subsequent meeting was conducted in June 2021. IEMA provided the NRC with a detailed license and facility status report which summarized all contaminated structures and soil had been remediated to meet site cleanup criteria, that all contaminated soils had been shipped offsite for disposal, and that the only remaining issue was groundwater contamination. NRC informed IEMA that since the facility had been completely remediated and the resulting waste had been shipped for disposal, the site should now be considered a complex material decommissioning facility and the license should be terminated in accordance with 10 CFR 20.1403, "Criteria for License Termination Under Restricted Conditions." Furthermore, the NRC also required IEMA to submit a Completion Report Review to the NRC for review prior to license termination with restricted conditions.

Because of this NRC determination, the team determined that it would be appropriate for this facility to no longer be reviewed as a uranium recovery site. Rather, it could be reviewed as a complex decommissioning facility under the Technical Quality of Licensing Actions performance indicator for future IMPEP reviews until final closure of the site has occurred.

The team completed one in-person uranium recovery inspector accompaniment on April 20, 2023. The team found that the inspector was well-prepared and provided a presentation on the site's history including the surface clean up and the current status of the site. The inspector was thorough in his evaluation of the license and assessed the impact of licensed activities on health, safety, and security. The inspector accompaniments are identified in Appendix B.

c. Evaluation

The team determined that, during the review period, Illinois met the performance indicator objectives listed in Section 4.4.a. Based on the criteria in MD 5.6, the team recommended that Illinois' performance with respect to the indicator, Uranium Recovery Program, be found satisfactory.

d. MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Illinois' performance with respect to this indicator satisfactory.

5.0 SUMMARY

The team found Illinois' performance satisfactory for all nine performance indicators reviewed, and the MRB Chair agreed. There were no recommendations from the 2018 IMPEP review and the team did not make any new recommendations for the Program. With respect to the process for future IMPEPs, the team recommended and the MRB Chair agreed that the Weston Solutions Inc. facility no longer be reviewed as a uranium recovery site in future IMPEP reviews. This site can be reviewed as a complex decommissioning facility under the Technical Quality of Licensing Actions performance indicator until final site closure.

The team also identified, and the MRB Chair agreed, on two good practices to be shared with the NM:

- Illinois leveraged newer Microsoft applications (Teams, Power BI, and Power Query) to integrate with existing databases and display a live-time dashboard of outstanding licensing actions. Succinct information could be displayed that afforded not only a caseload management tool for reviewers, but a dynamic supervisory tool to instantly assess progress on aging actions.
- Illinois has begun to develop state-specific versions of the NUREG-1556 series volumes. Specifically, Illinois license reviewers used license applications and authorized user forms specific to these areas of authorized use (i.e., medical, portable gauges, radiography, etc.). The tailored applications clearly request the needed information identified in the Illinois-specific guidance from the licensee. Staff and program performance metrics indicated the quality of submittals has improved as a result. Additionally, it was noted that the amount of correspondence required decreased, and the average completion time of licensing actions steeply declined.

Accordingly, the team recommended and the MRB Chair agreed that Illinois be found adequate to protect public health and safety and compatible with NRC's program. Based on the results of the current IMPEP review, and this was Illinois' fourth consecutive IMPEP review with all indicators rated as satisfactory, the team recommended and the MRB Chair agreed that the next full IMPEP review take place in approximately 5 years, with a periodic meeting in approximately 2.5 years.

LIST OF APPENDIXES

Appendix A IMPEP Review Team Members

Appendix B Inspector Accompaniments

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	Areas of Responsibility
Randy Erickson, Region IV	Team Leader Technical Quality of Incident and Allegation Activities Inspector Accompaniments
Darren Piccirillo, Region III	Technical Staffing and Training Legislation, Regulations, and Other Program Elements
Craig Sutton, Texas	Status of the Materials Inspection Program
Steve Seeger, Tennessee	Technical Quality of Inspections
Nancy Stanley, New Jersey	Technical Quality of Licensing Actions
Shannon Dettmer, Ohio	Sealed Source and Device Evaluation Program
Maurice Heath, NMSS	Low-Level Radioactive Waste Disposal Program Inspector Accompaniments
Muhammadali Abbaszadeh, Texas	Uranium Recovery Program Inspector Accompaniment

APPENDIX B

INSPECTOR ACCOMPANIMENTS

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

Accompaniment No.: 1	License No.: IL-02168-01
License Type: Industrial Radiography	Priority: 1
Inspection Date: 9/20/2022	Inspector's initials: ZM
Accompaniment No.: 2	License No.: IL-01874-01
License Type: Nuclear Pharmacy	Priority: 2
Inspection Date: 10/19/2022	Inspector's initials: TD
Accompaniment No.: 3	License No.: IL-01123-02
License Type: Pool Irradiator	Priority: 2
Inspection Date: 11/2/2022	Inspector's initials: JH
Accompaniment No.: 4	License No.: IL-02344-01
License Type: Medical written directive required	Priority: 2
Inspection Date: 11/9/2022	Inspector's initials: TL
Accompaniment No.: 5	License No.: IL-01224-02
License Type: Medical written directive required	Priority: 3
Inspection Date: 12/1/2022	Inspector's initials: KDV
Accompaniment No.: 6	License No.: IL-01951-01
License Type: Medical no written directive required	Priority: 5
Inspection Date: 1/10/2023	Inspector's initials: IG
Accompaniment No.: 7	License No.: IL-01322-01
License Type: Medical written directive required	Priority: 3
Inspection Date: 1/12/2023	Inspector's initials: BR
Accompaniment No.: 8	License No.: STA-583
License Type: Complex Decommissioning Site	Priority: 5
Inspection Date: 4/20/2023	Inspector's initials: KG
Accompaniment No.: 9	License No.: Agreed Order
License Type: LLRW Disposal Site	Priority: 1
Inspection Date: 4/6/2023	Inspector's initials: TH
Accompaniment No.: 10	License No.: Agreed Order
License Type: LLRW Disposal Site	Priority: 1
Inspection Date: 4/6/2023	Inspector's initials: RP

Management Review Board (MRB) Meeting Participants – August 3, 2023

Management Review Board:

Cathy Haney, MRB Chair, OEDO
Jessica Bielecki, OGC
Mark Franke, NMSS

Ray Lorson, RI (VIA MS Teams)
Santiago Rodriguez, OAS Rep.
(NM) (VIA MS Teams)

IMPEP Team Members:

Randy Erickson, RIV
Darren Piccirillo, RIII
Maurice Heath, NMSS
Craig Sutton, TX (VIA MS Teams)

Steve Seeger, TN (VIA MS Teams)
N. Stanley, NJ (VIA MS Teams)
S. Dettmer, Ohio (VIA MS Teams)
M. Abbaszadeh, TX (VIA MS Teams)

Commonwealth of Illinois:

Gary Forsee, Chief Radioactive Materials Division

Commonwealth of Illinois (VIA MS Teams):

Adnan Khayyat
Mary Burkhart
Whitney Cox
Kelly Crossin
Adam Ekstedt
Igor Gomes

Robert Harris
Kelly Horn
Robin Muzzalupo
Jakob Parker
Alyssa Reynolds
Karamdeep Virk

NRC Staff:

Theresa Clark, NMSS
Adelaide Giantelli, NMSS

Lee Smith, NMSS
Robert Johnson, NMSS

NRC Staff (VIA MS Teams):

Aida Rivera-Varona, RIV
Sherrie Flaherty, NMSS
Latischa Hanson, RIV
Danielle Williams, NMSS

Karen Meyer, NMSS
Farrah Gaskins, RI
Geoffrey Miller, RIV

Members of the Public:

Courtney Eckstein, Indiana
Brian Goretzki, Arizona

Kevin Kunder, Florida
Mark Hannant, Illinois

There were no comments from Members of the Public. The meeting began at approximately 1:00 p.m. (ET) and was adjourned at approximately 2:10 p.m. (ET)