



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

April 15, 2022

Ms. Lisa Bruedigan  
Director, Radiation Section  
Consumer Protection Division  
Texas Department of State Health Services  
P.O. Box 149347, Mail Code 1986  
Austin, TX 78714-9347

Ms. Ashley Forbes  
Deputy Director  
Office of Waste  
Radioactive Materials Division  
Texas Commission on Environmental Quality  
P.O. Box 13087, MC 233  
Austin, TX 78711-3087

Dear Ms. Bruedigan and Ms. Forbes:

The U.S. Nuclear Regulatory Commission (NRC) uses the Integrated Materials Performance Evaluation Program (IMPEP) in the review of Agreement State and NRC radiation control programs. Enclosed is the draft IMPEP report, which documents the results of the Texas Agreement State review conducted from February 28 – March 4, 2022. In-person inspector accompaniments were conducted during the period from January 14, 2022, through February 16, 2022. The team's preliminary findings were discussed with you and your staff on the last day of the review. The team's proposed recommendations are that the Texas 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 radiation control 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 IMPEP process uses a team comprised of Agreement State and NRC staff to perform the reviews. All reviews use common criteria in the assessment and place primary emphasis on performance. The final determination of adequacy and compatibility of each program, based on the team's report, is made by the Chair of the Management Review Board (MRB) after receiving input from the MRB members. The MRB is composed of NRC senior managers and an Agreement State program manager.

In accordance with procedures for implementation of IMPEP, we are providing you with a copy of the draft 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.

The team will review the response, make any necessary changes to the report, and issue it to the MRB as a proposed final report. The MRB meeting is scheduled to be a hybrid meeting

consisting of remote and in-person participants on June 9, 2022, at 1:00PM ET via Microsoft Teams and NRC conference room OWFN17-B04. 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 will provide Microsoft Teams connection information prior to the meeting.

If you have any questions regarding the enclosed report, please contact Duncan White at [Duncan.White@nrc.gov](mailto:Duncan.White@nrc.gov) or 301-415-2598.

Thank you for your cooperation.

Sincerely,



Signed by Anderson, Brian  
on 04/15/22

Brian C. Anderson, Chief  
State Agreement and Liaison Programs Branch  
Division of Materials Safety, Security, State,  
and Tribal Programs  
Office of Nuclear Material Safety  
and Safeguards

Enclosure:  
2022 Texas Draft IMPEP Report

SUBJECT: TEXAS FY2022 DRAFT IMPEP REPORT – DATE APRIL 15, 2022

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**ADAMS Accession No. ML22095A196**

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF THE TEXAS PROGRAM

February 28 – March 4, 2022

**DRAFT REPORT**

**Enclosure**

## **EXECUTIVE SUMMARY**

The results of the 2022 Integrated Materials Performance Evaluation Program (IMPEP) review of the Texas Agreement State Program are discussed in this report. The review was conducted from February 28 through March 4, 2022. In-person inspector accompaniments were conducted during the period from January 14 through February 16, 2022.

The team found Texas' performance to be satisfactory for all performance indicators:

- Technical Staffing and Training;
- Status of Materials Inspection Program;
- Technical Quality of Inspections;
- Technical Quality of Licensing Actions;
- Technical Quality of Incident and Allegation Activities;
- Legislation, Regulations, and Other Program Elements;
- Sealed Source and Device Evaluation Program;
- Low-Level Radioactive Waste Disposal Program; and
- Uranium Recovery Program.

The team recommends that the five recommendations from the 2018 IMPEP review be closed and made no new recommendations.

Accordingly, the team recommends that the Texas Agreement State Program be found adequate to protect public health and safety and compatible with the NRC's program. The team recommends that the next IMPEP review take place in approximately 4 years with a periodic meeting in approximately 2 years.

## 1.0 INTRODUCTION

The Texas Agreement State Program review was conducted from February 28 – March 4, 2022, by a team of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and from the States of Arizona, New Jersey, Oklahoma, Tennessee, and Wyoming. In-person inspector accompaniments were conducted during the period of January 14 through February 16, 2022. Team members are identified in Appendix A. The review was conducted in accordance with the “Agreement State Program Policy Statement,” published in the *Federal Register* 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 February 10, 2018, to March 4, 2022, were discussed with Texas 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 Texas on October 1, 2021. Texas provided its responses to the questionnaire on February 11 and February 14, 2022. Copies of the questionnaire responses are available in the NRC’s Agencywide Documents Access and Management System (ADAMS) using the Accession Numbers [ML22075A220](#) and [ML22075A252](#).

The Texas Agreement State Program is administered by three Divisions within two State Agencies: the Consumer Protection Division, the Radioactive Materials Division, and the Critical Infrastructure Division. The Consumer Protection Division is located in the Texas Department of State Health Services (the Department) and the Radioactive Materials and Critical Infrastructure Divisions are located in the Texas Commission on Environmental Quality (the Commission). Organization charts for Texas are available in ADAMS (Accession Numbers [ML22075A209](#) and [ML22075A250](#)).

At the time of the review, Texas regulated 1406 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 Texas.

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 the State’s performance.

## 2.0 PREVIOUS IMPEP REVIEW AND STATUS OF RECOMMENDATIONS

The previous IMPEP review concluded on February 9, 2018. The final report is available in ADAMS (Accession Number [ML18120A324](#)). The results of the review and the status of the associated recommendations are as follows:

Technical Staffing and Training: Satisfactory  
Recommendation: none

Status of Materials Inspection Program: Satisfactory  
Recommendation: none

**Technical Quality of Inspections: Satisfactory**

Recommendation: Texas should develop and implement a plan to ensure that inspectors performing Yttrium-90 inspections get additional training in this area including accompanying experienced inspectors.

Status: The Department addressed this recommendation by sending Yttrium-90 specific information to all radioactive material inspectors immediately following the 2018 IMPEP review. In addition, all inspectors completed training on conducting Yttrium-90 inspections at the radioactive material staff meeting held April 2-5, 2018. The 2022 IMPEP review team interviewed all new inspectors, and all inspectors demonstrated sufficient knowledge on conducting Yttrium-90 inspections. In addition, all the new inspectors had accompanied experienced Department inspectors during Yttrium-90 inspections.

The 2022 IMPEP team recommends that this recommendation be closed.

**Technical Quality of Licensing Actions: Satisfactory but Needs Improvement**

Recommendation: Texas should develop and implement an action plan to reduce the licensing renewal backlog.

Status: The Department made procedural changes and increased oversight on the progress of individual license renewal assignments. One change eliminated the need to issue a new license when a licensee requested a change of control. While the new licensee was being processed, any pending renewal was left was not terminated until the new license was issued. This process was changed at the end of 2018 and transfers of control no longer required a termination/new application. The Licensing Manager also started distributing renewals to qualified staff on a rotating basis and developed a licensing action aging schedule to monitor the duration of the technical review. The licensing action aging schedule is a tool that lets the Licensing Manager stay on top of all open licensing actions and take appropriate action where necessary. These improvements helped the Department to reduce the backlog from 83 licensing renewal actions during the 2018 IMPEP to 1 action during the 2022 IMPEP.

The team recommends that this recommendation be closed.

**Technical Quality of Incident and Allegation Activities: Satisfactory**

Recommendation: none

**Compatibility Requirements: Satisfactory**

Recommendation: none

**Sealed Source and Device Evaluation Program: Satisfactory**

Recommendation: none

**Low-Level Radioactive Waste Disposal Program: Satisfactory**

Recommendation: Texas should review and update the recently developed formal training and qualification program to identify the training needs of the low-level radioactive waste and uranium recovery programs and ensure it meets the essential objectives of IMC 1248 and apply it to staff currently going through the qualification process.

Status: The Commission has implemented a training program equivalent to NRC training requirements listed in the applicable appendices to NRC's Inspection Manual Chapter 1248 and applied the training program to staff going through qualification. The team determined that qualification journals were up-to-date and complete for staff going through qualification at the time of this review. The 2022 IMPEP team recommends that this recommendation be closed.

Recommendation: Texas should revise its low-level radioactive waste and uranium recovery program inspection procedures to specify that inspection results will be communicated to licensees within 30 days of the completion of an inspection. Additionally, Texas should ensure that future inspection results are sent to licensees within 30 days of the completion of an inspection.

Status: The Commission revised their LLRW and UR procedures in 2018 to specify a 30-day period for issuing the written results of the inspection. A review of the inspection reports for calendar year 2020 and 2021 determined that most inspection reports were sent to the licensee within 30-day of the completion of the inspection. The 2022 IMPEP team recommends that this recommendation be closed.

Recommendation: Texas should provide training to its staff on the newly revised licensing standard operating procedures to ensure consistency in low-level radioactive waste and uranium recovery licensing actions.

Status: The team reviewed the Commission's training program and training on the updated procedures and determined that the Texas staff was familiar with the procedures and licensing actions are consistent and technically sound.

The 2022 IMPEP team recommends that these recommendations be closed.

Uranium Recovery Program: Satisfactory, but needs improvement

Recommendations: The recommendations discussed above also addressed the Uranium Recovery Program. As discussed in the responses to recommendations for the Low-Level Radioactive Waste Disposal Program, the 2022 IMPEP team recommends that the recommendations be closed.

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, and 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 procedure SA-103, "Reviewing the Common Performance Indicator: Technical Staffing and Training," and evaluated Texas' performance with respect to the following performance indicator objectives:

- A 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 team reviewed the Department's Radiation Section, which was reorganized into four groups or units on February 4, 2022. At the time of the review:

- The Radioactive Materials Group had 12 staff members and 1 manager which equals 12 full-time equivalents (FTE),
- The Environmental Monitoring Group had 12 staff members and 1 manager which equals 5.2 FTE, the Radioactive Material Unit had 11 staff members and 1 manager which equals 8.5 FTE, and
- The Radiation Operations Unit had 2 staff members and 1 manager which equals 3 FTE.

The Department's Radiation Section has a total of 28.7 FTE for the Agreement State program when fully staffed. At the time of the review, there were seven vacancies. During the review period, 26 of the staff members left the program and 14 staff members were hired. The vacancies were vacant from 2 months to a little over 1 year. Five positions were lost during the recent reorganization of the Department's Radiation Section.

The Department's Radiation Section cross trains their inspection staff to enhance their qualifications and skills and to maintain continuity within the program. Likewise, the Environmental Monitoring Group investigators and incident inspectors accompany the Radioactive Materials Group inspectors. Because there is a balance in staffing of the Radioactive Materials Group and the Radioactive Material Unit, the loss of the five positions did not impact health and safety.

Texas has a training and qualification program compatible with the NRC's Inspection Manual Chapter (IMC) 1248.

During the pandemic and as a result of the physical move to a new building location, the Radioactive Materials Group staff have maximum flexibility regarding telework and can work in the Regional Office at any time. There are no restrictions on conducting inspections. Most staff and managers in the Radiation Section work most of the time from their residence and communicate electronically via Microsoft Teams. Work was sent electronically to staff. The team noted that the telework arrangements above did not impact public health, safety, and security.

c. Evaluation

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

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

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 State Agreements procedure SA-101, "Reviewing the Common Performance Indicator: Status of the Materials Inspection Program," and evaluated Texas's 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

The Department performed 1088 Priority 1, 2, 3, and initial inspections during the review period. Texas conducted approximately 1 percent of Priority 1, 2, 3, and initial inspections overdue. Twenty one of 860 Priority 1, 2, or 3, inspections were overdue and four of 228 initial inspections were overdue. There are currently no overdue inspections, and the team determined that any overdue inspections did not result in any health and safety concerns.

The team noted that TI-003, "Evaluating the Impacts of the COVID-19 PHE as part of the IMPEP," states, in part, that for inspections that exceed the scheduling window with overdue dates falling inside the defined timeframe of the COVID-19 PHE, the number of overdue inspections should be noted in the report but should not be counted in the calculation of overdue inspections described in SA-101, "Reviewing the Common Performance Indicator: Status of Materials Inspection Program," Appendix A, provided that the Department continues to maintain health, safety, and security. Of the overdue inspections noted above, 12 Priority 1, 2, or 3 inspections and two initial inspections were performed overdue due to impacts related to the COVID-19 PHE. Therefore, the team did not include these fourteen inspections when performing the calculation. The team noted no health and safety impacts as a result of these inspections being conducted late.

The Department's inspection frequencies were the same for similar license types in NRC's program.

A sampling of 24 inspection reports indicated that none of the inspection findings were communicated to the licensees beyond Department's goal of 30 days after the inspection exit or 45 days after the team inspection exit.

The Department's Inspection manual is being modified to be equivalent to IMC 2800, including updating the reciprocity procedure. At the time of the review, the Department's inspection manual described meeting the requirements of IMC 1220. The reciprocity inspections completed during the 2018-2021 review period all met the IMC 1220 requirements. For example, in 2020, the Department inspected 5 of the 19 (26%) eligible companies working in Texas under reciprocity. In 2021, the Department inspected 9 of the 35 (25%) eligible companies under reciprocity.

c. Evaluation

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

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

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 Texas's 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 24 inspection reports and enforcement documentation, and interviewed inspectors involved in materials inspections conducted during the review period. The team reviewed casework for inspections conducted by 17 inspectors and covered medical, industrial, commercial, academic, research, and service licenses and concluded that the inspection findings were well-founded and appropriately documented.

Team members accompanied seven inspectors from January 14 through February 16, 2022. The inspector accompaniments are identified in Appendix B. The inspectors were accompanied during health, safety, and security inspections. During the accompaniments, the inspectors demonstrated appropriate use of inspection checklists, knowledge of the regulations, and appropriate use of calibrated survey instruments. The Department's inspection checklists addressed each of the focus elements in the NRC's Inspection Procedures for each type of inspection. The inspectors were trained, adequately prepared for the inspection, conducted interviews with appropriate personnel, observed licensed operations, conducted independent and confirmatory measurements, and utilized good health physics practices. The inspections were adequate to assess radiological health and safety and security at the licensed facilities.

All inspection documentation subject to Title 10 *Code of Federal Regulations* (CFR) Part 37 equivalent requirements were properly marked and secured.

The team noted that Texas maintained sufficient instrumentation for inspectors to conduct independent and/or confirmatory measurements that were calibrated at appropriate intervals and were appropriate for the types of licensed activities inspected.

The team also evaluated the performance of supervisory accompaniments of the program's qualified inspectors. All qualified inspectors were accompanied at least annually during the review period.

c. Evaluation

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

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

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 Texas 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 State Agreements procedure SA-104, "Reviewing the Common Performance Indicator: Technical Quality of Licensing Actions," and evaluated Texas' 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 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 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 current review period, the Department performed 5,969 radioactive materials licensing actions. The team evaluated 24 of those licensing actions: 5 new applications, 10 amendments, 5 renewals, 1 bankruptcy, 1 decommissioning, and 2 terminations.

The team evaluated casework which included the following license types and actions: broad scope, medical diagnostic and therapeutic, commercial manufacturing and distribution, industrial radiography, research and development, academic, well loggers, service providers, portable and fixed gauges, and emerging technologies. The casework sample represented work from 11 license reviewers including two managers, and current and former license reviewers.

The team reviewed licenses for compliance with financial assurance program requirements. The team verified that the proper financial assurance documentation was on file and that the information was appropriately protected.

The team found that actions terminating a license were well documented, included the appropriate survey records, and contained documentation of proper disposal or transfer of radioactive material, as appropriate. All licenses that are subject to 10 CFR Part 37 equivalent requirements are properly marked and secured. Compliance with the 10 CFR Part 37 requirements was addressed by adding standard license conditions.

The team noted that the Department issued renewal licenses for 10 years. Through interviews with the staff, the team determined that the license reviewer considered the licensee's inspection and enforcement history during reviews of renewal applications, the team found that these were documented in the electronic files.

The team assessed the Department's implementation of the NRC's "Checklist to Provide a Basis for Confidence that Radioactive Material will be used as Specified on the License" (pre-licensing guidance). The team determined that the Department had implemented the essential elements of the most recent pre-licensing guidance. Based on the new applications and transfer of control licensing actions reviewed, the team determined that in all cases, the assigned license reviewer used the pre-licensing guidance appropriately prior to the issuance of the license.

The team reviewed the Department's implementation of the risk significant radioactive materials (RSRM) checklist. The team found that the objectives of the RSRM checklist were being met, and that the Program also included in the RSRM calculations an electronic spreadsheet that included Financial Assurance and Emergency Response requirements. The team determined that the licensing actions were properly identified as a RSRM action, information was being entered into the National Source Tracking System, and onsite security reviews were conducted by the Program, as necessary.

c. Evaluation

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

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

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 Texas' 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 (HOC) 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, 202 incidents were reported to the Department. The team evaluated 20 radioactive materials incidents which included five events involving lost or stolen radioactive materials, four potential overexposures, five medical events, four events involving damaged equipment, one leaking source, and one contamination event. The Department dispatched inspectors for onsite follow-up for 11 of the cases reviewed.

Determinations of the level of response to an incident are made based on both the circumstances and the health and safety significance of the incident. The team found that the Department's evaluation of incident notifications and its response to those incidents was thorough, well balanced, complete, and comprehensive. The team noted that the Department needed to evaluate multiple incidents involving significant personnel exposures. The team reviewed a sample of these incidents including an equipment failure involving radiography exposure device, source falling out of fixed gauge, exposure of workers at a commercial facility, and extremity exposure involving medical generator. The team determined that Department's evaluation of these incidents included an independent assessment of the licensee's evaluation which included the Department provided feedback prior to closing the incident. Given the complexity in determining a realistic radiation dose for some incidents, the team discussed with the Department the need for additional tools and skills to model complex situations found with some incidents to support their assessment and regulatory decision-making. The Department is considering what, if any, additional enhancements may be warranted.

The team also evaluated Texas' reporting of incidents to the NRC's Headquarters Operations Officer (HOO). The team noted that in each case requiring HOO notification, the Department reported the incidents within the required timeframe. The team also

evaluated whether the Department had failed to report any required incidents to the HOO. The team did not identify any missed reporting requirements.

During the review period, 165 allegations were received by the Department. The team evaluated 16 allegations, including 10 allegations that the NRC referred to the State, during the review period. All allegations reviewed were appropriately closed, concerned individuals were notified of the actions taken, and alleged identities were protected.

c. Evaluation

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

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

#### 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) Sealed Source and Device (SS&D) Evaluation Program; (3) Low-Level Radioactive Waste (LLRW) Disposal Program; and (4) Uranium Recovery Program. All four non-common indicators apply to this review.

##### 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 Web site 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 Texas' 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, 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 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

Texas became an Agreement State on March 1, 1963. The Texas Agreement State Program's current effective statutory authority is contained in the Texas Radiation Control Act, Chapter 401, of the Texas Health and Safety Code. Section 401.011 designates the Department as the State's radiation control agency. However, Section 401.11(b) provides an exception which gives the Commission jurisdiction to regulate and license: (1) the disposal of radioactive substances; (2) the processing or storage of low-level radioactive waste or naturally occurring radioactive material (NORM) waste received from other persons, except oil and gas NORM; (3) the recovery or processing of source material in accordance with Subchapter G; (4) the processing of by-product material as defined by Section 401.003(3)(B); and (5) sites for the disposal of: (a) low-level radioactive waste; (b) by-product material; or (c) naturally occurring radioactive material waste.

One bill was passed by the legislature during the IMPEP review period that directly impacted the Department and Commission. House Bill 2203 was passed in 2019 that required the notification of each affected political subdivision of the state when a state agency received a required report of a release of a radioactive substance. Both the Department and the Commission have implemented this new requirement.

The Department's administrative rulemaking process takes approximately two years and the Commission's administrative rulemaking process takes approximately one year from drafting to finalizing a rule. The public, the 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. Once approval is received, the rules are submitted to the Secretary of State's office for publication. The rules are effective 20 days after publication. The team noted that the State's rules and regulations are subject to a "sunset" equivalent law. All rules must be reviewed every four years to determine if the rule is still relevant and needed.

During the review period, seven NRC amendments were due for adoption. The Commission adopted both of their due amendments on time. The Department adopted three amendments on time and two were adopted more than 3 years after the effect date of the NRC amendment. At the time of this review, no amendments were overdue.

During the review period, a total of 21 additional program elements designated as necessary for the maintenance of an adequate and compatible program were issued by the NRC. These program elements included 11 revised volumes to NUREG-1556 consolidated licensing guidance, new or revised medical guidance for emergent medical modalities, and a major revision to IMC 2800, Materials Inspection Program. The additional program elements only required adoption by the Department and were adopted within 6 months of NRC designation.

c. Evaluation

The team determined that, during the review period, Texas met the performance indicator objectives listed in Section 4.1.a., with one exception:

- Regulations adopted by the Agreement State for purposes of compatibility or health and safety were not always adopted within three years after the effective date of the NRC regulation.

The Department adopted two NRC amendments overdue during the review period. Both amendments were for miscellaneous corrections that were part of a larger package of amendments processed together by the Department for efficiency. Given that these amendments included changes in addresses, corrected citations, and other minor corrections, the team concluded that the late adoption of these amendments had no impact on the Program's ability to protect health and safety and did not impact the orderly pattern of regulating radioactive materials across the National Materials Program.

Based on the IMPEP evaluation criteria in MD 5.6, the team recommends that Texas' performance with respect to the indicator, Legislation, Regulations, and other Program Elements, be found satisfactory.

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

4.2 Sealed Source and Device (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 Texas' performance with respect to the following performance indicator objectives:

### Technical Staffing and Training

- A 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

The Department has three staff qualified to perform SS&D reviews and two in training. Currently, there are no vacancies. During the review period, none of the SS&D staff members left the program and no staff members were hired. The Department's training program is equivalent to NRC training requirements listed in IMC 1248, Appendix D.

Additional in-house training was created by the program that is done in-person using NRC material

### Technical Quality of the Product Evaluation

The Department has 37 active SS&D licensees. The team evaluated 13 SS&D actions processed during the review period. These actions included amendments, new applications, and inactivations. The Department maintains all SS&D records in their SharePoint file that provided a readily accessible historical overview of all the current, as well as the previous, actions on the SSD registration. Based on the information reviewed, the team determined that the technical evaluation of the applications was adequate, accurate, complete, clear, specific, and consistent with the guidance in NUREG-1556, Volume 3 Rev. 2.

### Evaluation of Defects and Incidents Regarding SS&Ds

The team evaluated one incident involving a custom use SS&D registered product during the review period. The design flaw that caused the incident was corrected by amendment to the SS&D registry sheet submitted by the licensee and evaluated by the

Department. The team determined that the design flaw did not impact the health and safety of the users of this custom device.

c. Evaluation

The team determined that, during the review period, the State met the performance indicator objectives listed in Section 4.2.a.

Based on the IMPEP evaluation criteria in MD 5.6, the team recommends that Texas' performance with respect to the indicator, Sealed Source and Device Evaluation Program, be found satisfactory.

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

4.3 Low-Level Radioactive Waste (LLRW) Disposal Program

The objective is to determine if the Texas 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 State Agreements procedure SA-109, "Reviewing the Non-Common Performance Indicator: Low-Level Radioactive Waste Disposal Program," and evaluated Texas' 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 risk significant radioactive materials 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

The Texas LLRW and Uranium Recovery Programs are implemented by two divisions within the Commission. Licensing of low-level radioactive waste and uranium recovery activities are conducted by staff in the Radioactive Materials Division (RMD). Inspection of low-level radioactive waste and uranium recovery activities are conducted by staff in the Critical Infrastructure Division (CID). The Commission's low-level radioactive waste program regulates consists of four licensees: Waste Control Specialists (low-level waste disposal facility), Ascend Performance Materials Texas Inc. (alternative disposal), Iso-Tex Corp. (undergoing decommissioning), and Nuclear Sources and Services Inc. (waste processor).

Technical Staffing and Training

RMD currently has 18 management and technical positions, and CID has 6 management and technical positions. Staff at both the RMD and the CID for LLRW are frequently dividing their time between LLRW and Uranium Recovery (UR) activities. RMD has six licensing staff qualified for LLRW and three staff who are currently being trained. CID has one qualified inspector for LLRW with two additional staff currently being trained. Two other individuals in the CID are currently inspectors in training for UR, but once they complete their qualifications in UR, CID plans to train them to be LLRW inspectors. RMD has approximately 5.6 FTE dedicated to LLRW licensing, and the CID has 2.8 FTE dedicated to LLRW inspection efforts.

During the review period, 11 staff members left RMD, 6 were hired, and 2 positions were moved outside RMD, leaving 3 vacancies in RMD. Five staff members left CID and all vacancies were filled. The licensing vacancies in RMD have been unfilled for 1 to 6 months. Interviews have been completed for two of the three RMD vacancies.

The Commission has a LLRW training program equivalent to NRC training requirements in IMC 1248, Appendix E and has applied it to staff going through qualification. The review team also noted that the Commission's training program for uranium recovery and LLRW inspectors relies extensively on hands-on mentoring and given the current availability of a single qualified inspector. The team encouraged the Commission to explore knowledge management tools to reduce overreliance on hands-on mentoring.

Likewise, the review team noted that turnover in CID staff has recently increased resulting in reliance on a single qualified inspector. As discussed in the Status of LLRW Disposal Inspection Program, this reliance on a single qualified inspector has resulted in minor impacts on inspection timeliness.

### Status of LLRW Disposal Inspection Program

The Commission performed 14 LLRW inspections during the review period. The team determined that the inspections were conducted in accordance with the NRC's inspection frequency.

Inspection findings for the LLRW program were communicated by formal correspondence to the licensee within 30 to 60 days following the inspection. Inspections conducted in 2018 and 2019 were communicated to licensees between 45 to 60 days, inspection results in 2020 and 2021 were communicated within 30 days.

### Technical Quality of Inspections

The team evaluated 10 inspection files which included waste acceptance, hydrogeological, radiological, security, and environmental hazards, and determined that the inspection reports were thorough, complete, consistent, and had sufficient documentation to ensure that licensee performance with respect to health, safety and security was acceptable. The findings were well-founded, supported by regulations, and were appropriately documented.

Commission inspectors included photographs of licensee operations in the inspection file to document site conditions and issues. The photographs helped supervisors and future inspectors have a visual indication of licensees' facilities, equipment, and operations. In cases where the licensee provides pictures to document the corrective actions taken to address issues identified during an investigation, those pictures are also included in the inspection files for the site.

CID staff uses a letter format to report the inspection results to the licensee. The documentation of the inspection findings is well organized with the inspection areas and observations reviewed by the inspector well documented. The documentation is comprehensive and a useful tool for the next inspector visiting the site.

### Technical Quality of Licensing Actions

The Commission completed 12 licensing actions during the review period. The team examined six licensing actions which included 4 amendments and 2 renewals (1 still pending). The amendments and renewals reviewed included actions that were administrative and technical, including evaluations for engineered barriers, hydrogeology, fire safety, financial assurance, and transfer of control. There were no new applications or terminations during the review period.

The team noted that the Commission utilizes administrative checklists to ensure completeness and consistency in processing applications and technical review summaries of the major licensing steps. Technical evaluations and analyses supporting licensing actions are adequately documented and performed by qualified staff. Requests for additional information from licensees were clear. The team did note that there was variability in the level of detail provided in the basis for requests for additional information, however, the variability did not affect the quality of the completed licensing action. License tie-down conditions are stated clearly and are inspectable. Opportunity for comment was afforded to the public in accordance with applicable Commission administrative procedures.

The team examined two revised financial surety proposed for two of the four licenses and a transfer of control for one licensee. The financial surety for several categories (e.g., decommissioning, closure, and post-closure) were clearly stated on the licenses. The transfer of control was evaluated to ensure adequate financial resources and the new parent company is clearly stated on the license. The team determined that the Commission adequately addressed the financial surety component and the transfer of control of the licenses. The team also reviewed one renewal that has been pending for more than one year and determined that the Commission is adequately ensuring that safety and security are being maintained as issues with the renewal are resolved.

Overall, the team determined that licensing actions were thorough, complete, consistent, and of acceptable technical quality and found that health and safety issues were properly addressed.

#### Technical Quality of Incident and Allegation Activities

There were no incidents during the review period. The team evaluated the one allegation received during the review period. Incidents and allegations are reviewed and evaluated by the CID staff. The review team determined that the Commission's evaluation of the pending allegation has been appropriate, well-coordinated, and timely. The Commission indicated it will be notifying the concerned individual about the results of its investigation in 2022 and has protected the concerned individual's identity.

#### c. Evaluation

The team determined that, during the review period, Texas met the performance indicator objectives listed in Section 4.3.a. Based on the criteria in MD 5.6, the team recommends that Texas' performance with respect to the indicator, Low-Level Radioactive Waste Disposal Program, be found satisfactory.

#### d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

### 4.4 Uranium Recovery Program

The objective is to determine if the Texas 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 State Agreements procedure SA-110, "Reviewing the Non-Common Performance Indicator: Uranium Recovery Program," and evaluated Texas' 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 or if inspections were deferred the deferment justification is documented in the inspection file.
- 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 risk significant radioactive materials 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 Texas LLRW and Uranium Recovery Programs are conducted by two divisions within the Commission. Licensing of low-level radioactive waste and uranium recovery activities are conducted by staff in the RMD. Inspection of low-level radioactive waste and uranium recovery activities are conducted by staff in the CID. At the time of the IMPEP review, the Commission's Uranium Recovery Program consists of three conventional mill licenses, currently in decommissioning pending transfer to Department of Energy (DOE) for long-term maintenance and surveillance, and 10 in-situ recovery licenses, 6 of which are in standby status, and four which were in the pre-construction phase (licensed but not operational). Pre-construction sites are not subject to inspection until construction begins. Two of the four preconstruction sites requested license termination which was granted in 2019.

#### Technical Staffing and Training

RMD currently has 18 management and technical positions, and CID has 6 management and technical positions. Staff at both the RMD and the CID for LLRW are frequently dividing their time between LLRW and UR activities. RMD has nine licensing staff qualified for uranium recovery and three staff who are currently being trained. CID has one qualified inspector for uranium recovery with two additional staff currently being trained. RMD has approximately 6.9 FTE dedicated to uranium recovery licensing, and the CID has 1.5 FTE dedicated to uranium recovery inspection efforts.

During the review period, 11 staff members left RMD, 6 were hired, and 2 positions were moved outside RMD, leaving 3 vacancies in RMD. Five staff members left CID and all vacancies were filled. The licensing vacancies in RMD have been unfilled for 1 to 6 months. Interviews have been completed for two of the three RMD vacancies.

The Commission has a training program equivalent to NRC training requirements listed in the IMC 1248, Appendices H and I. Training of the new LLRW and uranium recovery inspection staff currently relies on the efforts of the one qualified inspector to conduct one-on-one individual training for the new inspectors to supplement attendance at NRC courses and document reviews. Loss of this single qualified inspector could impact the ability of the new inspection staff to complete their qualifications. The team encouraged the Commission to consider other options rather than reliance on one-on-one individual training for the inspectors in training. The team also suggested additional health physics documents to consider for review and discussion outside what was identified in the qualification journal.

#### Status of the Uranium Recovery Inspection Program

The Commission performs inspections in accordance with the NRC's *Uranium Recovery (In-Situ and Conventional) and Underground Injection Control (Class III) Programs Investigation Procedures, Revision 5*. CID performed 26 inspections during the review period. The team determined that CID did not complete the uranium recovery inspections in accordance with the frequency in IMC 2801, *Uranium Mill and 11e.(2) Byproduct Material Disposal Site and Facility Inspection Program*. Specifically, the licensee deferred seven inspections in CY 2019 due to good licensee performance and deferred four inspections in CY 2020 due to COVID-19 concerns. The Commission modified the inspection requirements during the pandemic to allow inspections to be completed by a records review and a facility tour. The team noted that TI-003, "Evaluating the Impacts of the COVID-19 PHE as part of the Integrated Materials Performance Evaluation Program (IMPEP)," states, in part, that for inspections that exceed the scheduling window with overdue dates falling inside the defined timeframe of the COVID-19 PHE, the number of overdue inspections should be noted in the report but should not be counted in the calculation of overdue inspections described in SA-101, "Reviewing the Common Performance Indicator: Status of Materials Inspection Program," Appendix A, provided that the Department continues to maintain health, safety, and security. All four COVID deferred inspections of in-situ recovery facilities are scheduled to be completed by June 2022. For three of the four deferred sites, the team determined that records reviews have not included any records after December 31, 2019. This matter was discussed with the CID lead inspector and the inspector committed to ensuring that the next inspections at these three sites would cover a review period from January 1, 2020, to at least December 31, 2021, for quarterly and annual reports and into CY 2022 as much as was possible for daily and weekly records. The team concluded that there have been no impacts to health and safety since the four sites are in standby not operational.

Inspection findings for the Uranium Recovery Program were communicated by formal correspondence to the licensee within 30 to 60 days following the inspection. Inspections conducted in 2018 and 2019 were communicated to licensees between 45 to 60 days, inspection results in 2020 and 2021 were communicated within 30 days.

### Technical Quality of Inspections

On February 9, 2022, the review team accompanied a Commission inspector at the South Texas Mining Venture, LLC's La Palangana site, an in-situ recovery site. The site is in standby and not active production. Consequently, the inspection focused on radiation safety, worker protection, environmental monitoring, radiation postings, and perimeter monitoring. Inspector performance was adequately focused on health and safety and appropriate for the site conditions.

CID inspectors included photographs of licensee operations in the investigation file to document site conditions and issues identified during the inspection. The photographs helped supervisors and future investigators have a visual indication of licensees' facilities, equipment, and operations. When the licensee provides pictures to document the corrective actions taken to address issues identified during an investigation, those pictures are also included in the inspection files for the site.

CID staff uses a letter format to report the inspection results to the licensee. The documentation of the inspection findings is well organized with the inspection areas and observations reviewed by the inspector well documented. The documentation is comprehensive and a useful tool for the next inspector visiting the site.

### Technical Quality of Licensing Actions

For the conventional mills, the licensing actions during the review period consisted of several administrative amendments and one major amendment to establish groundwater protection standards. For in-situ recovery facilities, the licensing actions during the review period consisted of approval of a new facility, financial assurance updates, administrative amendments, and a license termination.

The Commission completed 11 licensing actions during the review period. The team examined five uranium recovery licensing actions which included one new application, two amendments, one ongoing renewal, and one financial assurance. The team noted that the Commission utilizes administrative checklists to ensure completeness and consistency in processing applications and technical review summaries of the major licensing steps. Technical evaluations and analyses supporting licensing actions are adequately documented and performed by qualified staff. Requests for additional information from licensees were clear. License tie-down conditions are stated clearly and are inspectable. Opportunity for comment was afforded to the public in accordance with applicable Commission administrative procedures.

The team noted that there was a backlog of uranium recovery licensing actions primarily due to staff turnover. RMD has a plan in place to reduce the backlog and is making progress towards eliminating the backlog this year. The team determined that the backlog of licensing actions did not create any health and safety concerns regarding licensee operations.

The team also reviewed the Panna Maria's license termination action and identified issues with the Department's technical basis for justifying the termination of the license. The team's observations were discussed with RMD. The team noted the NRC is currently working with the Department to address the same issues associated with the license action as the site moves towards license termination and transfer to DOE for long term maintenance and surveillance under the Uranium Mill Tailings Radiation

Control Act. Since this licensing action is not complete, the team did include this action as part of this review.

#### Technical Quality of Incident and Allegation Activities

There were no incidents or allegations during the review period.

#### c. Evaluation

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

#### d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

### 5.0 SUMMARY

The team recommends that Texas' performance be found satisfactory for all performance indicators reviewed.

- Technical Staffing and Training;
- Status of Materials Inspection Program;
- Technical Quality of Inspections;
- Technical Quality of Licensing Actions;
- Technical Quality of Incident and Allegation Activities;
- Legislation, Regulations, and Other Program Elements;
- Sealed Source and Device Evaluation Program;
- Low-Level Radioactive Waste Disposal Program; and
- Uranium Recovery Program.

The team did not make any recommendations and determined that the recommendations from the 2018 IMPEP review should be closed.

Accordingly, the team recommends Texas be found adequate to protect public health and compatible with the NRC's program. The team recommends that the next periodic meeting takes place in approximately 2 years and the next full IMPEP review takes place in approximately 4 years.

## LIST OF APPENDICES

Appendix A IMPEP Review Team Members

Appendix B Inspector Accompaniments

## APPENDIX A

### IMPEP REVIEW TEAM MEMBERS

| <b>Name</b>                 | <b>Areas of Responsibility</b>   |
|-----------------------------|--|
| Duncan White, NMSS          | Team Leader<br>Legislation, Regulations, and Other Program Elements                                    |
| Michelle Hammond, NMSS      | Team Leader in Training<br>Inspector Accompaniments  |
| Huda Akhavannik, NMSS       | Status of Materials Inspection Program<br>Technical Quality of Incidents and Allegations               |
| Jackie Cook, Region IV      | Technical Quality of Staffing and Training   |
| Keisha Cornelius, Oklahoma  | Status of Materials Inspection Program<br>Technical Quality of Inspections<br>Inspector Accompaniments |
| Phil Kern, Arizona          | Technical Quality of Licensing   |
| Karen Flannigan, New Jersey | Technical Quality of Incident and Allegation Activities  |
| Ron Parsons, Tennessee      | Sealed Source and Device Evaluation Program  |
| Chris Grossman, NMSS        | Low-Level Radioactive Waste Disposal Program   |
| Brandi O'Brien, Wyoming     | Uranium Recovery Program   |
| Marti Poston-Brown, NMSS    | Uranium Recovery Program<br>Inspector Accompaniment  |

## APPENDIX B

### INSPECTOR ACCOMPANIMENTS

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

|                             |                          |
|-----------------------------|--------------------------|
| Accompaniment No.: 1        | License No.: L06620-003  |
| License Type: Well-Logging  | Priority: 3              |
| Inspection Date: 01/14/2022 | Inspector's initials: ES |

|                                 |                          |
|---------------------------------|--------------------------|
| Accompaniment No.: 2            | License No.: L06044-000  |
| License Type: Radiopharmacy R&D | Priority: 3              |
| Inspection Date: 01/25/2022     | Inspector's initials: DS |

|                                    |                          |
|------------------------------------|--------------------------|
| Accompaniment No.: 3               | License No.: L00448-011  |
| License Type: Academic Broad Scope | Priority: 2              |
| Inspection Date: 01/26/2022        | Inspector's initials: GH |

|   |                          |
|---|--------------------------|
| Accompaniment No.: 4                        | License No.: L06747-001  |
| License Type: High Dose Remote After loader | Priority: 2              |
| Inspection Date: 02/07/2022                 | Inspector's initials: JC |

|                                      |                          |
|--------------------------------------|--------------------------|
| Accompaniment No.: 5                 | License No.: L06933-004  |
| License Type: Industrial Radiography | Priority: 1              |
| Inspection Date: 02/08/2022          | Inspector's initials: JD |

|                                |                          |
|--------------------------------|--------------------------|
| Accompaniment No.: 6           | License No.: L02237-001  |
| License Type: Nuclear Medicine | Priority: 2              |
| Inspection Date: 02/09/2022    | Inspector's initials: CS |

|   |                          |
|---|--------------------------|
| Accompaniment No.: 7                                      | License No.: L05947-001  |
| License Type: Gamma Stereotactic Radiosurgery - Gamma Pod | Priority: 2              |
| Inspection Date: 02/16/2022                               | Inspector's initials: TH |

|   |                          |
|---|--------------------------|
| Accompaniment No.: 8                    | License No.: R06062      |
| License Type: Uranium Recovery Facility | Priority: 1              |
| Inspection Date: 2/9/2022               | Inspector's initials: MA |