



INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF THE TEXAS AGREEMENT STATE PROGRAM

February 10-14, 2014

**FINAL REPORT**

Enclosure

## **EXECUTIVE SUMMARY**

This report presents the results of the Integrated Materials Performance Evaluation Program (IMPEP) review of the Texas Agreement State Program. The review was conducted during the period of February 10 – 14, 2014, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the State of Washington.

Based on the results of this review, Texas' performance was found satisfactory for all performance indicators reviewed. The review team made three recommendations regarding program performance by the State regarding (1) developing and implementing a strategy to address staffing in the low-level radioactive waste (LLRW) and uranium recovery inspection areas; (2) developing detailed inspection procedures for LLRW inspections to provide feedback to the LLRW program and enhance the inspection program; and (3) developing detailed inspection procedures for uranium recovery inspections to provide feedback to the uranium recovery program and enhance the inspection program.

Accordingly, the review team recommended, and the Management Review Board (MRB) agreed, that the Texas Agreement State Program is adequate to protect public health and safety, and compatible with the NRC's program. The review team recommended, and the MRB agreed, that the next IMPEP review take place in approximately four years.

## 1.0 INTRODUCTION

This report presents the results of the review of the Texas Agreement State Program. The review was conducted during the period of February 10 –14, 2014, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the State of Washington. Team members are identified in Appendix A. The review was conducted in accordance with the “Implementation of the Integrated Materials Performance Evaluation Program and Rescission of Final General Statement of Policy,” published in the *Federal Register* on October 16, 1997, and NRC Management Directive 5.6, “Integrated Materials Performance Evaluation Program (IMPEP),” dated February 26, 2004. Preliminary results of the review, which covered the period of February 27, 2010, to February 14, 2014, were discussed with Texas managers on the last day of the review. Subsequent to the exit meeting, the review team reconvened to finalize the review of the low-level radioactive waste (LLRW) and uranium recovery indicators. The review team’s recommendations for these indicators were discussed with the Director, Radioactive Materials Division, and the Director, Critical Infrastructure Division, of the Texas Commission on Environmental Quality on April 14 and May 14, 2014.

A draft of this report was provided to Texas for factual comment on May 21, 2014. The State responded by letters dated June 12, 2014, and June 20, 2014. Copies of the State’s responses are included as an Attachment to this report. A Management Review Board (MRB) met on July 22, 2014, to consider the proposed final report. The MRB found the Texas Agreement State Program adequate to protect public health and safety and compatible with the NRC’s program.

The Texas Agreement State Program is administered by two State agencies, the Texas Department of State Health Services (the Department) and the Texas Commission on Environmental Quality (the Commission). Organization charts for the Department and the Commission are included as Appendix B.

The Department’s portion of the Agreement State program is located in the Division for Regulatory Services. This Division has two sections: the Health Care Quality Section, which includes all licensing functions and the Environmental and Consumer Safety Section, which includes the inspection, investigation and quality assurance programs.

The Commission’s portion of the Agreement State program is located in two offices. The Office of Waste, Radioactive Materials Division, performs licensing and permitting functions. The Commission’s inspection program is located in the Office of Compliance and Enforcement, Critical Infrastructure Division.

At the time of the review, the Department regulated approximately 1,578 specific licenses authorizing the possession and use of radioactive materials. The Commission has regulatory authority for LLRW disposal activities and uranium recovery facilities in Texas. The review focused on the radioactive materials program as it is carried out under the Section 274b (of the Atomic Energy Act of 1954, as amended) Agreement between NRC and the State of Texas.

In preparation for the review, a questionnaire addressing the common and applicable non-common performance indicators was sent to the Department and the Commission on December 5, 2013. The Department provided its response to the questionnaire on January 14, 2014, and the Commission provided its response to the questionnaire on February 4, 2014. Copies of the Department's and the Commission's questionnaire responses can be found in NRC's Agencywide Documents Access and Management System (ADAMS) using the Accession Number ML14070A117 for the Department's response and Accession Number ML14070A055 for the Commission's response.

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

There were no recommendations made during the previous review.

Results of the current review of the common performance indicators are presented in Section 2.0. Section 3.0 details the results of the review of the applicable non-common performance indicators, and Section 4.0 summarizes the review team's findings.

## 2.0 COMMON PERFORMANCE INDICATORS

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

### 2.1 Technical Staffing and Training

The Department's staffing and training for the radioactive materials program will be covered in this section of the report. The Commission's staffing and training for the LLRW and uranium recovery programs will be covered in Sections 3.3.1 and 3.4.1 of this report, respectively.

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

The Department is organized into functional groups rather than program groups. The Radiation Safety Licensing Branch Manager is designated as the radiation control program director and provides a coordinating role among the functional groups. Licensing functions,

including sealed source and device reviews, are performed in the Austin office by the Radioactive Materials Group of the Radiation Safety Licensing Branch, which is located in the Health Care Quality Section. The inspection and incident response functions are performed by the Radiation Branch of the Inspection Unit, which is located in the Environmental and Consumer Safety Section. Most of the inspection staff is based in 11 regional offices, which are located throughout the State. The Radiation Group in the Policy/Standards/Quality Assurance Unit coordinates rule development, prepares enforcement cases for referral to the Enforcement Review Committee, and plays a major role in quality assurance for the inspection program.

At the time of the review, there were 42 individuals, totaling approximately 38 full-time equivalents (FTE), with various degrees of involvement in the radioactive materials program. One position in the Radiation Safety Licensing Branch was vacant at the time of this review. During the review period, a total of 18 individuals left the radioactive materials program, including four managers. The staff departures occurred intermittently and the vacancies were filled with well qualified technical staff holding science degrees. Eighteen staff members were added during the review period, including four managers. The review team determined that staffing levels were adequate for the Agreement State program.

The Department has a documented training plan for technical staff that is consistent with the requirements in the NRC/Organization of Agreement States Training Working Group Report and NRC's Inspection Manual Chapter (IMC) 1248, "Formal Qualification Program for Federal and State Materials and Environmental management Programs". New licensing and inspection staff members are assigned increasingly complex duties as they progress through the qualification process. Qualified staff mentor new staff and keep their qualification current through professional education training. The licensing and inspection program managers maintain the training and qualification records for technical staff. In addition, one technical staff member in the Policy/Standards/Quality Assurance Unit is responsible for coordinating training requests and acceptances at NRC qualification courses. The review team concluded that the Department's training program is adequate to carry out its regulatory duties and noted that Texas management supports the radiation control program's training program.

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

## 2.2 Status of Materials Inspection Program

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

The review team verified that the Department's inspection frequencies for all types of radioactive material licenses are similar or more frequent as similar license types listed in IMC 2800, "Materials Inspection Program." For the license categories established by the

Department, 56 of 115 are assigned inspection priority codes that prescribe a more frequent inspection schedule than those established in IMC 2800 for similar license types.

The Department conducted 1,403 Priority 1, 2, and 3 inspections during the review period, based on the inspection frequencies established in IMC 2800. Seven of these inspections were conducted overdue by more than 25 percent of the inspection frequency prescribed in IMC 2800. In addition, the Department performed 204 initial inspections during the review period, 7 of which were conducted overdue. As required by IMC 2800, initial inspections should be conducted within 12 months of license issuance. The initial inspections were conducted late due to inspector vacancies or the licensee had not initiated use of radioactive material.

According to Department staff, initial inspections are attempted within the first 12 months after the license is issued. The Department considers the initial inspection to be completed only after the licensee has initiated licensed activities which may exceed 12 months after the license has been issued. Overall, the review team calculated that the Department performed 2.9 percent of its inspections overdue during the review period.

The review team evaluated the Department's timeliness in providing inspection findings to licensees. A sampling of 32 inspection reports indicated that none of the inspection findings were communicated to the licensees beyond the Department's goal of 30 days after the inspection.

During the review period, the Department issued 133 reciprocity permits, of which 41 were candidate licensees based upon the criteria in IMC 1220. The review team determined that the Department exceeded the NRC's criteria of inspecting 20 percent of candidate licensees operating under reciprocity in each of the four years covered by the review period.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Texas' performance with respect to the indicator, Status of Materials Inspection Program, be found satisfactory.

### 2.3 Technical Quality of Inspections

The review team evaluated the inspection reports, enforcement documentation, inspection field notes, and interviewed inspectors for 25 radioactive materials inspections conducted during the review period. The casework reviewed included inspections conducted by 16 Department inspectors and covered inspections of various license types: medical broad scope, medical institutions-therapy (high dose rate remote afterloader, unsealed radioiodine therapy, permanent or temporary implant brachytherapy), medical diagnostic, portable gauges, industrial radiography, self-shielded irradiators, nuclear pharmacy, manufacturing and distribution, well logging, and Increased Security Controls for Large Quantities of Radioactive Materials (Increased Controls). Appendix C lists the inspection casework files reviewed, with a case-specific comment, as well as the results of the inspector accompaniments.

Based on the evaluation of casework, the review team noted that inspections covered all aspects of the licensee's radiation safety programs. The review team found that inspection reports were thorough, complete, consistent, and of high quality, with sufficient documentation to ensure that a licensee's performance with respect to health and safety was acceptable. The documentation supported violations, recommendations made to licensees, unresolved safety issues, the effectiveness of corrective actions taken to resolve previous violations and

discussions held with licensees during exit interviews. The inspection procedures utilized by the Department are consistent with the inspection guidance outlined in IMC 2800. An inspection report is completed by the inspector which is then reviewed and signed by the Quality Assurance reviewer. Supervisory accompaniments were conducted annually for all inspectors.

The review team determined that the inspection findings were appropriate and prompt regulatory actions were taken, as necessary. Inspection findings were clearly stated and documented in the reports and sent to the licensees with the appropriate letter detailing the results of the inspection. The Department issues to the licensee either a letter indicating a clear inspection or a Notice of Violation (NOV), in letter format, which details the results of the inspection. When the Department issues an NOV, the licensee is required to provide a written corrective action plan, based on the violations cited, within 30 days. All findings are reviewed by the Quality Assurance reviewer.

The review team noted that the Department has an adequate supply of survey instruments to support their inspection program. Appropriate, calibrated survey instrumentation, such as Geiger-Mueller (GM) meters, scintillation detectors, ion chambers, and micro-R meters, were observed to be available. Instruments are calibrated at least annually, or as needed, by the Department with National Institute of Standards and Technology traceable sources. The Department uses a database to track each instrument, its current location, and next calibration date.

Accompaniments of eight Department inspectors were conducted by two IMPEP team members between December 16, 2013, and January 29, 2014. The inspectors were accompanied during health and safety inspections of industrial radiography, medical therapy (high dose rate remote afterloader, gamma knife, unsealed radioiodine therapy/permanent implant brachytherapy), well logging, and medical diagnostic licenses. The accompaniments are identified in Appendix C. During the accompaniments, the inspectors demonstrated appropriate inspection techniques, knowledge of the regulations, and conducted performance-based inspections. The inspectors were trained, well-prepared for the inspection, and thorough in their audits of the licensees' radiation safety programs. The inspectors conducted interviews with appropriate personnel, observed licensed operations, conducted confirmatory measurements, and utilized good health physics practices. The inspections were adequate to assess radiological health and safety and security at the licensed facilities.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Texas' performance with respect to the indicator, Technical Quality of Inspections, be found satisfactory.

#### 2.4 Technical Quality of Licensing Actions

The review team examined completed licensing casework, pending complex license renewal applications that were over 1 year old, and interviewed license reviewers for 27 specific licensing actions and one registrant licensing action. Licensing actions were reviewed for completeness, consistency, proper radioisotopes and quantities, qualifications of authorized users, adequacy of facilities and equipment, adherence to good health physics practices, financial assurance, operating and emergency procedures, appropriateness of license conditions, and overall technical quality. The casework was also reviewed for timeliness, use of

appropriate deficiency letters and cover letters, reference to appropriate regulations, supporting documentation, consideration of enforcement history, pre-licensing visits, peer/supervisory review, and proper signatures.

The licensing casework was selected to provide a representative sample of licensing actions completed during the review period and pending complex renewal actions. Licensing actions selected for evaluation included five new licenses, ten renewals (two complete and eight pending), four termination actions, six amendments, and three exemption requests. Files reviewed included a cross-section of license types: broadscope, medical diagnostic and therapy including high dose rate remote afterloader and unsealed radioiodine therapy, accelerator and commercial distribution, industrial radiography, research and development, academic, nuclear pharmacy, gauges, source manufacturer, panoramic and self-shielded irradiators, tracer study service provider, well-logging, storage only, and radioactive waste broker. The casework sample represented work from nine fully-qualified license reviewers. A list of the licensing casework evaluated with a case-specific comment is provided in Appendix D.

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

All nine license reviewers have full signature authority for signing deficiency letters and follow-up letters. Three of the nine reviewers were also Program Coordinators. The Program Coordinators and/or Radioactive Material Licensing Group Manager perform a technical and supervisory review on all licensing actions. The Program Coordinators also sign the licenses before issuance to the licensee. In addition, the Radioactive Materials Licensing Group Manager was appointed to this position in April 2012. Prior to this time, he was a Program Coordinator and the review team looked at some of his licensing casework as part of the review. There are two additional personnel in the Radioactive Materials Licensing Group who are training to become fully qualified reviewers. Licenses are issued for a 10-year period under a timely renewal system. As of January 2014, the State had 1,578 specific licenses and 45 waste shippers and transporters.

All licensing actions received by the Radioactive Materials Licensing Group are assigned a log number in the computer tracking system. The licensing action is then provided to one of the three Program Coordinators (medical/academic, industrial, or advanced technology) who assign the action to a license reviewer in their group. The license reviewer is responsible for reviews, deficiency letters, coordination and finalizing the licensing action. Deficiencies are typically communicated during a telephone call with the licensee and if there is no response, a formal deficiency letter is sent to the licensee. When a licensing action is complete, the respective program coordinator reviews the action for quality assurance and signs the licensing action.



Based on the casework evaluated, the review team concluded that the licensing actions were of high quality and consistent with the Radioactive Materials Licensing Group licensing procedures, the State's regulations, and good health physics practices. The review team attributed the consistent use of templates and quality assurance reviews to the overall quality noted in the casework reviews.

The license reviewers perform pre-licensing checks of all new applicants. The Radioactive Material Licensing Group's pre-licensing review methods incorporate the essential elements of the NRC's revised pre-licensing guidance to verify that the applicant will use requested radioactive materials as intended. The Radioactive Materials Licensing Group requests a pre-licensing site visit from the Radioactive Materials Inspection Group. All new unknown entity applicants receive a pre-licensing site visit which includes an evaluation of the applicant's radiation safety and security programs prior to receipt of the initial license. The results of the visit are provided to the Radioactive Materials Licensing Group.

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

The review team examined the Radioactive Materials Licensing Group's implementation of its Sensitive Information Policy for the control of sensitive information. This policy addresses the identification, marking, control, handling, preparation, storage, and transmission of documents that contain sensitive information related to the Increased Controls. The review team noted that the Radioactive Materials Licensing Group controls access to all of its licensing and inspection files via key-pad entry.

The review team examined the list of pending license renewal actions that were over one year old. Renewals do not have a deadline or metric associated with their completion and therefore do not take priority over new applications or license amendments. Renewals that are in-house over 1 year old are all complex actions. The oldest action dates back to 2006 and the second oldest was from 2009. There were thirteen actions from 2010 and 2011, thirty-three actions from 2012, and seven actions from January 2013. There were 68 license renewals over a year old as of January 2013. In the last year, the Radioactive Materials Licensing Group's Manager and Program Coordinators have prioritized and assigned these actions. License reviewers were able to initiate a review and in many cases, deficiency letters have been sent. In the interview with the Radioactive Materials Licensing Group's Manager, he indicated that the combined effect of the changes implemented to address this backlog would reduce the backlog by approximately ten per month and anticipates that by June 30, 2014, the only renewals over one year old will be those where there has been difficulty obtaining satisfactory responses to deficiency letters. At the time of the MRB meeting, the Department reported that there were 47 license renewals in backlog. The Department also reported that the Radioactive Materials

Licensing Group has implemented a new metric for completing deficiency letters within 90 days of receipt of a renewal action.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Texas' performance with respect to the indicator, Technical Quality of Licensing Actions, be found satisfactory.

## 2.5 Technical Quality of Incident and Allegation Activities

In evaluating the effectiveness of the Department's actions in responding to incidents and allegations, the review team examined the Department's response to the questionnaire relative to this indicator, evaluated selected incidents reported for Texas in the Nuclear Material Events Database (NMED) against those contained in the Department's files, and evaluated the casework for 23 radioactive materials incidents. A list of the incident casework examined may be found in Appendix E. The review team also evaluated the Department's response to 11 allegations involving radioactive materials, including 5 allegations referred to the State by the NRC during the review period.

The review team examined the Department's implementation of its incident and allegation processes, including written procedures for handling allegations and incident response, file documentation, and notification of incidents to the NRC Headquarters Operations Center and NMED. The incident investigation program staff determines the appropriate level of initial response to an incident or allegation. If an immediate response is warranted the incident investigation program manager is notified to make the decision about the appropriate level of response.

The review team identified 262 radioactive material incidents in NMED for Texas during the review period of which 216 required reporting to the NRC. Four non-reportable incidents in NMED for Texas were reviewed for reportability and found to be correctly categorized as non-reportable by the Department. The review team selected 23 radioactive material incidents for evaluation. These incidents included the following types of events: lost/stolen radioactive material, potential overexposure, medical events, damaged equipment, equipment failure, and leaking sources. The Department's responses to the incidents were found to be complete and comprehensive. Initial responses were prompt and well-coordinated, and the level of effort was commensurate with the potential health and safety significance of the event. Inspectors were dispatched for onsite investigations when appropriate. Enforcement and/or other regulatory actions were taken as appropriate. The Department reported events to the NRC in a prompt manner. The actions taken in response to incidents were documented and filed, and the data were submitted to the NRC's contractor responsible for maintaining NMED for inclusion in the database.

In evaluating the effectiveness of the Department's response to allegations, the review team evaluated the casework for 11 allegations, including five that NRC referred to the State during the review period. The review team concluded that the Department took prompt and appropriate actions in response to concerns raised. The review team noted that the Department documented the investigations of concerns and retained all necessary documentation to appropriately close the allegations. The Department notified the concerned individuals of the conclusion of their investigations. The review team determined that Texas has open records

laws that the Department has adopted when addressing complaints. Due to these laws, the Department cannot protect the identity of concerned individuals if there was an open records request about the particular complaint. Concerned individuals are informed of these laws. If the concerned individual does not provide identifying information, the concerns are kept anonymous and resolved without providing a written response about the State's investigation to the concerned individual. The team determined that in cases where the concerned individual's contact information is available, the Department provides a written response about the Department's investigation and resolution of the concerns.

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

### 3.0 NON-COMMON PERFORMANCE INDICATORS

Four non-common performance indicators are used to review Agreement State programs: (1) Compatibility Requirements, (2) Sealed Source and Device Evaluation Program, (3) Low-Level Radioactive Waste Disposal Program, and (4) Uranium Recovery Program. All four non-common performance indicators applied to this review.

#### 3.1 Compatibility Requirements

Texas became an Agreement State in 1963. In assessing Texas's compatibility requirements, the review team examined the Department's and the Commission's responses to the questionnaire relative to this indicator, reviewed the State Regulation Status (SRS) Data Sheets, that the Office of Federal and State Materials and Environmental Management Programs (FSME) maintains, for the Department and the Commission, and conducted interviews with managers responsible for this program area.

##### 3.1.1 Legislation

Both the Department and the Commission are granted legal authority through the Texas Radiation Control Act, Chapter 401 of the Texas Health and Safety Code. Chapter 401 outlines that the Department is the Texas Radiation Control Agency. It further outlines the jurisdictional authorities of the two agencies. For simplicity's sake, the Department has jurisdiction over activities related to radiation and radioactive materials except for those activities that are under the jurisdiction of the Commission. The Commission has jurisdiction to license and regulate the disposal of radioactive materials, the recovery and processing of source material, the processing of tailings or waste produced by or resulting from the extraction or concentration of uranium or thorium from ore (11e.(2) byproduct material as defined in the Atomic Energy Act, as amended), the commercial processing or storage of radioactive waste, and sites for the disposal of low-level radioactive waste and byproduct material. The Commission is also affected by the Texas Low-level Radioactive Waste Disposal Compact, Chapter 403 of the Texas Health and Safety Code. Each agency is indirectly affected by many other Texas rules and legislation.

The Department and the Commission developed and implemented a Memorandum of Understanding (MOU) in 1996. The MOU specified the respective responsibilities of the two

agencies and stated that the Department and Commission agreed to work together to ensure that complete regulation is maintained for sources, uses, and users of radiation. The MOU also addressed certain operational functions of the two agencies, such as emergency preparedness, instrument calibration, and mutual assistance. Senate Bill 347 requires that the §289.101 Memorandum of Understanding Between the Department of State Health Services and the Texas Commission on Environmental Quality Regarding Radiation Control Functions be updated. This rulemaking is underway and anticipated to be completed in August 2014.

All Texas agencies are subject to sunset review by the Texas Sunset Commission. The next sunset review for the Department is anticipated to be within the year. The sunset review for the Commission has been completed. Additionally, State agencies are required to perform a review of each rule four years from the last effective date of the rule.

### 3.1.2 Program Elements Required for Compatibility

The review team examined the procedures used in the Department's and the Commission's regulatory processes. Both the Department and the Commission receive recommendations on proposed rulemaking from the Texas Radiation Advisory Board. The Department also coordinates its rulemaking through the State Health Services Counsel. During the review period the Department completed a standardization of its policies and procedures for rulemaking for all programs within the Department. Some rulemakings involve public meetings and both agencies' rulemaking processes provide an opportunity for public/stakeholder comment on proposed regulations. The Department and the Commission provide any proposed or final rules for a compatibility review by the NRC.

The Department's rulemaking process often proposes and adopts rules in regulatory packages that are different from the NRC's Review Summary Sheets for Regulation Amendments. This results in individual portions of the NRC rule changes being promulgated and adopted by the Department at different times. In addition, the Department often combines portions of the NRC rule changes into one rulemaking package.

During the review period, the Department submitted five regulation packages to the NRC for review and comment. These packages addressed one proposed regulation amendment and four revisions to final regulations addressing all previous NRC comments as a result of the NRC's compatibility reviews. Current NRC policy requires that Agreement States adopt certain equivalent regulations or legally-binding requirements no later than three years after they become effective.

The following four packages were submitted overdue by the Department during the review period:

- "Medical Use of Byproduct Material," 10 CFR Parts 20, 32, and 35 amendment (67 FR 20249), that was due for Agreement State adoption on October, 24, 2005.
- "Compatibility with IAEA Transportation Safety Standards and Other Transportation Safety Amendments," 10 CFR Part 71 amendment (69 FR 3697), that was due for Agreement State adoption on October 1, 2007.

- “Minor Amendments,” 10 CFR Parts 20, 30, 32, 35, 40 and 70 amendment (71 FR 15005), that was due for Agreement State adoption on March 27, 2009.
- “Requirements for Expanded Definition of Byproduct Material,” 10 CFR Parts 20, 30, 31, 32, 33, 35, 61, and 150 amendment (72 FR 55864), that was due for Agreement State adoption on November 30, 2010.

The Department also provided a package containing equivalent regulations to 10 CFR Part 34 and 39 not associated to a specific NRC rule change. The NRC reviewed the package and provided comments on January 11, 2012.

The Department has initiated a rulemaking that it anticipates will be completed by November 2014 that will address these outstanding comments. The Department will also address the NRC rule changes that are due in 2014 and 2015. At the time of this review, the Department did not have any overdue amendments.

During the review period, the Commission sent seven regulation packages to the NRC for review and comment. These addressed two proposed regulation amendments and three revisions to final regulations addressing all previous NRC comments as a result of the NRC's compatibility reviews.

The following four packages were submitted overdue by the Commission during the reporting period:

- “Increased Controls for Risk-Significant Radioactive Sources” (NRC Order EA-05-090) (70 FR 72128), that was due for Agreement State adoption on December 1, 2005.
- “National Source Tracking System,” 10 CFR Part 20 amendments (71 FR 65685, 72 FR 59162), that was due for Agreement State adoption on January 31, 2009.
- “Requirements for Expanded Definition of Byproduct Material,” 10 CFR Parts 20, 30, 31, 32, 33, 35, 61, and 150 amendments (72 FR 55864), that was due for Agreement State adoption on November 30, 2010.
- “Occupational Dose Records, Labeling Containers, and Total Effective Dose Equivalent Parts 19, and 20 amendments (72 FR 68043), that was due for Agreement State adoption on February 15, 2011.

At the time of this review, the following two amendments were overdue for adoption by the Commission:

- “Radiological Criteria for License Termination of Uranium Recovery Facilities,” 10 CFR Part 40 (64 FR 17506), that was due for Agreement State adoption on June 11, 2002.<sup>1</sup>

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<sup>1</sup> Until final amendments are adopted, the Commission applies license termination criteria on a case by case basis. The NRC has reviewed the two license terminations issued by the State, and determined that the lack of adoption of this amendment has not affected their ability to terminate these licenses.

- “Minor Amendments,” 10 CFR Parts 20, 30, 32, 35, 40 and 70 amendments (71 FR 15005), that was due for Agreement State adoption on March 27, 2009.

The Commission also provided a package containing equivalent regulations to 10 CFR Part 40 not associated to a specific NRC rule change. The NRC reviewed the package and provided comments on October 3, 2013.

The Commission intends to open both the uranium recovery and low level waste disposal regulations for changes in 2014. The Commission will address the one overdue NRC rule change and consider the NRC rule changes that are coming due in 2014 and 2015.

A complete list of upcoming regulation amendments can be found on the NRC website at the following address: [http://nrc-stp.ornl.gov/rss\\_regamendments.html](http://nrc-stp.ornl.gov/rss_regamendments.html).

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Texas’ performance with regard to the indicator, Compatibility Requirements, be found satisfactory.

### 3.2 Sealed Source and Device Evaluation Program

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

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

#### 3.2.1. Technical Staffing and Training

SS&D evaluation responsibilities are distributed amongst the license review staff. The staff is divided between industrial SS&D evaluations (Industrial Unit) and the medical SS&D evaluations (Medical Unit).

The Department currently has five reviewers who are qualified to perform safety evaluations of SS&D applications. All have science degrees and have attended the NRC’s SS&D Workshop. The review team interviewed staff members involved in the reviews and determined that they were familiar with the procedures used in the evaluation of a source/device and had access to applicable reference documents. Subsequent to the onsite review, the Department sent two technical staff members, who are undergoing qualification, to the NRC SS&D Workshop in March 2014. The SS&D staffing level and education qualifications for the current staff were evaluated and were found adequate.

### 3.2.2 Technical Quality of the Product Evaluation Program

The review team evaluated 16 of the 56 SS&D evaluation amendments, inactivations, and new registrations, which included custom evaluations issued by the Department during the review period, representing the work of nine SS&D reviewers (five active reviewers and four former reviewers). The cases selected for review were representative of the Department's licensees and SS&D reviewers throughout the reporting period. The Department stated that they manage 200 active SS&D registrations. A list of SS&D casework examined, with case-specific comments, can be found in Appendix F.

In assessing the Department's SS&D evaluation activities, the review team examined information contained in the Department's response to the IMPEP questionnaire for this indicator and interviewed program staff and managers. The review team confirmed that the Department follows the recommended guidance from the NRC's SS&D workshop, NUREG-1556 Series guidance, applicable and pertinent American National Standards Institute standards, ISO-9001, and Texas Regulatory Guides. The review team verified that these documents were available and used appropriately in performing SS&D reviews.

During the review of casework, the review team determined that the Department did not ensure in three cases (of all SSD registrants in Texas) that the foreign manufacturer/distributor had a radioactive materials license, per Texas regulations, or an import/export license. The licensees possessed specific licenses to distribute in Texas; however, there was no reference in the SS&D files regarding the import/export conditions in the license or the conditions that allowed the licensee to manufacture and distribute from abroad. This issue was discussed with the Department, and the Department determined that this was an oversight. The Department committed to implementing measures to correct these files. The review team concluded that the issue was not a public health and safety concern and was not generic in nature. Subsequent to the onsite review, the Department informed the review team that all three licensees had an NRC exemption to import/export the devices.

The Department performed evaluations based on sound conservative assumptions to ensure public health and safety was adequately protected. Deficiency letters clearly stated regulatory positions and all health and safety issues were addressed. The review team determined that product evaluations were thorough, complete, consistent, and adequately addressed the integrity of the products during use and in the event of accidents.

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

There were no incidents related to SS&D defects involving sources or devices registered by the State of Texas during the review period. Utilizing NMED, the review team determined that there were no incidents involving SS&D registered products reported during the review period. Incident procedures are in place should an SS&D related incident occur. Department managers are aware of the need to look at such incidents as potentially generic in nature with possible wide-ranging effects.

The review team did not identify any allegations received by the Department related to defects or failures of SS&D products registered in Texas during the review period.

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

### 3.3 Low-Level Radioactive Waste Disposal Program

In reviewing this indicator, the review team used five subelements to evaluate Texas' performance regarding the LLRW disposal program. These subelements were (1) Technical Staffing and Training, (2) Status of LLRW Disposal Inspection, (3) Technical Quality of Inspections, (4) Technical Quality of Licensing Actions, and (5) Technical Quality of Incident and Allegation Activities.

The regulatory responsibility for the LLRW disposal program resides with the Commission. The Radioactive Materials Licensing Section, located within the Radioactive Materials Division of the Office of Waste, is responsible for the licensing of LLRW disposal and processing activities. The inspection responsibility for LLRW disposal activities is in the Office of Compliance & Enforcement, Critical Infrastructure Division, Homeland Security Section, Radioactive Materials Compliance Team (Compliance Team.) The final pre-operational inspections of the Waste Control Specialists, LLC (WCS) LLRW disposal facility, located in Andrews, Texas, occurred on April 25, 2012. The facility received its first waste disposal shipment on April 27, 2012. Since the 2010 IMPEP review, the Commission has issued 23 amendments to the WCS LLRW disposal facility license.

#### 3.3.1 Technical Staffing and Training

The Radioactive Materials Licensing Section currently has seven full-time and/or part-time staff members with a staffing effort of 5 FTE being used for the LLRW disposal program. The FTE total includes support by the Uranium Section. Staff supporting the LLRW program includes the Division Director, Radioactive Materials Licensing Manager, health physicists, engineers, geologists, and an administrative assistant. The Compliance Team has two full-time onsite LLRW inspectors and two main office inspectors that are shared with the uranium recovery program for a total of 2.4 FTE dedicated to the LLRW inspection program. In addition, approximately 1.1 FTE is assigned to the management oversight of the Compliance Team for the LLRW inspection and compliance activities. During the review period, six staff joined the Radioactive Materials Licensing Section and two inspectors joined the Compliance Team. The LLRW program also had seven staff leave the program. At the time of the review, the Radioactive Materials Licensing Section had two vacancies (one health physicist and one engineer position). The Compliance Team did not have any vacancies at the time of the review.

During the initial licensing and construction reviews of the LLRW disposal site, staff from the Uranium Section was temporarily assigned to the Radioactive Materials Licensing Section to support this higher priority work. In addition, contractors were also utilized for technical support during the review period. Contractors provided assistance in the areas of socioeconomics, ecology, and civil engineering. No contractors are being used at this time.

The review team discussed with the Commission the current workload of the Compliance Team inspectors who perform inspections at the LLRW disposal site, the waste processing facility, and the uranium recovery facilities. Although fully staffed according to the staffing plan, since



operations began at the LLRW disposal site, the inspection workload has challenged the staff to perform timely and comprehensive inspections. The review team is concerned that any losses in staff or increases in workload could severely impact the State's performance in the LLRW and/or uranium recovery inspection functions. The review team recommends that the Commission develop and implement a strategy to address staffing in the LLRW and uranium recovery inspection programs in order to enhance the effectiveness and efficiency of the Program. Additional information on this issue is provided in Section 3.3.2, Status of LLRW Inspection Program, and Section 3.4.2, Status of Uranium Recovery Inspection Program.

The review team examined the training records of the technical staff and found them up to date and complete. The review team determined that the current staff has the right balance of technical expertise and is adequate to maintain the quality and performance of the LLRW program. Through interviews with the technical staff and program managers, combined with an evaluation of training and experience, the review team concluded that the Commission staff is qualified to carry out regulatory duties for licensing and inspection of the LLRW site.

### 3.3.2 Status of Low-Level Radioactive Waste Disposal Inspection Program

The review team focused on three factors while reviewing this indicator. These include the inspection frequency, overdue inspections or any deviations from the schedule, and timely dispatch of inspection findings to the licensee. The review team's evaluation was based on the Commission's questionnaire response relative to this indicator, examination of inspection casework, and interviews with Commission management and staff.

Prior to receipt of waste shipments, the Commission performed pre-operational inspections at the LLRW disposal site. The site received its first waste shipment on April 27, 2012. The Commission performed an inspection of licensee activities during the first waste shipment and considers this inspection to be the initial inspection of the LLRW disposal site. Based on discussions with Commission managers and staff, the review team determined that this inspection was limited to a review of waste receipt and disposal activities, was not documented as a routine inspection, and did not include an inspection of other licensee activities that would be reviewed during a routine health and safety inspection, such as the licensee's radiation protection and environmental compliance programs. Therefore, the review team did not consider the April 2012 inspection to be an initial inspection of the LLRW disposal site and concluded that an initial inspection of the LLRW disposal site was not performed within 12 months after operations began. In addition, the review team determined that, as of the date of the onsite review, no overall health and safety inspection for the LLRW disposal site license had been conducted since operations commenced. However, resident inspectors provide a daily presence to ensure the protection of public health and safety. The Compliance Team conducted routine inspections of the radioactive waste processing license in 2010, 2011, and 2013. The waste processing license was not inspected in 2012.

Commission inspectors perform inspection close out meetings with the licensee management to discuss findings and concerns. Letters to licensees are only issued if cited violations are identified. The review team noted issuance of written inspection reports varied from less than one month to six months and are sent to the licensing section to be placed in the licensing file.

### 3.3.3 Technical Quality of Inspections

The review team assessed the quality of LLRW disposal program inspections by evaluating inspector performance during the accompaniments and reviewing inspection field notes, completed reports, inspection procedures and the staff's follow-up to previous inspection findings, as well as regulatory actions taken, annual supervisory accompaniments, and available instrumentation.

The Compliance Team maintains two onsite resident inspectors at the WCS LLRW disposal site that perform inspections of the incoming waste shipments and disposal operations and two inspectors at the main office that perform the overall health and safety inspections of the radioactive materials license and radiation safety program at the LLRW site and adjacent waste processing facility. The Radioactive Material Licensing Section oversees the review of financial assurance, engineering reports, and environmental monitoring reports for the LLRW disposal site. The environmental staff visits the facility annually to review the environmental monitoring program. The engineering staff does not perform onsite engineering inspections. The resident inspectors provide information, including photos of certain aspects of construction or other related engineering activities based on their observations, to the engineering staff in the main office.

On January 29–30, 2014, two review team members accompanied two onsite resident inspectors at the LLRW disposal site, as indicated in Appendix C. Since no shipments arrived at the LLRW site during the accompaniments, the onsite resident inspectors performed a simulated inspection. The inspectors were well prepared and thorough during the limited accompaniment. The inspectors demonstrated appropriate performance-based inspection techniques and knowledge of the regulations. The review team found the inspections were adequate to assess the safety and radiological hazards at the LLRW disposal site during waste receipt and disposal operations.

Based on an evaluation of six inspection files for waste shipments to the WCS LLRW disposal site, the review team determined that these inspection reports were thorough, complete, consistent, and had sufficient documentation to ensure that licensee's waste receipt and disposal practices were acceptable with respect to health, safety and security. The review team noted there were no documented inspection reports for the overall LLRW disposal site license. Therefore, the review team was unable to determine the technical quality of the overall LLRW site inspections. The review team discussed with the Commission staff the importance of having an inspection report completed annually for each overall inspection of the LLRW license in order to ensure all aspects of a licensee's LLRW disposal program are inspected and open items are addressed or followed up on subsequent inspections, and providing feedback to the licensing staff on potential amendments to the LLRW license.

Four inspection reports for the waste processor license were reviewed. The review team noted that the 2013 inspection of the waste processing facility was documented using a pre-drafted report format that did not clearly identify the scope of the inspection and was being finalized during this onsite review.

The review team noted that the Commission has a basic inspection guideline and template report forms for the onsite resident inspections and the overall LLRW inspections. The Commission has not yet developed comprehensive inspection procedures to support the overall LLRW inspection program. The overall inspection report template is a general, pre-drafted, semi-completed inspection report that does not clearly identify the scope of the inspection or document all the appropriate health and safety issues. The review team recommends that the Compliance Team, in coordination with the Radioactive Materials Section, develop detailed inspection procedures for LLRW inspections to provide feedback to the LLRW program and enhance the inspection program.

Based on a review of inspection casework and discussions with inspection staff, the review team determined that inspectors either followed up on previous inspection findings during the subsequent inspection or dispositioned the findings as escalated enforcement actions. The review team noted that completion of inspection reports varied from less than one month to over six months, with supervisor review occurring in a timely fashion after report completion. Commission staff had adequate numbers and varieties of calibrated instruments to perform inspections.

In accordance with IMC 2800, increased controls inspections are required to be performed at the same frequency/priority as the routine health and safety inspection. The review team noted that a routine increased controls inspection of the radioactive waste processor license occurred in January 2010; however, no subsequent routine increased controls inspections have been conducted of either the waste processing or disposal site license. The onsite resident inspectors oversee all waste receipts and disposal operations and ensure the increased controls plan is implemented when required; however, this inspection is limited to waste disposal operations and does not include review of other aspects of the licensee's increased controls program (e.g., trustworthiness and reliability determinations). Additionally the inspection is not documented. The review team discussed with the Commission staff the need to perform routine increased controls inspections at the same inspection frequency/priority as the routine LLRW health and safety site inspection. Subsequent to the onsite review, the Commission informed the review team that the Commission conducted a routine increased control inspection at the LLRW facility in May 2014.

Supervisor accompaniments were conducted annually for all inspectors, with the exception of one inspector who received only one supervisor accompaniment during the review period. The review team discussed with the Commission the need for a supervisory accompaniment of all LLRW inspectors during an inspection of the LLRW facility.

#### 3.3.4 Technical Quality of Licensing Actions

The team reviewed a selection of licensing actions that were completed during the review period, including financial assurance reviews, and engineering and environmental monitoring amendments. A listing of the licensing casework reviewed, with a case-specific comment, can be found in Appendix D.

Since the last IMPEP review the Radioactive Materials Licensing Section issued 23 amendments to the LLRW license, including an amendment on July 24, 2013, that merged the WCS waste processing license with the LLRW disposal license. The Commission hired

technical consultants to address certain complex technical issues when needed, and generated technical summaries of all licensing actions that include details regarding the review and decision process. The license conditions, including the tie-down conditions, were stated clearly, supported by information contained in the file, and were enforceable. The Radioactive Materials Licensing Section used independent analyses and actively solicited public comments during the licensing amendment process through public hearings. The review team determined that Texas' licensing process was thorough, complete, consistent, and of acceptable technical quality. The review team found that health and safety issues were properly addressed as part of the licensing process.

The review team evaluated a sample of the performance assessment models and associated documents for licensing and license amendment actions. Based on a review of licensing documents, the review team determined that the Commission's licensing staff asked appropriate technical questions on risk-significant topics. The licensing staff documented their acceptance or rejection of the responses and communicated the results to the licensee. The review team determined that Texas' licensing process was thorough, complete, consistent, and of acceptable technical quality. The review team found that health and safety issues were properly addressed as part of the licensing process.

The review team examined the financial surety proposed for the LLRW facility. Per license condition, discrete financial surety amounts for several categories (e.g., decommissioning, closure, and post-closure) are stated. The review team determined that Texas adequately addressed the financial surety component of the license.

### 3.3.5 Technical Quality of Incident and Allegation Activities

The review team found that the Commission had procedures in place for handling incidents and allegations. The procedures for handling incidents include information on what constitutes an incident, appropriate documentation of the incident, reference to NRC abnormal occurrence criteria, and incident tracking. The procedures for handling allegations include information on protecting the identity of the allegor, documentation of the allegation, and allegation tracking.

During the review period, the State reported no events to the NRC and addressed two allegations involving LLRW disposal program activities. One of the allegations was referred by the NRC and resolved with NRC support, and the second allegation was submitted directly to the Commission. The review team determined that the Commission took prompt and appropriate action for both allegations. The review team noted that all documentation related to the investigation of the allegations was complete and appropriately maintained in a separate file.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Texas' performance with respect to the indicator, Low-Level Radioactive Waste Disposal Program, be found satisfactory.

### 3.4 Uranium Recovery Program

In reviewing this indicator, the review team used five subelements to evaluate the State's performance regarding the uranium recovery program. These subelements were (1) Technical Staffing and Training, (2) Status of Uranium Recovery Inspection Program, (3) Technical Quality

of Inspections, (4) Technical Quality of Licensing Actions, and (5) Technical Quality of Incident and Allegation Activities.

The Texas uranium recovery program has been implemented by the Commission since 2007 when the program was transferred from DSHS's authority to the Commission. The licensing and permitting program for uranium recovery is divided between two sections in the Radioactive Materials Division, the Uranium Section and the Underground Injection Control (UIC) Permits Section.

The Uranium Section has jurisdiction for the licensing of the above ground processes at licensed sites, including the review of the design and construction of all infrastructure and fluid transmission lines, operation, record keeping, maintenance, decommissioning (except ground water restoration), decontamination, and surface reclamation. The Uranium Section issues a radioactive materials license for uranium recovery in-situ recovery (ISR) or conventional mill sites. The Uranium Section also is responsible for ground water protection for conventional mill sites.

The Texas uranium recovery program implements its ground water protection program responsibilities for ISR facilities through the UIC permit program under the Commission's equivalent regulations to Appendix A of 10 CFR Part 40. The UIC Permits Section implements its ground water protection program, restoration and liquid 11e.(2) byproduct waste disposal program, through permitting of all Class III uranium recovery wells, Class I waste disposal wells and associated surface impoundments at a uranium recovery ISR facility under the U.S. Environmental Protection Agency (EPA) UIC program, for which the State has primacy. The Class I disposal well permits also include all earthen impoundments and/or tanks defined as Pre-Injection Units (PIUs) used to store fluid 11e.(2) byproduct material before injection. Each uranium recovery ISR site has a radioactive materials license, a base UIC permit, one or more production area permits and one or more Class I disposal well permits which include the PIUs.

The inspection and enforcement of both the radioactive materials licenses and the UIC permits are done through the Office of Compliance and Enforcement, Critical Infrastructure Division, Homeland Security Section, Radioactive Materials Compliance Team. The inspectors in this section perform separate radioactive material license inspections and UIC permit inspections. The inspection of the Class I wells and pre-injection units (earthen impoundments or tanks) have been performed by the UIC regional offices since 2013.

At the time of this IMPEP review, the Texas uranium recovery program consisted of eleven active radioactive material licenses and one revoked license. Three of the licenses are for conventional mills currently under decommissioning. One license is for disposal of 11e.(2) byproduct material from others. The uranium recovery program has seven in-situ recovery licenses: two licenses in "standby" status; one license in active production; one license for resin processing only, and three licenses are approved but not in operation. One ISR license received NRC approval and has been terminated by the State. One site with a revoked license has not completed decommissioning and the financial surety for the site is in litigation.

### 3.4.1 Technical Staffing and Training

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

The Uranium Section staffing level currently consists of five technical staff and one full time manager. There are no vacant positions. The Uranium Section staff has expertise in various technical disciplines including health physics, geology, hydrology, and engineering. A civil engineer from the Radioactive Material Licensing Section is occasionally utilized for licensing actions. Expertise in socioeconomics and ecological assessment is provided by contractors as needed. All staff but one has a professional registration and/or an advanced degree. Uranium Section staff receive yearly training through web-based courses, private or NRC courses, attendance at professional meetings and memberships in professional societies or working groups. Staffing levels have dropped throughout the IMPEP review period from eleven to six. Several staff members have been reassigned to the Radioactive Materials Section to support the high priority work on the LLRW disposal site. Staff indicated that they had deferred licensing actions because they were assigned higher priority work. The Division management indicated that an engineer will be reassigned to the Uranium Section when the engineering vacancy in the Radioactive Materials Section is filled.

The UIC Permits Section staffing level is currently at nine staff and one full time manager. The section manager is new since the last IMPEP review. Four staff left the program during the IMPEP review period and five new employees were hired. This represents an increase of one position since the last IMPEP review. There are currently two vacant positions, one engineering position and one administrative position. Interviews for these positions were being conducted at the time of this review. The technical staff has various degrees of involvement in the uranium recovery program. Most staff members are associated with Class III permitting and one staff member does Class I permitting full time. The UIC Permits Section staff has expertise in various technical disciplines including geology, hydrology, and engineering. Interviews with staff indicate all possess professional licenses. The UIC staff receives yearly training through web-based courses, private or NRC courses, attendance at professional meetings and memberships in professional societies or working groups.

The Homeland Security Section staffing level for uranium recovery is currently at one full-time manager and two uranium recovery inspectors. These inspectors also perform the inspections at the LLRW disposal site. Approximately 0.70 FTE is assigned to uranium recovery inspections, which is shared between the two inspectors. In addition, about 0.45 FTE is assigned to the management oversight of the uranium recovery inspection and compliance activities. Staffing levels have not changed since the last IMPEP review. There are no vacant positions. The staff conducts separate inspections for the UIC permits and radioactive materials licenses at uranium recovery facilities. One inspector is fully trained to perform UIC permits inspections. The second inspector is being trained to perform UIC inspections and has conducted limited UIC permit inspections. Both inspectors conduct the radioactive materials license inspections.

Three ISR licenses not yet constructed may go into operation in the future, which may place additional strain on the uranium recovery inspectors. The Commission currently does not plan to hire or train a new inspector. The review team is concerned that any losses in staff or increases in workload could severely impact the State's performance in the uranium recovery

inspection and/or LLRW inspection functions. As discussed previously in Section 3.3.1, the review team recommends that the Commission develop and implement a strategy to address staffing in the LLRW and uranium recovery inspection programs in order to enhance the effectiveness and efficiency of the Program.

#### 3.4.2 Status of Uranium Recovery Inspection Program

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

During the review period, the Commission maintained 12 active licenses: three conventional mills in decommissioning, two in-situ recovery licenses in decommissioning, one active but non-production in-situ recovery license, two active in-situ recovery licenses, one 11e.(2) commercial disposal facility, and three new in-situ recovery facilities which have not begun operations. Uranium recovery licensees are inspected separately for radiation safety and the UIC program which ensures ground water compliance.

During the review period, the inspection staff missed 14 of 20 UIC permit inspections and ten of 44 routine annual radioactive material license inspections. During discussions between the review team, Commission managers and uranium recovery inspectors, the Commission indicated that they had deferred inspections due to the higher than anticipated workload required in preparation for the start of operations at the LLRW disposal site in 2012.

Based on information provided by the Commission, the review team determined that there were no currently overdue radiation safety inspections in the Uranium Mills program.

The Commission's procedure requires that inspection findings are communicated to a licensee during the exit meeting at the end of the inspection. A written report is generated for each inspection and provided to the licensee only upon request. The review team noted that inspection reports were not reviewed by management within 30 days of the inspection, as specified in Sections 1.6 and 1.7 of the Commission's Radioactive Materials Compliance Investigation Guidance.

#### 3.4.3 Technical Quality of Inspections

In reviewing this subelement, the review team examined inspection reports for 14 inspections conducted by the Commission during the review period and accompanied inspectors on one inspection at a licensed facility. The cases selected for review represented a range of uranium recovery licensing activities in different stages of operation. The review team interviewed inspectors and managers to assess the adequacy of their preparation for the inspections, guidance and/or protocols for inspection procedures, the depth and content of the actual inspections, and the appropriateness of inspection findings. A listing of the inspection casework reviewed can be found in Appendix C.

The inspector accompaniments and casework reviews confirmed that Commission radiation safety inspections were thorough, included operational and record reviews, and violations were communicated by the inspector to the licensee during exit interviews. The inspectors focused on interviews with licensee personnel, performed confirmatory radiation surveys, and viewed operations in progress. The review team noted that power failure procedures, environmental monitoring results, and ground water reports are not reviewed as part of the inspection program. The Commission has implemented the semi-annual environmental monitoring reports by license condition. The reports are submitted to the Uranium Section for review.

Inspections for radiation safety compliance were performed in accordance with IMC 2801, "Uranium Mill and 11e.(2) Byproduct Material Disposal Site and Facility Inspection Program," and IMC 2641, "In-Situ Leach Facilities Inspection Program" requirements, with one exception. IMC 2801 and IMC 2641 state that a pre-operational inspection should be conducted prior to startup of new facilities; however, the Commission did not perform pre-operational inspections prior to startup of new facilities and has no equivalent guidance for inspection frequency or inspection report content of the ground water compliance program to ensure health and safety are protected.

The licensing and permitting staff, with the geohydrology and engineering technical expertise, does not routinely accompany the inspection staff who have health physics expertise during routine inspections. A multidisciplinary inspection team would be able to conduct a more comprehensive technical inspection for the uranium recovery facilities. The feedback of compliance information to the licensing staff would be enhanced and the inspectability of license conditions enhanced with licensing staff participation in certain inspections. Both the UIC Permits Section and the Uranium Section staff use a form titled "Compliance History Report" to provide compliance and enforcement history to permitting and licensing staff. During interviews with staff, the review team determined that the staff was conducting inspections that address appropriate health and safety issues. However, the review team determined that the documented information was incomplete based on a discussion with the compliance staff and the licensing/permitting staff. Information on the conditions at the sites identified during inspections is not timely communicated to the licensing/permitting staff. The review team recommends that the Compliance Team, in coordination with the UIC Permits Section and the Uranium Section, develop detailed inspection procedures for uranium recovery inspections to provide feedback to the uranium recovery program and enhance the inspection program. The review team found that the inspection reports provided appropriate depth of coverage, addressed license conditions, and demonstrated that the inspector pursued corrective actions for items of noncompliance that were identified. Inspection files contained photographs documenting both general facility features and items of interest or concerns.

#### 3.4.4 Technical Quality of Licensing Actions

For this subelement, the review team examined files and associated documentation related to UIC permitting and radioactive material licensing of in-situ recovery and conventional mill facilities, license amendment files, financial assurance instruments and other licensing documentation. Appendix D lists the licensing files reviewed.

For the conventional mills, the team reviewed six licensing actions which were completed during the review period and consisted of license renewal, annual financial assurance updates,



compliance monitoring, and post-decommissioning monitoring for ground water compliance. For in-situ recovery facilities, the team reviewed eight licensing actions which were completed during the review period consisting of license amendments, license renewal, annual financial updates and project area authorizations, conventional mill site visits, and ground water and health physics monitoring reviews.

The IMPEP review team conducted interviews with the UIC Permits Section team and Uranium Section radioactive material licensing teams to inquire about the application submittal, review and license/permit issuance process. Both sections used checklists to meet and verify licensing and permitting action milestones had been met. The UIC Permits Sections used the “Administrative and Technical Evaluation Checklist, Class III UIC Production Area Authorization (PAA) Application” to ensure administrative and technical completeness. The UIC permit staff then used the “Class I and Class III UIC Permit Application Process Schedule” to track timely execution of all actions. These actions included notices of deficiency (NOD), responses to NODs, issuance of the draft permit, public notice and comment periods, notice of public hearing opportunity and finalization of the permit. All actions have set time periods for execution.

The Uranium Section radioactive material license team used the “Uranium License Review Sheet” to review and track execution of all licensing actions. These actions included reviews for administrative and technical completeness, assignment of review team members, process engineering review, hydrology review, structural review concerns, multiple notices of deficiency (NOD), reviews of responses to NODs, preparation of the draft license, public notice and comment periods, notice of public hearing opportunity and finalization of the license. The review sheet is a comprehensive document which contains substantial technical comments by all license reviewers and dates of execution for all actions.

According to the Commission, all three conventional uranium mill licenses are in renewal. Uranium Section license staff stated that none of the conventional milling licenses will be renewed since all are in decommissioning. Four of the seven active ISR uranium milling licenses are in renewal. Uranium Section licensing staff indicated that several staff were reassigned for other priorities (WCS LLRW disposal site license application) which has delayed the completion of these licenses renewals. Staff expects to reduce the ISR license renewal backlog in the future given the expected workload.

The review team discussed with the Commission the status of one license which was revoked in 2003 for nonpayment of fees. The ISR wellfields at both sites have been fully restored but the surface contamination has not been cleaned up. The licensee abandoned the site in 2006 with limited funds remained in the financial trust. The trust is now under litigation and no funds are currently available for maintaining or decommissioning the site. A gamma survey was performed on both sites in 2012 which confirmed the sites are contaminated. Neither site is properly posted or secured according to discussions with Commission staff and observations of the site made by NRC staff. Subsequent to the onsite review, the Commission noted that signs had been posted during the last Commission review of the site; however, theft of the radiological signage has been an ongoing problem at this location. The Commission has issued a letter to the owner and the licensee informing them they are still responsible for decommissioning and securing the sites. The owner and licensee sued the Commission over the letter. The IMPEP review team discussed with the Commission staff their responsibility to protect the public health and safety at the site. Commission management is working on a path forward for the site.

All licensing and permitting actions related to amendments, site monitoring visits at conventional uranium mills, financial assurance and radioactive effluent and ground water monitoring reviews were found to be of high quality and consistent. As noted in Section 3.3.4, the feedback loop on existing ISR site infrastructure, inspections and operating issues used to inform future licensing and permitting actions needs to be enhanced.

#### 3.4.5 Technical Quality of Incident and Allegation Activities

For this subelement, the review team interviewed the inspection personnel involved with incident and allegation activities and reviewed procedures. There were no incidents or allegations during the IMPEP review period for the team to evaluate. The Commission has incident response procedures that adequately address the actions required.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Texas' performance with respect to the indicator, Uranium Recovery Program, be found satisfactory.

#### 4.0 SUMMARY

As noted in Sections 2.0 and 3.0 above, Texas' performance was found satisfactory for all performance indicators reviewed. The review team made three recommendations regarding program performance by the State.

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

Below are the review team's recommendations, as mentioned in the report, for evaluation and implementation by the State:

#### RECOMMENDATIONS:

1. The review team recommends that the Commission develop and implement a strategy to address staffing in the LLRW and uranium recovery inspection programs in order to enhance the effectiveness and efficiency of the Program. (Sections 3.3.1 and 3.4.1)
2. The review team recommends that the Compliance Team, in coordination with the Radioactive Materials Section, develop detailed inspection procedures for LLRW inspections to provide feedback to the LLRW program and enhance the inspection program. (Section 3.3.3)
3. The review team recommends that the Compliance Team, in coordination with the UIC Permits Section and the Uranium Section, develop detailed inspection procedures for uranium recovery inspections to provide feedback to the uranium recovery program and enhance the inspection program. (Section 3.4.3)

## LIST OF APPENDICES

Appendix A	IMPEP Review Team Members
Appendix B	Texas Organization Charts
Appendix C	Inspection Casework Reviews
Appendix D	License Casework Reviews
Appendix E	Incident Casework Reviews
Appendix F	Sealed Source and Device Casework Reviews

## APPENDIX A

### IMPEP REVIEW TEAM MEMBERS

<b>Name</b>	<b>Area of Responsibility</b>
Donna Janda, Region I	Team Leader Technical Staffing and Training Inspector Accompaniments
Robert Hays, Region III	Status of Materials Inspection Program Technical Quality of Inspections Inspector Accompaniments
Kathy Modes, Region I	Technical Quality of Licensing Actions
Binesh Tharakan, Region IV	Technical Quality of Incident and Allegation Activities
Stephen Poy, FSME	Compatibility Requirements Sealed Source and Device Evaluation Program
Dennis Sollenberger, FSME	Technical Staffing and Training Compatibility Requirements
David Esh, FSME	Low-Level Radioactive Waste Disposal Program Inspector Accompaniment
Kristen Schwab, State of Washington	Low-Level Radioactive Waste Disposal Program Inspector Accompaniment
Linda Gersey, Region IV	Uranium Recovery Program Inspector Accompaniment
Elise Striz, FSME	Uranium Recovery Program Inspector Accompaniment

APPENDIX B

TEXAS ORGANIZATION CHARTS  
ADAMS ACCESSION NO.:

ML14070A073 – Texas DSHS  
ML14070A065 – Texas CEQ

## APPENDIX C

### INSPECTION CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

#### Texas Department of State Health Services

File No.: 1 Licensee: Rio Grande Nuclear Pharmacy Inspection Type: Initial, Announced Inspection Date: 2/16/11	License No.: L06362 Priority: 2 Inspector: GG
File No.: 2 Licensee: Sightline West Houston IMRT, LLC Inspection Type: Routine, Announced Inspection Date: 4/19/11	License No.: L06299 Priority: 2 Inspector: HA
File No.: 3 Licensee: Non Destructive Inspection Corp. Inspection Type: Routine, Special, Announced Inspection Date: 9/20/12	License No.: L02712 Priority: 1 Inspector: RH
File No.: 4 Licensee: Baylor University Medical Center Inspection Type: Routine, Special, Announced Inspection Date: 11/15/11	License No.: L01290 Priority: 2 Inspector: SS
File No.: 5 Licensee: Gammatron Inspection Type: Routine, Announced Inspection Date: 6/10/13	License No.: L02148 Priority: 1 Inspector: RP
File No.: 6 Licensee: Team Industrial Services, Inc. Inspection Type: Routine, Unannounced Inspection Date: 8/29/13	License No.: L00087 Priority: 1 Inspector(s): AT, ES
File No.: 7 Licensee: Allied Wireline Services Inspection Type: Special, Unannounced Inspection Date: 1/17/13	License No.: L06374 Priority: 3 Inspector: RW
File No.: 8 Licensee: Medicine and Radiation Oncology, PA Inspection Type: Initial, Unannounced Inspection Date: 6/18/13	License No.: L06503 Priority: 2 Inspector(s): RW, JD

File No.: 9

Licensee: IsoRx Texas, LTD  
Inspection Type: Routine, Unannounced  
Inspection Date: 6/6/11

License No.: L05284  
Priority: 2  
Inspector: ES

File No.: 10

Licensee: Blood Systems, Inc.  
Inspection Type: Special, Announced  
Inspection Date: 7/20/11

License No.: L05841  
Priority: 3  
Inspector(s): GG, ES

File No.: 11

Licensee: Doctor's Hospital at Renaissance, LTD  
Inspection Type: Routine, Announced  
Inspection Date: 4/18/12

License No.: L05761  
Priority: 2  
Inspector: JC

File No.: 12

Licensee: University Medical Center  
Inspection Type: Routine, Special, Announced  
Inspection Date: 4/13/09

License No.: L04719  
Priority: 2  
Inspector: ES

File No.: 13

Licensee: United Regional Health Care System  
Inspection Type: Routine, Announced  
Inspection Date: 10/28/19

License No.: L00350  
Priority: 2  
Inspector: ES

File No.: 14

Licensee: Troxler Electronic Laboratory  
Inspection Type: Routine, Unannounced  
Inspection Date: 1/5/12

License No.: L01296  
Priority: 2  
Inspector: SS

File No.: 15

Licensee: Golden Plains Community Hospital  
Inspection Type: Routine, Announced  
Inspection Date: 2/23/12

License No.: L04369  
Priority: 5  
Inspector: ES

File No.: 16

Licensee: Christus Hospital – St. Elizabeth  
Inspection Type: Routine, Announced  
Inspection Date: 3/2/2011

License No.: L00269  
Priority: 2  
Inspector: VD

File No.: 17

Licensee: Critical Response Inspection Service, LLC  
Inspection Type: Initial, Special, Announced  
Inspection Date: 6/20/13

License No.: L06497  
Priority: 1  
Inspector: DP

File No.: 18

Licensee: Qal -Tek Associates, LLC  
Inspection Type: Routine, Announced  
Inspection Date: 10/28/11

License No.: L05965  
Priority: 2  
Inspector: LC

File No.: 19

Licensee: Houston Thyroid and Endocrine Specialists  
Inspection Type: Initial, Announced  
Inspection Date: 2/21/13

License No.: L06464  
Priority: 3  
Inspector: RP

File No.: 20

Licensee: Texas Department of Transportation  
Inspection Type: Routine, Announced  
Inspection Date: 8/22/13

License No.: L00197  
Priority: 2  
Inspector(s): RW, RS

File No.: 21

Licensee: Weatherford International, LLC  
Inspection Type: Routine, Special, Announced  
Inspection Date: 4/11/11

License No.: L04286  
Priority: 3  
Inspector: SF

File No.: 22

Licensee: Southern Technical Services, Inc.  
Inspection Type: Routine, Announced  
Inspection Date: 10/12/11

License No.: L05270  
Priority: 1  
Inspector: RH

File No.: 23

Licensee: TechCorr USA, LLC  
Inspection Type: Routine, Unannounced  
Inspection Date: 9/18/13

License No.: L05972  
Priority: 1  
Inspector(s): GG, AT

File No.: 24

Licensee: FTI Industries, Inc.  
Inspection Type: Routine, Special, Announced  
Inspection Date: 10/3/12

License No.: L02810  
Priority: 1  
Inspector: SS

File No.: 25

Licensee: Hendrick Medical Center  
Inspection Type: Routine, Special, Announced  
Inspection Date: 7/19/11

License No.: L02433  
Priority: 3  
Inspector: ES



Texas Commission on Environmental Quality

File No.: 26

Licensee: Waste Controls Specialist  
Inspection Type: Routine, Announced  
Inspection Date: 3/4/10

License No.: R04971  
Priority: 1-2  
Inspectors: SS, MA, JG, MI

Comment: Report issued five months after inspection.

File No.: 27

Licensee: Waste Controls Specialist  
Inspection Type: Routine, Announced  
Inspection Date: 8/23-24/11

License No.: R04971  
Priority: 1-2  
Inspectors: SS, JG, DJ

Comment: Report issued two months after inspection.

File No.: 28

Licensee: Waste Controls Specialist  
Inspection Type: Routine, Announced  
Inspection Date: 10/4-5/11

License No.: R04971  
Priority: 1-2  
Inspectors: SS, JG

File No.: 29

Licensee: Waste Controls Specialist  
Inspection Type: Routine, Announced  
Inspection Date: 7/1-2/13

License No.: R04971  
Priority: 1-2  
Inspector: SS

Comment: Close-out letter to licensee issued on 1/23/14.

File No.: 30

Licensee: Waste Controls Specialist, LLC  
Inspection Type: Shipment Receipt Routine, Announced  
Inspection Date: 4/27/12

License No.: R04100  
Priority: 1-2  
Inspector: MA

File No.: 31

Licensee: Waste Controls Specialist, LLC  
Inspection Type: Shipment Receipt Routine, Announced  
Inspection Date: 10/19/12

License No.: R04100  
Priority: 1-2  
Inspector: MK

File No.: 32

Licensee: Waste Controls Specialist, LLC  
Inspection Type: Shipment Receipt Routine, Announced  
Inspection Date: 10/29/12

License No.: R04100  
Priority: 1-2  
Inspector: JG

File No.: 33

Licensee: Waste Controls Specialist, LLC  
Inspection Type: Shipment Receipt Routine, Announced  
Inspection Date: 5/3/13

License No.: R04100  
Priority: 1-2  
Inspector: MK

File No.: 34

Licensee: Waste Controls Specialist, LLC  
Inspection Type: Shipment Receipt Routine, Announced  
Inspection Date: 10/16/13

License No.: R04100  
Priority: 1-2  
Inspector: JG

File No.: 35

Licensee: Waste Controls Specialist, LLC  
Inspection Type: Shipment Receipt Routine, Announced  
Inspection Date: 10/24/13

License No.: R04100  
Priority: 1-2  
Inspector: JG

File No.: 36

Licensee: Uranium Resources, Inc. Kingsville Dome Facility  
  
Inspection Type: Routine UIC  
Inspection Date: 3/17 – 3/18/10

License No.: R03653  
(UIC Permit UR02827)  
Priority: 1  
Inspector: MA

File No.: 37

Licensee: Uranium Resources, Inc. Kingsville Dome Facility  
  
Inspection Type: Routine UIC  
Inspection Date: 7/2 – 7/3/13

License No.: R03653  
(UIC Permit UR02827)  
Priority: 1  
Inspector: MA

File No.: 38

Licensee: Uranium Resources, Inc. Rosita Facility  
  
Inspection Type: Routine UIC  
Inspection Date: 2/2/10

License No.: R03653  
(UIC Permit UR02880)  
Priority: 1  
Inspectors: MA, SS

File No.: 39

Licensee: Uranium Resources, Inc. Rosita Facility  
  
Inspection Type: Routine UIC  
Inspection Date: 3/15 – 3/18/11

License No.: R03653  
(UIC Permit UR02880)  
Priority: 1  
Inspectors: MA, SS

File No.: 40

Licensee: Uranium Resources, Inc. Vasquez Facility  
  
Inspection Type: Routine UIC  
Inspection Date: 7/2 – 7/3/13

License No.: R03653  
(UIC Permit UR03050)  
Priority: NA  
Inspector: MA

File No.: 41

Licensee: Exxon Mobil Ray Point Uranium Mill

Inspection Type: Routine Conventional Mill

Inspection Date: 5/15/13

License No.: R01431

Priority: NA

Inspector: SS

File No.: 42

Licensee: Conoco Phillips Conquista Project Uranium Mill

Inspection Type: Routine Conventional Mill

Inspection Date: 5/16/13

License No.: R01634

Priority: NA

Inspector: SS

File No.: 43

Licensee: Rio Grande Resources Panna Maria Uranium Mill

Inspection Type: Routine Conventional Mill

Inspection Date: 11/20/13

License No.: R02402

Priority: NA

Inspector: SS

#### INSPECTOR ACCOMPANIMENTS

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

##### Texas Department of State Health Services

Accompaniment No.: 1

Licensee: Dallas Oncology Consultants PA

Inspection Type: Routine, Announced

Inspection Date: 1/13/14

License No.: L06352

Priority: 2

Inspector: SS

Accompaniment No.: 2

Licensee: Christus Santa Rosa Hospital – New Braunfels

Inspection Type: Routine, Announced

Inspection Date: 1/14/14

License No.: L02429

Priority: 3

Inspector: JD

Accompaniment No.: 3

Licensee: Fox NDE, LLC:

Inspection Type: Initial, Announced

Inspection Date: 1/15/14

License No.: L06411

Priority: 1

Inspector: JC

Accompaniment No.: 4

Licensee: Diamond Inspection

Inspection Type: Routine, Unannounced

Inspection Date: 1/16/14

License No.: L06229

Priority: 1

Inspector: CM

Accompaniment No.: 5  
Licensee: Team Industrial Services, Inc.  
Inspection Type: Routine, Announced  
Inspection Date: 12/16/13

License No.: L00087  
Priority: 1  
Inspector: RP

Accompaniment No.: 6  
Licensee: Scientific Drilling International  
Inspection Type: Routine, Announced  
Inspection Date: 12/17/13

License No.: L05105  
Priority: 2  
Inspector: TH

Accompaniment No.: 7  
Licensee: Thrubit, LLC  
Inspection Type: Initial, Announced  
Inspection Date: 12/18/13

License No.: L06030  
Priority: 2  
Inspector: DP

Accompaniment No.: 8  
Licensee: Tenet Hospitals LTD dba Sierra Medical Center  
Inspection Type: Routine, Announced  
Inspection Date: 1/28/14

License No.: L04758  
Priority: 2  
Inspector: GG

Texas Commission on Environmental Quality

Accompaniment No.: 9  
Licensee: Waste Controls Specialist, LLC  
Inspection Type: Shipment Receipt Mock Inspection  
Inspection Date: 1/29-30/14

License No.: R04100  
Priority: 1-2  
Inspectors: JG, MK

Comment: Due to lack of any waste shipments a mock inspection was performed

Accompaniment No.: 10  
Licensee: South Texas Mining Venture, LLP  
Inspection Type: Routine Radioactive License (not UIC)  
Inspection Date: 2/6/14

License No.: R06062  
Priority: 1  
Inspectors: MA, SS

Comment: Power failure procedures, environmental monitoring results, and ground water reports were not reviewed as part of the inspection.

## APPENDIX D

### LICENSE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

#### Texas Department of State Health Services

File No.: 1

Licensee: Forest Park Medical Center at Southlake LLC

Type of Action: New

Date Issued: 12/16/12

License No.: L06600

Amendment No.: 00

License Reviewer: CH

File No.: 2

Licensee: Quantum Technical Services LLC

Type of Action: New

Date Issued: 6/9/11

License No.: L06406

Amendment No.: 00

License Reviewer: RF

File No.: 3

Licensee: Frontier Tubular Solutions LLC

Type of Action: New

Date Issued: 9/27/13

License No.: L06581

Amendment No.: 00

License Reviewer: KS

File No.: 4

Licensee: Control & Inspection Services USA Corporation

Type of Action: New

Date Issued: 2/3/14

License No.: L06611

Amendment No.: 00

License Reviewer: VD

File No.: 5

Licensee: Avance Biosciences Inc.

Type of Action: New

Date Issued: 8/1/12

License No.: L06493

Amendment No.: 00

License Reviewer: KS

File No.: 6

Licensee: The Methodist Hospital

Type of Action: Amendment

Date Issued: 10/16/13

License No.: L00457

Amendment No.: 192

License Reviewer: SS

File No.: 7

Licensee: Oceaneering International Inc.

Type of Action: Amendment

Date Issued: 2/15/12

License No.: L04463

Amendment No.: 80

License Reviewer: JK

File No.: 8

Licensee: Aluman Mill Products

Type of Action: Amendment

Date Issued: 10/11/13

License No.: L04663

Amendment No.: 19

License Reviewer: SG

File No.: 9

Licensee: Panhandle Nuclear Rx Ltd

Type of Action: Amendment

Date Issued: 1/30/14

License No.: L04683

Amendment No.: 28

License Reviewer: JSK

File No.: 10

Licensee: MISTRAS Group Inc.

Type of Action: Amendment

Date Issued: 12/12/13

License No.: L06369

Amendment No.: 13

License Reviewer: KS

File No.: 11

Licensee: Nabors Completion and Production Services Co.

Type of Action: Amendment

Date Issued: 10/25/12

License No.: L06375

Amendment No.: 2

License Reviewer: KS

File No.: 12

Licensee: Trace Life Sciences Inc.

Type of Action: Renewal

Date Issued: Pending since 12/31/10

License No.: L05435

Amendment No.: 24

License Reviewer: JSK

File No.: 13

Licensee: East Texas Medical Center Crockett

Type of Action: Renewal

Date Issued: Pending since 1/31/2010

License No.: L02774

Amendment No.: -

License Reviewer: VD

File No.: 14

Licensee: The University of Texas Health Science Center at Houston

Type of Action: Renewal

Date Issued: Pending since 1/31/10

License No.: L02774

Amendment No.: -

License Reviewer: VD

File No.: 15

Licensee: Golden Plains Community Hospital

Type of Action: Renewal

Date Issued: Pending since 1/31/2010

License No.: L04369

Amendment No.: -

License Reviewer: PS

File No.: 16

Licensee: Mohammed Attar MD PA

Type of Action: Renewal

Date Issued: 6/28/12

License No.: L05615

Amendment No.: 06

License Reviewer: JSK

File No.: 17

Licensee: Petnet Houston LLC

Type of Action: Renewal

Date Issued: Pending since 8/31/09

License No.: L05542

Amendment No.: -

License Reviewer: PS

File No.: 18  
Licensee: Flange-Tech  
Type of Action: Renewal  
Date Issued: Pending since 3/31/06

License No.: L04281  
Amendment No.: -  
License Reviewer: RF

File No.: 19  
Licensee: Gammatron Inc.  
Type of Action: Renewal  
Date Issued: Pending since 1/31/12

License No.: L02148  
Amendment No.: -  
License Reviewer: JK

File No.: 20  
Licensee: Southwest Research Institute  
Type of Action: Renewal  
Date Issued: Pending since 12/31/10

License No.: L00775  
Amendment No.: -  
License Reviewer: JK

File No.: 21  
Licensee: Columbia Scientific Balloon Facility  
Type of Action: Renewal  
Date Issued: 12/11/13

License No.: L04717  
Amendment No.: 10  
License Reviewer: CH

File No.: 22  
Licensee: Seton Healthcare  
Type of Action: Termination  
Date Issued: 1/25/2013

License No.: L06492  
Amendment No.: 01  
License Reviewer: JSK

File No.: 23  
Licensee: Metabolic Imaging of Laredo, LLC  
Type of Action: Termination  
Date Issued: 10/15/13

License No.: L05890  
Amendment No.: 06  
License Reviewer: SS

File No.: 24  
Licensee: Tyco Healthcare Kendall LP  
Type of Action: Termination  
Date Issued: 12/18/13

License No.: L03314  
Amendment No.: 25  
License Reviewer: JK

File No.: 25  
Licensee: STP Nuclear Operating Company  
Type of Action: Termination  
Date Issued: 12/4/13

License No.: L04222  
Amendment No.: 29  
License Reviewer: SG

File No.: 26  
Licensee: Sterigenics US LLC  
Type of Action: Exemption  
Date Issued: 8/22/13

License No.: L03851  
Amendment No.: 42  
License Reviewer: JK

File No.: 27  
Licensee: Superior Production Logging Inc.  
Type of Action: Exemption  
Date Issued: 11/1/12

License No.: L01983  
Amendment No.: 42  
License Reviewer: RF

File No.: 28  
Registrant: Waste Control Specialists  
Type of Action: Exemption  
Date Issued: 7/17/12

Registrant No.: W0013  
Amendment No.: N/A  
License Reviewer: RF

Texas Commission on Environmental Quality

File No.: 29  
Licensee: Waste Controls Specialist, LLC  
Type of Action: Minor Amendment  
Date Issued: 1/6/11

License No.: R04100  
Amendment No.: 3  
License Reviewer: DC

File No.: 30  
Licensee: Waste Controls Specialist, LLC  
Type of Action: Administrative Amendment  
Date Issued: 8/30/11

License No.: R04100  
Amendment No.: 8  
License Reviewer: ST

File No.: 31  
Licensee: Waste Controls Specialist, LLC  
Type of Action: Minor Amendment  
Date Issued: 9/18/12

License No.: R04100  
Amendment No.: 18  
License Reviewer: BB

File No.: 32  
Licensee: Waste Controls Specialist, LLC  
Type of Action: Administrative Amendment  
Date Issued: 7/24/13

License No.: R04100  
Amendment No.: 22  
License Reviewer: HW

File No.: 33  
Licensee: Waste Controls Specialist, LLC  
Type of Action: Minor Amendment  
Date Issued: 9/5/13

License No.: R04100  
Amendment No.: 23  
License Reviewer: RD, BS, KE

File No.: 34  
Licensee: South Texas Mining Venture, LLP  
Type of Action: Class III UIC PAA Application  
Date Issued: 11/4/10

License No.: R06062 (UIC Permit UR03070)  
Amendment No.: UR03070PAA4  
Permit Reviewer: MR

File No.: 35  
Licensee: South Texas Mining Venture, LLP  
Type of Action: Permit Processing Schedule  
Date Issued: 11/4/10

License No.: R06062 (UIC Permit UR03070)  
Amendment No.: UR03070PAA4  
Permit Reviewer: MR



File No.: 36

Licensee: South Texas Mining Venture, LLP

License No.: R06062 (UIC Permit UR03070)

Type of Action: Compliance History Report

Amendment No.: NA

Date Issued: 12/5/13

Permit Reviewer: MR

Comment: Staff did not demonstrate they were receiving adequate information on site performance/compliance history to inform actions using this document.

File No.: 37

Licensee: South Texas Mining Venture, LLP

License No.: R06062 (UIC Permit UR 03070)

Type of Action: UIC P&A and Decommissioning Surety Update

Amendment No.: NA

Date Issued: 8/16/13

Permit Reviewer: ST

File No.: 38

Licensee: Mestena Uranium, LLC

License No.: R05360 (UIC Permit UR03060)

Type of Action: UIC P&A Surety Update

Amendment No.: NA

Date Issued: 8/9/13

License Reviewer: ST

File No.: 39

Licensee: Rio Grande Resources Panna Maria Uranium Mill Site

License No.: R02402

Type of Action: Surveillance Monitoring Report

Amendment No.: NA

Date Issued: 10/17/13

License Reviewer: KT

File No.: 40

Licensee: Conoco Phillips Conquista Project Uranium Mill Site

License No.: R01634

Type of Action: Semi-Annual Ground Water Monitoring Report

Amendment No.: NA

Date Issued: 10/24/13

License Reviewer: KT

File No.: 41

Licensee: Exxon Mobil Ray Point Uranium Mill Site

License No.: R01431

Type of Action: Quarterly Monitoring Report

Amendment No.: NA

Date Issued: 10/30/13

License Reviewer: KT

File No.: 42

Licensee: Rio Grande Resources Panna Maria Mill Site

License No.: R02402

Action Type: Uranium Mill Tailings Impoundment Site Visit

Amendment No.: NA

Date Issued: 1/27/14

License Reviewer: KT

File No.: 43

Licensee: Exxon Mobil Ray Point Uranium Mill Site

License No.: R01431

Action Type: Uranium Mill Tailings Impoundment Site Visit

Amendment No.: NA

Inspection Date: 1/27/14

License Reviewer: KT

File No.: 44

Licensee: Mestena Uranium, LLC ISR site

License No.: R05360

Type of Action: Amendment

Amendment No.: NA

Date Issued: 2/4/13

Permit Reviewer: ST

File No.: 45

Licensee: South Texas Mining Venture, LLP

Type of Action: Semi-Annual Environmental Monitoring Report

Date Issued: 8/28/12

License No.: R06062

Amendment No.: NA

License Reviewer: BB

File No.: 46

Licensee: South Texas Mining Venture, LLP

Type of Action: Amendment

Date Issued: 11/17/10

License No.: R06062

Amendment No.: NA

License Reviewer: GS

File No.: 47

Licensee: Rio Grande Resources Panna Maria Uranium Mill

Type of Action: Annual Decommissioning Cost Estimate

Date Issued: 9/25/13

License No.: R02402

Amendment No.: NA

License Reviewer: ST

File No.: 48

Licensee: Mestena Uranium, LLC

Type of Action: Annual Decommissioning Cost Estimate Review

Date Issued: 3/18/13

License No.: R05360

Amendment No.: NA

License Reviewer: GS

File No.: 49

Licensee: Intercontinental Energy Corporation Lamprecht and Zamzow ISR Sites

Type of Action: Decommissioning Action Request Letter

Date Issued: 7/23/13

Revoked License No.: L02538

Amendment No.: NA

License Reviewer: CM

## APPENDIX E

### INCIDENT CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1

Licensee: MD Anderson Cancer Center

Date of Incident: 9/9/11

Investigation Date: 9/13/11

License No.: L00466

NMED No.: 110486

Type of Incident: Medical Event

Type of Investigation: Phone

File No.: 2

Licensee: Baylor Radiosurgery Center

Date of Incident: 9/30/10

Investigation Date: 10/1/10

License No.: L05842

NMED No.: 100492

Type of Incident: Medical Event

Type of Investigation: Phone

File No.: 3

Licensee: UT Southwest Medical Center

Date of Incident: 7/16/10

Investigation Date: 3/1/11

License No.: L00384

NMED No.: 110108

Type of Incident: Medical Event

Type of Investigation: Site

File No.: 4

Licensee: Pasadena Refining System

Date of Incident: 12/10/11

Investigation Date: 1/12/12

License No.: L01344

NMED No.: 110660

Type of Incident: Damaged Equipment

Type of Investigation: Site

File No.: 5

Licensee: Cardinal Health Nuclear Pharmacy

Date of Incident: 1/11/12

Investigation Date: 1/13/12

License No.: L01911

NMED No.: 120060

Type of Incident: Medical Event

Type of Investigation: Phone

File No.: 6

Licensee: Phoenix NDT

Date of Incident: 8/31/11

Investigation Date: 1/27/12

License No.: L04454

NMED No.: 120137

Type of Incident: Potential Overexposure

Type of Investigation: Site

File No.: 7

Licensee: UT Southwest Medical Center

Date of Incident: 2/16/12

Investigation Date: 2/17/12

License No.: L00384

NMED No.: 120144

Type of Incident: Medical Event

Type of Investigation: Phone

File No.: 8

Licensee: MD Anderson Cancer Center

Date of Incident: 4/11/12

Investigation Date: 4/13/12

License No.: L00460

NMED No.: 120225

Type of Incident: Medical Event

Type of Investigation: Phone

File No.: 9

Licensee: Goolsby Testing

Date of Incident: 10/18/12

Investigation Date: 11/1/12

License No.: L03115

NMED No.: 120653

Type of Incident: Damaged Equipment

Type of Investigation: Site

File No.: 10

Licensee: Physician Reliance

Date of Incident: 1/5/12

Investigation Date: 11/21/12

License No.: L05545

NMED No.: 120690

Type of Incident: Medical event

Type of Investigation: Phone

File No.: 11

Licensee: Sterigenics US at Ft. Worth

Date of Incident: 2/20/13

Investigation Date: 2/20/13

License No.: L03851

NMED No.: 130112

Type of Incident: Equipment Failure

Type of Investigation: Phone

File No.: 12

Licensee: Sterigenics US at Ft. Worth

Date of Incident: 2/28/13

Investigation Date: 3/1/13

License No.: L03851

NMED No.: 130122

Type of Incident: Equipment Failure

Type of Investigation: Phone

File No.: 13

Licensee: Petrochem Inspection Services

Date of Incident: 3/26/13

Investigation Date: 3/27/13

License No.: L04460

NMED No.: 130147

Type of Incident: Damaged Equipment

Type of Investigation: Phone

File No.: 14

Licensee: Rosa of North Dallas

Date of Incident: 3/27/13

Investigation Date: 5/8/13

License No.: L06186

NMED No.: 130150

Type of Incident: Medical Event

Type of Investigation: Site

File No.: 15

Licensee: Thermo Process Instruments

Date of Incident: 5/15/13

Investigation Date: 5/24/13

License No.: L03524

NMED No.: 130246

Type of Incident: Contamination

Type of Investigation: Site

File No.: 16

Licensee: The Methodist Hospital

Date of Incident: 6/3/13

Investigation Date: 6/3/13

License No.: L00457

NMED No.: 130264

Type of Incident: Equipment Failure

Type of Investigation: Phone

File No.: 17

Licensee: Lawrence Engineering

Date of Incident: 12/2/11

Investigation Date: 12/11/11

License No.: L05707

NMED No.: 130561

Type of Incident: Lost/Stolen RAM

Type of Investigation: Site

File No.: 18

Licensee: Texas Gamma Ray

Date of Incident: 11/19/13

Investigation Date: 11/20/13

License No.: L05561

NMED No.: 130563

Type of Incident: Equipment Failure

Type of Investigation: Phone

File No.: 19

Licensee: Qualspec Services LLC

Date of Incident: 11/20/13

Investigation Date: 12/16/13

License No.: L06351

NMED No.: 130566

Type of Incident: Equipment Failure

Type of Investigation: Phone

File No.: 20

Licensee: Renegade Wire Line Services

Date of Incident: 10/25/13

Investigation Date: 2/5/14

License No.: L06307

NMED No.: 130575

Type of Incident: Potential Overexposure

Type of Investigation: Site

File No.: 21

Licensee: Steris Isomedix Services

Date of Incident: 11/29/13

Investigation Date: 12/2/13

License No.: L04268

NMED No.: 130586

Type of Incident: Equipment Failure

Type of Investigation: Phone

File No.: 22

Licensee: Wilco NDT

Date of Incident: 12/10/13

Investigation Date: 12/17/13

License No.: Reciprocity NM IR 470-05

NMED No.: 130614

Type of Incident: Potential Overexposure

Type of Investigation: Site

File No.: 23

Licensee: Associated Couriers

Date of Incident: 12/8/13

Investigation Date: 12/9/13

License No.: General

NMED No.: 140029

Type of Incident: Lost/Stolen RAM

Type of Investigation: Phone

## APPENDIX F

### SEALED SOURCE AND DEVICE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1

Registry No.: TX-1328-D-101-S

Applicant Name: Nuclear Scanning Services, Inc.

Date Issued: 1/11/13

SS&D Type: (T) Other: Mobile Gamma

Type of Action: New

Reviewers: JK, SG

File No.: 2

Registry No.: TX-1363-D-101-S

Applicant Name: Hunter Well Science, Inc.

Date Issued: 4/19/13

SS&D Type: (F) Well Logging

Type of Action: New

Reviewers: JK, SG

File No.: 3

Registry No.: TX-1376-D-101-S

Applicant Name: Varco, L.P.

Date Issued: 11/20/13

SS&D Type: (D) Gamma Gauge

Type of Action: New

Reviewers: JK, SG

File No.: 4

Registry No.: TX-0734-D-107-S

Applicant Name: Tracerco

Date Issued: 1/8/14

SS&D Type: (T) Other: Mobile Gamma

Type of Action: New

Reviewers: JK, KS

File No.: 5

Registry No.: TX-0634-D-178-B

Applicant Name: Thermo Fisher Scientific

Date Issued: 3/23/10

SS&D Type: (D) Gamma Gauge

Type of Action: New

Reviewers: JK, RF

File No.: 6

Registry No.: TX-0734-D-105-G

Applicant Name: Tracerco

Date Issued: 6/9/10

SS&D Type: (D) Gamma Gauge

Type of Action: New

Reviewers: SG, RF

File No.: 7

Registry No.: TX-1141-D-101-S

Applicant Name: Positron Corp.

Date Issued: 11/19/10

SS&D Type: (B) Medical Radiography

Type of Action: New

Reviewers: SG, RF

Comment: The reviewers did not ensure that the foreign manufacturer/distributor had a U.S. radioactive materials license, per Texas regulations, or an import/export license. Case file was missing a review checklist. SSD registration is for a device that contains NARM material that is now distributed from the State of Indiana. The registration will be transferred to the NRC.

Attachment

File No.: 8

Registry No.: TX-0734-D-106-S

Applicant Name: Tracerco

Date Issued: 4/8/11

SS&D Type: (D) Gamma Gauge

Type of Action: New

Reviewers: SG, RF

File No.: 9

Registry No.: TX-0642-D-105-B

Applicant Name: Thermo Finnigan

Date Issued: 9/30/11

SS&D Type: (N) Ion Generator

Type of Action: New

Reviewers: JK, KE

File No.: 10

Registry No.: TX-1351-D-101-B

Applicant Name: Multi Phase Meters, Inc.

Date Issued: 4/17/12

SS&D Type: (D) Gamma Gauge

Type of Action: New

Reviewers: JK, KS

Comment: The reviewers did not ensure that the foreign manufacturer/distributor had a U.S. radioactive materials license, per Texas regulations, or an import/export license.

File No.: 11

Registry No.: TX-1351-D-102-B

Applicant Name: Multi Phase Meters, Inc.

Date Issued: 7/27/12

SS&D Type: (D) Gamma Gauge

Type of Action: New

Reviewers: JK, KS

Comment: The reviewers did not ensure that the foreign manufacturer/distributor had a U.S. radioactive materials license, per Texas regulations, or an import/export license.

File No.: 12

Registry No.: TX-0634-D-176-B

Applicant Name: Thermo Fisher Scientific

Date Issued: 7/22/10

SS&D Type: (H) General Neutron Source Applications

Type of Action: Amendment

Reviewers: JK, RF

File No.: 13

Registry No.: TX-0734-D-101-B

Applicant Name: Tracerco

Date Issued: 6/4/13

SS&D Type: (D) Gamma Gauge

Type of Action: Amendment

Reviewers: JK, RF

File No.: 14

Registry No.: TX-0642-D-803-B

Applicant Name: Thermo Finnigan

Date Issued: 2/1/12

SS&D Type: (N) Ion Generator

Type of Action: Inactivation

Reviewers: JK, KS

File No.: 15

Registry No.: TX-8260-S-801-S

Applicant Name: GNI Incorporated

Date Issued: 10/31/12

SS&D Type: (T) Other

Type of Action: Inactivation

Reviewers: JK, KS

Texas Final IMPEP Report  
Sealed Source and Device Casework Reviews

Page F.3

File No.: 16  
Registry No.: TX-8260-S-802-S  
Applicant Name: GNI Incorporated  
Date Issued: 11/16/12

SS&D Type: (F) Well Logging  
Type of Action: Inactivation  
Reviewers: JK, KS



ATTACHMENT(S)

June 12, 2014 Letter from Kathryn C. Perkins  
Texas DSHS Response to the Draft Report  
ADAMS Accession No.: ML14177A332

June 20, 2014 Letter from Kelly Cook and Charles Maguire  
Texas CEQ Response to the Draft Report  
ADAMS Accession No.: ML14174A773

NRC Comment Resolution to June 12 and June 20, 2014 Letter  
ADAMS Accession No.: ML14192A498