



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

August 10, 2011

Ms. Amanda Smith, Executive Director
Department of Environmental Quality
168 North 1950 West
P.O. Box 144850
Salt Lake City, UT 84116

Dear Ms. Smith:

The U.S. Nuclear Regulatory Commission (NRC) uses the Integrated Materials Performance Evaluation Program (IMPEP) in the evaluation of Agreement State programs. Enclosed for your review is the draft IMPEP report that documents the results of the Agreement State review held in Utah on July 11-14, 2011. I was the team leader for the review. The review team's preliminary findings were discussed with you and your staff on the last day of the review. The review team's proposed recommendations are that the Utah Agreement State Program be found adequate to protect public health and safety and compatible with NRC's program.

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

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

The team will review your response, make any necessary changes to the report, and issue it to the MRB as a proposed final report. Coordinating with your staff, I scheduled the Utah MRB meeting for Tuesday, October 4, 2011, from 1:00 p.m. to 3:00 p.m. EDT. NRC will provide invitational travel for you or your designee to attend the MRB meeting at NRC Headquarters in Rockville, Maryland. NRC has video conferencing capability if it is more convenient for the

A. Smith

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State to participate through this medium. Please contact me if you desire to establish a video conference for the meeting.

If you have any questions regarding the enclosed report, please contact me at (301) 415-2320.

Thank you for your cooperation.

Sincerely,

/RA Rachel S. Browder for/

Kathleen N. Schneider
Senior Project Manager
Agreement State Program Branch
Division of Materials Safety and State Agreements

Enclosure:
Draft Utah IMPEP Report

cc w/encl: Rusty Lundberg, Director
Utah Division of Radiation Control

A. Smith

-2-

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Draft Utah IMPEP Report

cc w/encl: Rusty Lundberg, Director
Utah Division of Radiation Control

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

JULY 11-14, 2011

DRAFT REPORT

Enclosure

EXECUTIVE SUMMARY

This report presents the results of the Integrated Materials Performance Evaluation Program (IMPEP) review of the Utah Agreement State Program. The review was conducted during the period of July 11-14, 2011, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the States of Texas and Washington.

Based on the results of this review, the review team recommends that Utah's performance be found satisfactory, but needs improvement in two non-common performance indicators reviewed and satisfactory for the remaining six performance indicators reviewed.

The review team made three recommendations regarding the performance of the Utah Agreement State Program. These recommendations, which are briefly described below, include areas for improvement to correct identified performance deficiencies in the Utah Agreement State Program. The review team recommends that (1) the Division institute appropriate training in all aspects of the allegation response program to ensure that LLRW and the Uranium Mills program staff have the same competency and consistency in handling allegations as demonstrated by the radioactive materials program staff, (2) that independent and confirmatory radiation measurements are performed with the appropriate calibrated instruments for inspections conducted by the LLRW and the Uranium Mills program staff, and (3) the Division ensures that sufficient numbers and types of calibrated instruments, appropriate to the activities conducted by the licensee, are available to the LLRW and the Uranium Mills program staff and that the staff is trained in the proper use of the instrumentation.

The review team further recommends that the Utah Agreement State Program be found adequate to protect public health and safety and compatible with NRC's program.

Based on the results of the current IMPEP review, and in accordance with the criteria in NRC Management Directive 5.6, the review team recommends that the next Periodic Meeting be held in approximately 18 months, to assess the State's progress in addressing the open recommendations, and that the next IMPEP review be performed in three years.

1.0 INTRODUCTION

This report presents the results of the review of the Utah Agreement State Program. The review was conducted during the period of July 11-14, 2011, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the States of Texas and 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 June 16, 2007, to July 14, 2011, were discussed with Utah managers on the last day of the review.

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

The Agreement State program is administered by the Division of Radiation Control (the Division). The Division is located within the Department of Environmental Quality (the Department). Organization charts for the Department and the Division are included as Appendix B. The Utah Radiation Control Board (Board) is appointed by the Utah Governor with the consent of the Utah Senate under the Utah statute. The Board establishes rules and policies in order for the Division to implement the radiation control program in the state.

At the time of the review, the Utah Agreement State Program regulated approximately 200 specific licenses authorizing possession and use of radioactive materials. The Division's responsibilities include regulatory authority for 11e.(2) byproduct material (uranium recovery activities). The Division currently regulates three uranium mill sites and a commercial 11e.(2) disposal facility. The Division also has regulatory responsibility for a low-level radioactive waste (LLRW) disposal site. The review focused on the radioactive materials program as it is carried out under the Section 274b. (of the Atomic Energy Act of 1954, as amended) Agreement between the NRC and the State of Utah. The Agreement was amended in 1990 to add the LLRW disposal program and amended again in 2004 to include the Uranium Recovery program.

In preparation for the review, a questionnaire addressing the common and non-common performance indicators was sent to the Division on February 8, 2011. The Division provided its response to the questionnaire on June 30, 2011. A copy of the questionnaire response may be found in the NRC's Agencywide Documents Access and Management System (ADAMS) using Accession Number ML111810880. An update to the questionnaire response from Utah was also used during the onsite review. The update to the questionnaire was received by email on (enter date) and can be found under (ML to be added).

The review team's general approach for conduct of this review consisted of: (1) examination of the Division's response to the questionnaire; (2) review of applicable Utah statutes and regulations; (3) analysis of quantitative information from the Division's licensing and inspection database; (4) technical evaluation of selected regulatory actions; (5) field accompaniments of six of the Division's inspectors; and (6) interviews with staff and management to answer questions or clarify issues. The review team evaluated the information gathered against the established criteria for each common and applicable non-common performance indicators and

made a preliminary assessment of the Agreement State program's performance.

Section 2.0 of this report covers the State's actions in response to recommendations made following the previous 2007 IMPEP and 2008 Follow-up IMPEP reviews. Results of the current review of the common performance indicators are presented in Section 3.0. Section 4.0 details results of the review of the applicable non-common performance indicators, and Section 5.0 summarizes the review team's findings and recommendations. The recommendations made by the review team are comments that relate directly to program performance by the State.

2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

During the 2008 Follow-up IMPEP review, which concluded on July 18, 2008, the review team closed the two recommendations from the 2007 IMPEP and made no additional recommendations regarding the Utah Agreement State Program's performance.

3.0 COMMON PERFORMANCE INDICATORS

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

3.1 Technical Staffing and Training

Issues central to the evaluation of this indicator include the Division'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 Division's questionnaire response relative to this indicator, interviewed managers and staff, reviewed job descriptions and training records, and considered workload backlogs.

The Division consists of the Division Director and three technical Sections, which includes the Radioactive Materials & X-Ray Section, the Low Level Waste/Uranium Mills and Radon Section, and the Geotechnical Services Section. The Radioactive Materials & X-Ray Section includes a Section Manager and eight full-time Health Physicist positions, four in the Radioactive Materials Program and four in the X-Ray Program. The Radioactive Materials & X-Ray Section also includes the Support Services Program, which has five staff members. Details of technical staffing and training for the Low Level Waste/Uranium Mills and Radon Section and the Geotechnical Services Section are discussed in Sections 4.3.1 and 4.4.1, respectively.

During this IMPEP review period, the Division utilized Lean Six Sigma to analyze and evaluate opportunities for business process improvement. The initial activity performed by the Division identified key fundamentals necessary for the Engineering Discipline, Geosciences Discipline, and the Health Physics Discipline. Subsequently, each staff member ranked themselves against each of the identified key fundamentals for their respective discipline, with supervisory input and oversight. The Division indicated that the results provided a tool to identify areas of training and development of employees, apply knowledge transfer management, and promote efficiency in the respective Sections. Second, the Division re-evaluated the essential requirements and responsibilities of each Section, utilizing the Lean Six Sigma process

improvement plan. As a result, the Division reorganized the Low-Level Radioactive Waste (LLRW) and Uranium Mill responsibilities. Under the reorganization, the Division split the licensing and compliance sections into two separate sections. As a result, a new Compliance Section Manager was named. The current Low Level Waste/Uranium Mills and Radon Section Manager will manage the new licensing section.

The Division Director indicated that the reorganization was intended to enhance the efficiency of the Division by allowing each Section to focus on its primary requirements, as well as improve planning and response to emergent issues. In addition, the reorganization should provide opportunities for staff members to obtain training and development in new areas as a means of knowledge transfer management. The new organization chart should be effective September 2011 and is provided in Appendix B, along with the existing organization chart.

During this review period, the Radioactive Materials Section experienced two vacancies as a result of one resignation and one reduction in force. The reduction in force brought the total number of positions in the Section to three. During most of the review period, there were three Health Physicists in the Section. Based on the work load, interviews with management and staff, the review team acknowledged that three positions appeared to be acceptable for the activities supported by the Section. The review team recognized management support in responding to and filling the vacancies as necessary. The pending reorganization will move one Health Physicist position to LLW/Uranium Mills Licensing; however, the individual will continue to support the Radioactive Materials Section during the transition period. In addition, management has hired one new Health Physicist. Therefore, there are currently two positions filled and one vacancy, which management indicated should be filled in the near future.

The Division has a comprehensive and effective training plan for staff and new employees. The Division updated its "Training Policy Statement" on July 5, 2011. The Policy described the expectations for training and competency and provided the basic, specialized and advanced training courses for the Section. The policy statement and training plan was comparable to the NRC/OAS Training Working Group recommendations for Agreement State Training Programs, dated October 1997. Proficiency of new staff members was documented by formal correspondence based on the candidate successfully completing formal training courses and demonstrating an appropriate level of expertise by program area, such as portable gauge, medical, broad scope, or radiography. The documented training records demonstrated that Division management was committed to providing applicable training for the staff. The review team concluded that the Division had a well-balanced staff and a sufficient number of trained personnel to carry out its regulatory duties.

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

3.2 Status of Materials Inspection Program

The review team focused on five factors while reviewing this indicator. These include 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 Division's questionnaire response relative to this indicator, data gathered from the Division's database, examination of completed inspection casework, and interviews with

management and staff.

The Division tracks all inspection activities in a computer database. The review team observed that the database could easily be queried by managers and staff to determine the inspection status for any licensed facility. In addition, the notification of licensees working under reciprocity in the State was also easily accessible from the database.

The review team concluded that the Division's inspection priorities for most types of licenses were more frequent than the priorities prescribed in IMC 2800, "Materials Inspection Program." The Division may inspect a licensee more frequently than its prescribed priority based on previous performance. However, the Division does not extend the inspection frequency based on good performance beyond the priorities prescribed in IMC 2800. The review team confirmed the Division is conducting Increased Controls inspections in conjunction with the routine health and safety inspections.

The Division completed 125 routine Priority 1, 2, and 3 inspections during the review period. The review team determined that six of those inspections were conducted overdue by more than 25 percent of the inspection frequency listed in IMC 2800. The review team noted that no routine Priority 1, 2, and 3 inspections were overdue at the time of the review.

The Division conducted 31 initial inspections during the review period. The review team confirmed that none of those inspections were conducted overdue by IMC 2800 standards. IMC 2800 prescribes initial inspections to be completed within 12 months of license issuance. The Division's procedure prescribes that initial inspections must be conducted within six months of license issuance.

Overall, the review team calculated that four percent of the Priority 1, 2, and 3 and initial inspections conducted by the Division during the review period were conducted overdue. The review team noted that for those instances where a license was inspected late, documentation indicated that inspections had been attempted or other explanatory circumstances prevented a timely inspection.

The timeliness of the issuance of inspection findings was determined by the review team's evaluation of inspection casework. The Division's policy is to issue inspection findings to licensees within 30 days from the date of the inspection. Based on an evaluation of 42 inspection cases, the review team identified 13 inspection reports issued after 30 days from the date of the inspection. The amount of days overdue for these reports ranged from 5 to 99 days. Based on interviews with the Section Managers and staff, the review team became aware that some of the underlying causes for the late issuance of the inspection reports included a reduction in staff due to temporary medical leave for one staff member and prioritization of work activities as a result of investigating incidents and events by other staff members. In addition, the Section Manager identified a performance issue, which had since been addressed. The review team examined 25 inspection files, which represented licensees that were found to be in non-compliance with the regulations. The review found that four of the 25 notice of violations were issued over 30 days from the date of the inspection.

The Division's reciprocity inspection goals are equivalent to the requirements in IMC 1220, "Processing of NRC Form 241 and Inspection of Agreement State Licensees Operating under

10CFR150.20,” which is 20 percent of candidate licensees. Reciprocity was granted to approximately 16 to 20 licensees each year and the Division met or exceeded the 20 percent inspection requirement for those licensees.

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

3.3 Technical Quality of Inspections

The review team evaluated the inspection reports, enforcement documentation, inspection field notes, and interviewed inspectors for 21 radioactive materials inspections conducted during the review period. The casework reviewed included inspections conducted by four Division inspectors and covered inspections of various license types, including: academic and medical broad scope, medical institutions, medical private practice, portable gauges, industrial radiography, panoramic and self-shielded irradiators, gamma knife, nuclear pharmacy, waste processing, decommissioning and Increased Controls. Appendix C lists the inspection casework files reviewed, with case-specific comments, 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 licensed radiation programs. The review team found that inspection reports were generally 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 adequately supported violations when applicable, included recommendations made to licensees, appropriately addressed health and safety issues, described performance-based observations and activities, and noted discussions held with licensees during interviews and exit meetings.

The inspection procedures utilized by the Division are captured in the Administrative Policy Document, “Inspection, Investigation, and Allegation Guidance” and are generally consistent with the inspection guidance outlined in IMC 2800. All completed inspection reports were reviewed by a peer and signed by the Radioactive Materials and X-Ray Section Manager. Letters transmitting the inspection results were signed by the Executive Secretary of the Board. Supervisory accompaniments were being conducted annually for all Radioactive Materials Program inspectors.

The review team determined that the inspection findings were appropriate and that prompt regulatory actions were taken, as necessary. All inspection findings were clearly stated and documented in the report. The Division used formal correspondence to notify licensees of inspection result details. If violations were identified, then the Division also issued a Notice of Violation (NOV) to the licensee. When the Division issued an NOV, the licensee was required to provide a written plan of correction for the violations within 30 days. Inspection closure letters were normally signed by the Executive Secretary of the Board.

The review team noted that sensitive, unclassified, non-safeguards information (SUNSI) related to security and Increased Controls, was properly controlled and protected to prevent unauthorized access. In addition to the controls being implemented, the Division is developing a procedure based on NRC guidance regarding SUNSI to further enhance and provide a consistent methodology for marking, handling and protecting SUNSI material. The review team

discussed with the Section Manager the benefit of reviewing the historical records to ensure the historical documents also meet the new guidance.

The review team noted that the Division maintains an adequate supply of portable instruments for routine confirmatory surveys and incident/emergency response for the materials program. The instruments are calibrated annually, or as needed, by the Division using an in-house calibration source. An electronic pulser is used to calibrate exposure rate instruments. Instruments used for contamination surveys are calibrated with a variety of alpha- and beta-particle calibration sources.

The materials inspectors used instrumentation which was assigned to each of them. As part of the inspection process, the inspectors performed independent measurements, as appropriate, and documented the results to support inspection findings as required by the Division's inspection procedures. The inspectors' instruments were found to be in current calibration. Through discussions with the materials staff, the review team determined that the instruments were source checked prior to use. Some of the materials inspectors recorded the model number and serial number of the instrument in the inspection record. The review team discussed with the staff the importance of recording the instrument information (e.g., instrument model number, serial number, and calibration date) in the inspection record for availability and future reference. Materials inspectors had assigned instrumentation which allowed instruments to be easily cross-referenced to the inspection activity.

Accompaniments of two Radioactive Materials Program inspectors were conducted by a review team member during the week of April 19, 2011. The accompaniments included a health and safety inspection and an Increased Controls inspection of an industrial radiography licensee and a health and safety inspection of a panoramic irradiator. 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 the audits of the licensee's radiation safety and Increased Controls programs. The inspectors conducted interviews with appropriate licensee personnel, observed licensed operations, performed confirmatory measurements, and utilized good health physics practices. The inspections were adequate to assess radiological health and safety and Increased Controls at the licensed facilities.

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

3.4 Technical Quality of Licensing Actions

The review team examined completed licensing casework and interviewed license reviewers for 17 specific licensing actions. Licensing actions were reviewed for completeness, consistency, proper radioisotopes and quantities, qualifications of authorized users, adequacy of facilities and equipment, adherence to good health physics practices, 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, supporting documentation, consideration of enforcement history, pre-licensing visits, peer/supervisory review, and proper signatures.

The licensing casework was selected to provide a representative sample of licensing actions completed during the review period. Licensing actions selected for evaluation included two new licenses, four renewals, one termination, one denial, and nine amendments. Files reviewed included a cross-section of license types, including: well logging, medical diagnostic and therapy (including high dose rate remote afterloader), broad scope, gauges, industrial radiography, research and development, radiopharmacy, and manufacturer/distributor. The casework sample represented work from five license reviewers. A listing of the licensing casework evaluated is provided in Appendix D.

The review team found that licensing action requests are opened by the Administrative Secretary and logged into a computerized tracking system. The database assigns the license actions to the reviewers who are qualified to review them.

The review team noted that licensing actions are reviewed using a two-phase process, or three-phase process. Most licensing actions were reviewed using a two-phase process involving the Phase 1 reviewer who completed the major technical review, followed by the Phase 2 reviewer who performed a peer review for quality assurance. Approximately every tenth licensing action was sent to the Section Manager after the Phase 2 review, in order to conduct a Phase 3 quality assurance review. The license reviewers used checklists to assist in the reviews. The checklists generally followed the NUREG-1556, "Consolidated Guidance About Materials Licenses," series. All licensing actions were sent to the Executive Secretary of the Board for signature.

The review team determined 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 appropriate time, and identified substantive deficiencies in the licensees' documents. The Section Manager completed the technical review of all licensing termination requests during the review period. Terminated licensing actions were well-documented and supported by appropriate transfer and survey records.

The Division's Administrative Policy Document, "Inspection, Investigation, and Allegation Guidance," Section 16.05, states in part, that prior to renewing a license in categories I, II, or III, the compliance inspection history should be reviewed, with reference to onsite inspections. The review team identified three renewal files which met these categories; however, the documentation did not contain a review of the licensee's enforcement history. The review team determined that the implementation was different between license reviewers. Some reviewers performed the assessment during the renewal process and some reviewed the compliance history during the inspection process. The Section Manager indicated that he would revise the guidance document to clarify that information obtained from a review of a licensee's compliance history must be considered during the license renewal process. In addition, the Section Manager indicated that the staff would be trained on the revised guidance.

For medical licensees, the review team noted that the Division maintained information in a file regarding each authorized user's (AU), authorized medical physicist's (AMP), and authorized nuclear pharmacist's (ANP) qualifications. The qualification files were updated as licensing actions were processed for the respective AU, AMP, or ANP.

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

3.5 Technical Quality of Incident and Allegation Activities

In evaluating the effectiveness of the Division's actions in responding to radioactive material incidents, the review team examined the Division's response to the questionnaire relative to this indicator, evaluated selected incidents reported for Utah in the Nuclear Material Events Database (NMED) against those contained in the State's database and files, and evaluated the casework and supporting documentation for selected incidents. The Division's incident and allegation policies, NMED, and notification of incidents to the NRC Headquarters Operations Center were discussed with Division managers and staff. During the review period, the Radioactive Materials & X-Ray Section received reports of 18 radioactive material incidents. The review team evaluated 13 of the incidents that required reporting to the NRC Headquarters Operations Center under NRC reporting criteria. The incidents selected for review included the following categories: equipment failure, lost/stolen radioactive material, radiography, and well logging source abandonment. A list of the incident casework examined, with case-specific comments, can be found in Appendix E.

Written procedures exist for handling radioactive materials incidents and allegations in the Division's Administrative Policy Document, "Inspection, Investigation, and Allegation Guidance." The procedure states in part that when an incident or event occurs, the appropriate Section Manager will determine if the incident warrants an onsite physical inspection/investigation. The manager's review of the response decision is subsequently captured on the "Management Review Form for Incidents/Investigations." The section of the procedure was strengthened after the 2007 IMPEP review. The 2008 follow-up IMPEP review recognized that the Section had begun implementation of the enhanced program.

The review team confirmed that the Section Manager and staff were evaluating each incident and documenting the decision process as required by procedure. The review team determined that the basis for performing an onsite inspection/investigation was commensurate with potential health and safety impacts of the incident. The staff was knowledgeable of the procedure and recognized when an incident may potentially involve a safety or security issue and responded appropriately, which was demonstrated during the review period. When no immediate threat to public health and safety or the environment was present, the Division first determined that the licensee had qualified, competent individuals investigating the incident. The Division then generally responded telephonically with a subsequent review of the licensee's written report or an on-site follow-up at a later date.

The review team determined that the Division's responses to incidents were thorough, complete, and comprehensive. Due to the significance of some of the events during the review period, the Division had placed a considerable amount of resources into the investigations. The review team noted that at the conclusion of investigations, inspectors generated narrative reports, which thoroughly documented the investigations and the enforcement actions, as applicable. The review team determined that the Division had implemented effective changes to the program since the 2007 and 2008 IMPEP reviews. The changes involved appropriate decision making and response to incidents that were formally documented. The Materials Section had demonstrated sustained performance throughout this review period.

The Administrative Policy document also addressed allegations and provided guidance regarding initial information from the allexer, responding to allegations, and maintaining confidentiality unless under certain circumstances as described in the procedure. The procedure also stated in part, that the allexer must make a submission of the concern in writing. The Division accepted various methods for the concerned individual to submit an allegation, including anonymously. The review team further discussed the written allegation policy with management and staff, because the utmost concern was responding to, and investigating any potential health and safety or security issue. The review team understood that while the policy stated that only written allegations were acceptable, the Radioactive Materials Section indicated that they would respond to any potential health and safety or security concern involving radioactive materials. During this review period, the review team confirmed that the staff responded to allegations which were not initially submitted in writing.

In evaluating the effectiveness of the Radioactive Materials Section's response to allegations, the review team evaluated the completed casework for nine allegations. The review team concluded that the Section consistently took prompt and appropriate action in response to concerns raised. The review team noted that the Division thoroughly documented the investigations and retained all necessary documentation to appropriately close the allegations. The Division notified the allexers of the conclusion of the investigation by either formal correspondence or telephonically. The review team recognized that the experience of the staff and management provided a level of discernment to the allegation program, such that the staff recognized when an unwritten concern should be addressed. The review team found that there was an inconsistency in the overall implementation of the allegation program within the Division, as further discussed in Section 4.3 and 4.4. The review team determined that the Division adequately protected the identity of allexers.

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

4.0 NON-COMMON PERFORMANCE INDICATORS

Four non-common performance indicators are used to review Agreement State programs: (1) Compatibility Requirements, (2) Sealed Source and Device Evaluation Program, (3) Low-Level Radioactive Waste Disposal Program, and (4) Uranium Recovery Program. Utah's Agreement does not include a sealed source and device evaluation program, so only the other three non-common performance indicators were applicable to this review.

4.1 Compatibility Requirements

4.1.1 Legislation

Utah became an Agreement State on April 1, 1984. In addition to their response to the questionnaire, the Division provided the review team with the opportunity to review copies of legislation that affects the Radiation Control Program. The current effective statutory authority is contained in the Utah Code Annotated, Title 19, Chapter 3, Radiation Control Act. The Division implements the Radiation Control Program.

The review team noted that none of the legislations amended during the review period affected

the Radiation Control Program. However, the State informed the review team that under the provisions of the Utah Legislative Oversight and Sunset Act, Utah Code Annotated (UCA) Section 63I-1, various state statutes are repealed unless the Legislature acts to reauthorize them by changing the respective repeal dates. The Radiation Control Act (UCA 19-3) sunsets on July 1, 2012, unless the Legislature acts to reauthorize it for a determined period of no more than 10 years. The Division management is scheduled to meet in September 2011, with the Natural Resources, Agriculture, and Environment Interim Committee of the Utah State Legislature to present evidence on why the Radiation Control Act should be reauthorized, and to request that it be reauthorized for a period of ten years. The Committee then determines if they are going to provide a favorable authorization, and if so, they will recommend a repeal date for this statute. The Division management will present the recommendation in front of the Legislature, during the Legislature General Session that starts in January 2012. The Legislature will determine whether the Radiation Control Act will be reauthorized and subsequently assign a repeal date for this statute.

4.1.2 Program Elements Required for Compatibility

The State's regulations for control of radiation are located in Title R313 of the Utah Administrative Code and apply to all ionizing radiation, whether emitted from a radionuclide or machine. Utah requires a license for possession and use of all radioactive materials, including naturally occurring materials, such as radium and accelerator-produced radionuclides.

The review team examined the State's administrative rulemaking process. When NRC amends its regulations and establishes a due date for State adoption, the Section Manager reviews the Review Summary Sheet for Regulation Amendments and depending on its content assigns it to the appropriate staff in the Division. The State is required to adopt federal rules by reference whenever possible. The Division staff prepares a draft rule package that is reviewed by managers and other staff. After this review, the Division presents the draft rule package in front of the Board to seek authorization to file the package for public comment. After Board authorization, the Division files the draft rule package with the Division of Administrative Rules (DAR), who publishes the draft rule in the State Bulletin for public comment. The public comment period usually lasts 30 days. Once the public comment period ends, the Division addresses comments and presents the final rule package to the Board for final approval. Upon Board approval, the Division submits the final rule package to DAR, which publishes a notice of the final rule in the State Bulletin with its effective date.

The review team found that the process takes 120 days from filing a draft administrative rule with DAR to codifying a final rule. The State has the authority to issue legally binding requirements (e.g., license conditions) in lieu of regulations until compatible regulations become effective. Many of Utah's compatibility-required regulations are incorporated by reference to NRC regulations.

The review team evaluated the Division's response to the questionnaire relative to this indicator, reviewed the status of regulations required to be adopted by the State under the Commission's adequacy and compatibility policy, and verified the adoption of regulations with data obtained from the Office of Federal and State Materials and Environmental Management Programs (FSME) State Regulation Status Sheet.

Current NRC policy requires that Agreement States adopt certain equivalent regulations or legally binding requirements no later than three years after they become effective. There were no amendments overdue at the time of the review.

The State will need to address the following amendment in upcoming rulemakings or by adopting alternate legally binding requirements:

- “Decommissioning Planning,” Parts 20, 30, 40, and 70 (76 FR 35512) that became effective on December 17, 2011, and is due for Agreement State adoption by December 17, 2015.

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

4.2 Sealed Source and Device (SS&D) Evaluation Program

Effective June 1, 1996, NRC reassumed regulatory authority for sealed source and device evaluations in Utah in response to a request from the State to relinquish that authority. Accordingly, the review team did not evaluate this indicator.

4.3 Low-Level Radioactive Waste (LLRW) Disposal Program

Authority to regulate LLRW disposal facilities was added to Utah’s NRC Agreement State Program in May 1990. The State of Utah’s LLRW Disposal Program is administered by the Division. Regulatory authority is derived from the Radiation Control Act of Utah Code Title 19, Chapter 3, and the Radiation Control Rules promulgated in Utah Administrative Code, R313. At the time of the review, the Division regulated one LLRW disposal facility, EnergySolutions (formerly Envirocare), and had received a siting application for a second LLRW disposal facility, Cedar Mountain Environmental. EnergySolutions is a commercial LLRW disposal facility located 80 miles west of Salt Lake City in Tooele County. Cedar Mountain Environmental is proposing a LLRW disposal facility to be located west of Salt Lake City in Tooele County and north of the EnergySolutions disposal facility.

EnergySolutions is licensed by the Division under a license which was renewed on January 25, 2008. The license authorizes EnergySolutions to receive, store, possess, and dispose of naturally occurring radioactive materials and Class A LLRW. In accordance with Utah statutes, EnergySolutions may not receive Class B or Class C waste without first receiving approval from the Executive Secretary of the Board, the Governor, and the Legislature. Utah assumed regulatory authority for uranium recovery activities in 2004. As a result, an additional license was issued to EnergySolutions in 2004 for the handling of 11.e(2) materials at the facility. Since the licenses are co-located, the licensing and inspection of 11e.(2) materials is performed as part of the LLRW facility review. Additionally, EnergySolutions is required to maintain compliance with all conditions and schedules stipulated in their Utah Groundwater Discharge Permit, issued by the Utah Water Quality Board.

The review team used five sub-elements to evaluate the performance of the LLRW Disposal Program. The sub-elements are as follows: (1) Technical Staffing and Training; (2) Status of

LLRW Disposal Inspection Program; (3) Technical Quality of Inspections; (4) Technical Quality of Licensing Actions; and (5) Technical Quality of Incident and Allegation Activities. To evaluate the above sub-elements, the team reviewed background materials on the site, performed inspector accompaniments, reviewed the Utah response to the questionnaire, interviewed managers and staff, and examined records, as appropriate.

4.3.1 Technical Staffing and Training

The evaluation of this sub-element focused on the qualifications of the technical staff and the expertise necessary to regulate a LLRW disposal facility, the development and implementation of a training program for the staff; and any staffing trends that could have an adverse impact on performance.

At the time of the review, the Division split its LLRW Disposal Program responsibilities between the Geotechnical Services Section and the Low Level Waste/Uranium Mills Section. The Geotechnical Services Section provided the technical, engineering oversight, including groundwater monitoring; while the Low Level Waste/Uranium Mills Section provided the health physics, transportation, and radiation protection oversight. The Geotechnical Services Section consists of a Section Manager and six full-time positions. The six staff members include two Environmental Engineers and four Environmental Scientists. The Low Level Waste/Uranium Mills Section consists of a Section Manager, an Environmental Program Coordinator, and five full-time Environmental Scientist positions dedicated to LLRW and Uranium Mills program areas, in which three were designated as radiation safety inspectors. The Low Level Waste/Uranium Mills Section performed both the inspection and licensing activities, while the Geotechnical Services Section performed the engineering calculations and evaluation assessments. As mentioned earlier, the Division indicated that a reorganization affecting the LLRW disposal program and Uranium Mills program would occur following the on-site IMPEP review (See Section 3.1). Under the reorganization, there will be a separate licensing and compliance section. Based on the review, the IMPEP team agrees that the proposed reorganization should address efficiencies within the Division by allowing the licensing staff to focus primarily on the LLRW facility and Uranium Mill licensing actions and the compliance staff to focus primarily on the inspection/enforcement component of the LLRW and Uranium Mill facilities.

The LLRW program is currently fully staffed. Interviews with Division staff indicated that the loss of two positions during the review period had contributed, in part, to some delays in licensing work. As part of the reorganization, the Division has added three new positions in the Low Level Waste/Uranium Mills Section, which includes two engineers and one groundwater geologist. The review team determined that there was a good balance of technical expertise in the program, and that staff turnover had no significant adverse impact on the program, though maintaining full staffing could enhance timeliness in the LLRW program.

The review team examined staff training documentation and conducted interviews with selected staff to assess qualification and training needs. The Division updated their "Training Policy Statement" on July 5, 2011. The Training Policy provided the generic training plan that specified the required and recommended training for each technical position. In addition, the engineering positions are required to hold a license certification issued by the State. The Division generated individual training qualification forms for each individual; however, the

system for tracking and documenting the qualifications was not consistently maintained across the various Sections. Based on interviews with the technical staff and management, and review of staff qualifications, duties, and functions, the review team concluded that the Division was staffed with qualified individuals to carry out their regulatory duty.

The Division's policy, as noted in Section 3.5, is to document and follow up on allegations which are submitted in writing to the Division. As discussed in the previous periodic meeting, the Division stated in part, that this policy was developed as a result of receiving numerous telephone calls of alleged violations in which the caller would choose not to submit the concern in writing to the Division. However, as noted in Section 3.5, both management and staff responded to oral allegations when it appeared there may be a health or safety concern related to a telephonic allegation. Based on interviews with Division staff and management, reviews of Division administrative policy and training plans, the review team found that the handling of allegations was not treated consistently across the Division. Specific information is provided in Sections 4.3.5 and 4.4.5. The inconsistency was more apparent in the LLRW and the Uranium Mills programs, where there was not a determination to respond to oral allegations that may have a health or safety concern, or raise the potential concern to management, as was recognized in the Radioactive Materials Section. The review team discussed the need to reexamine the Division's policy to accept only written concerns, since an inconsistency between the sections was identified in handling oral allegations. The review team recommends that the Division institute appropriate training in all aspects of the allegation response program to ensure that LLRW and the Uranium Mills program staff have the same competency and consistency in handling allegations as demonstrated by the Radioactive Materials program staff.

4.3.2 Status of LLRW 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 Division's questionnaire response relative to this indicator, examination of inspection casework, and interviews with management and staff.

The Division divided the annual inspection of LLRW into multiple modules due to the complexity and timeliness of the LLRW inspection program. Modular inspections are performed throughout the year and the schedule may be adjusted to accommodate emergent issues, such as specific licensing actions. If a module inspection was not completed during the year, then it was typically conducted during the first or second quarter of the following year. As a result of the reorganization, there should be more efficiency and less schedule conflicts and adjustments in the LLRW inspection program (See Section 3.1).

Inspection modules cover areas such as license condition compliance, radiation safety, environmental monitoring, site security, increased controls, and emergency planning. An inspection module may be implemented more than once during the year. For example, the radiation safety inspection module is implemented for incoming waste shipments at the EnergySolutions disposal facility either daily or as needed. The review team concluded that the combined inspection modules encompass an annual inspection for the LLRW disposal facility. In 2007, 14 of 17 modules were completed; in 2008, all modules were completed, although the documentation was missing for one module; in 2009, 17 of 19 modules were completed; in

2010, 18 of 19 modules were completed; and in 2011 at the time of the on-site review, a total of 7 modules had been completed. Given that some of the inspection modules were performed multiple times, there were over 200 modular inspections conducted during the review period.

The review team evaluated the number of inspection modules completed during the review period. The inspection modules completed annually ranged from 82 to 100 percent. The review team evaluated the completed modules and determined that critical modules, which involved health, safety and security, such as radiation safety, dosimetry, security, and site access/postings, were completed annually. Though not all modules were completed on an annual basis the review team considered the Division's practice of having health physics inspectors at the EnergySolutions disposal facility nearly weekly and concluded that adequate oversight of facility operations and the Radiation Safety Program was occurring.

The review team determined that the inspection findings for the LLRW disposal program were typically communicated by formal correspondence to the licensee within 30 days following the inspection. In 2008, on two occasions the communication exceeded the 30 day period. This was found with only one inspector who is no longer employed in the Division. The review noted that the Section did not exceed the 30 day criteria for any other reports during 2009, 2010, or 2011. Typically, the Section's inspection findings were issued in the second to third week after the inspection was completed.

The Geotechnical Services Section inspection program for groundwater consisted of 11 modules in 2007 and 2008, 12 modules in 2010, and 13 modules in 2011. In addition, the Geotechnical Services Section also performed the engineering inspections which consisted of 15 modules in 2007, 2008 and 2009, and 11 modules in 2010 and 2011. The Geotechnical Services Section completed all of their inspection modules annually during the review period. Inspectors reviewed and revised the inspection modules annually and the lead inspectors were rotated annually.

The groundwater and engineering modules are extensive and incorporate elements of field work in conjunction with safety and compliance review of records. Due to the complexity and length of these modules, the inspection findings are not regularly reported to the licensee within 30 days as required by the Division's Administrative Policies, Section 14.07. The review team discussed with management that the Section should strive for better consistency between policy and practice.

4.3.3 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 and annual supervisory accompaniments.

On June 9, 2011, members of the review team accompanied three inspectors from the Low Level Waste/Uranium Mills Section to the EnergySolutions disposal facility. Two of the inspectors performed Radiation Safety inspections and the third inspector performed Generator Site Access inspections at the facility. The review team observed the Radiation Safety inspectors implementing Module 1, Operations – Waste Handling/DAW, and Module 18,

Materials, Equipment and Package Surveys. The Generator Site Access inspector performed Department of Transportation (DOT) inspections on incoming waste shipments at the same facility. The inspectors were knowledgeable of the facility, the inspection module requirements and the regulations.

The review team noted that one of the survey instruments used for performing the contamination surveys was out of calibration. In general, the inspection reports did not document the survey instrument used or the calibration due date. The review team observed that a couple of inspection reports contained the model number and serial number of the survey instrument used during the inspection. During the accompaniments, the review team also observed several instances of improper health physics practices concerning instrumentation use, as noted in Appendix C, which were discussed with the inspectors at the conclusion of the accompaniments. During interviews of the inspection staff responsible for both the LLRW and uranium mills program, as discussed in Section 4.4.3, the inspection staff asserted that survey instruments were used to determine whether there was an elevated reading. If an elevated reading was found, then the inspector would request the licensee to confirm the reading, using the licensee's instrument. The licensee's measurements would be used for any potential enforcement action. The Division indicated that historically, the licensee had raised concerns that the State did not have the appropriate instrumentation when conducting independent surveys, which ultimately led to this practice.

Calibrated instruments for independent and confirmatory radiation survey measurements are required by the Division's Administrative Policy, Sections 14.03 and 14.04. Independent verification of the licensee's measurements is one of the basic foundations for conducting performance-based inspections. The guidance provided in IMC 2800, states in part that independent measurements should be performed on all inspections, unless exceptional circumstances make it impossible to perform the measurements. The review team recommends that independent and confirmatory radiation measurements be performed with the appropriate calibrated instrumentation for inspections conducted by the Low-Level Waste Section.

As noted in Section 3.3, the radioactive materials program has sufficient numbers and types of calibrated instrumentation assigned to the inspector, for the types of license activities inspected. It was unclear whether appropriate instrumentation was available to the Low-Level Waste/Uranium Mills Section inspection staff and whether they had appropriate training in its use. The review team recommends that the Division ensure that sufficient numbers and types of calibrated instruments, appropriate to the activities conducted by the licensee, are available to the Low-Level Waste Section and that the staff is trained in the proper use of the instrumentation.

Based on an evaluation of 14 inspection files, the review team determined that the inspection reports were thorough, complete, consistent, and had sufficient documentation to ensure that licensee's performances with respect to health, safety and security were acceptable. The findings were well-founded, supported by regulations and were appropriately documented. Based on interviews and review of documentation, the review team concluded that the inspectors reviewed the previous inspection report and discussed past inspection findings with other inspectors and the Low Level Waste/Uranium Mills Section Manager, in preparation for an inspection. Inspectors either followed-up on previous inspection findings during the subsequent

inspection or dispositioned the findings as escalated enforcement actions. The Section did not maintain a formal system that tracked the closure of follow-up inspection findings, although it appeared that the staff adequately addressed previous inspection findings in a timely manner.

The Low Level Waste/Uranium Mills Section Manager reviewed the documents and the inspection closure letters as part of the concurrence review, which was typically performed electronically. The Executive Secretary of the Board signed and issued final inspection reports, enforcement letters, notices of violations, and/or civil penalties, as necessary.

The Division has a policy to accompany all staff performing inspections on an annual basis. The review team reviewed the supervisory accompaniment documentation and determined that not all of the inspectors were accompanied on an annual basis. In 2007, three of five inspectors received accompaniments. In 2008, four of five inspectors received accompaniments, although one accompaniment was not documented though it was confirmed by the staff member and manager. In 2009, all five inspectors were accompanied, and in 2010, three of four inspectors were accompanied by a supervisor. During one accompaniment, the inspector used an out-of-calibration instrument even though the Section Manager identified the instrumentation as being in calibration. The review team discussed with management the importance of the supervisory accompaniments.

4.3.4 Technical Quality of Licensing Actions

The Division renewed the EnergySolutions license in 2008, which had been pending since 2003. Division staff and management indicated that the delay in reviewing the license renewal was due, in part, to limited staff resources. The review team did not identify any health and safety concerns related to the timeliness of the license renewal. Since the renewal, the Division had completed 11 amendments to the EnergySolutions license, including a major amendment specifying requirements for the disposal of large quantities of depleted uranium. The review team reviewed a selection of licensing actions that had been completed during the review period. A listing of the licensing casework reviewed can be found in Appendix D.

The review team determined that the examined licensing actions were thorough, complete, consistent, and of acceptable technical quality. The license conditions, including the tie-down conditions, were stated clearly and backed by information contained in the file and enforceable. The review team found that health and safety issues were generally properly addressed as part of the licensing action.

The review team noted that the Division required a time of compliance of 500 years, in accordance with the site Groundwater Discharge Permit, for the technical analyses as specified in Utah Administrative Code (UAC R313-25-8) to demonstrate compliance with the performance objectives specified in UAC R313-25-19. Division staff was not able to produce documentation to support the guidance in NUREG-1573 (October 2000) regarding appropriate compliance periods or show that the technical analyses was considered to assess the continued reasonableness of the 500-year compliance period, as part of the review of the license renewal in 2008. Since the renewal, the Division has amended the license to require consideration of a compliance period for the disposal of large quantities of depleted uranium that is more consistent with the guidance in NUREG-1573.

The Division used independent analyses and actively solicited public comments during the licensing process through public hearings. The Division hired a technical consultant to address certain complex technical issues to verify the licensee's analysis for license renewal. The Board approved a new rule on April 14, 2010, that required EnergySolutions to conduct a performance assessment before disposing of depleted uranium. The review team noted that the Division engaged in extensive public outreach on November 9-10, 2010, and on February 1, 2011, regarding the performance assessment for the disposal of large quantities of depleted uranium. The Division indicated that information from these discussions was taken into consideration as the final performance assessment was developed. The licensee's performance assessment was delivered to the Division on June 1, 2011, and is currently under review by the Division.

The review team evaluated the Division's process for obtaining adequate financial assurance for the EnergySolutions facility. The review team determined that the Division had obtained financial assurance for the site.

4.3.5 Technical Quality of Incident and Allegation Activities

The review team found that the Division had procedures in place for handling incidents and allegations. The procedures for handling incidents included information on what constitutes an incident, appropriate documentation of the incident, reference to NRC abnormal occurrence criteria, incident tracking and close-out requirements. During the review period, the State addressed one reportable incident involving LLRW disposal program activities. The review team determined that the Division took prompt and appropriate action. The review team noted that all documentation related to the investigation of the incident was complete and appropriately maintained in a separate file. The Division explained that licensee "Self-Identified Noncompliances" which are reported to the Division are filed by calendar year and that Self-Identified Noncompliances, which are more significant in nature, are filed separately and termed "Special Inspections."

Based on interviews with Division staff and management and reviews of Division administrative policy and training plans, the review team noted that handling of allegations was not treated consistently across the Division, particularly in the LLRW and uranium mill programs. The Division policy states in part that the Division would not act upon an allegation unless the concerned individual made a submission in writing, and that those oral claims shall be considered as "off-the-record" until they were submitted to the Division in writing. The Radioactive Materials staff indicated and provided examples where they responded to oral allegations that involved health and safety concern(s); however, it was not apparent based on interviews in the LLRW and Uranium Mills program, that the staff would raise the oral concerns to management's attention. In another example, the term "allegation" was applied to concerns that were being addressed through the Board.

Based on IMPEP evaluation criteria, the review team recommends, that Utah's performance with respect to the indicator, LLRW disposal program, be found satisfactory, but needs improvement.

4.4 Uranium Recovery Program

The Division's authority to regulate uranium recovery activities was added to Utah's NRC

Agreement State Program in August 2004. The applicable regulations for the uranium recovery program include Utah Administrative Code R313-24 "Uranium Mills and Source Material Mill Tailings Disposal Facility Requirements."

In February 2005, the Division issued licenses to the following four facilities: EnergySolutions, LLC, for the receipt, storage, and disposal of 11e.(2) byproduct material; Denison Mines (USA) Corporation, White Mesa Uranium Mill; Rio Algom Mining, LLC, Lisbon Valley Uranium Mill; and SXR Uranium One (now Uranium One Americas, Inc "Uranium One"), Shootaring Canyon Mill. The Division's Uranium Recovery Program was previously assessed by the IMPEP process in June 2007, with a follow up review in July 2008. The EnergySolutions 11e.(2) byproduct material program was not reviewed during the previous IMPEP reviews.

In conducting this review, five sub-elements were used to evaluate the performance of the Uranium Recovery Program. These sub-elements include: (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.

4.4.1 Technical Staffing and Training

In reviewing this sub-element, the review team evaluated the Uranium Mills program staffing level, the technical qualifications of the staff, staff training, and staff turnover. This evaluation included general examination of the qualifications of the inspectors and licensing personnel and interviews with Uranium Mills program staff and management.

As described in Section 4.3.1, oversight of the Uranium Mills program is provided by both the Geotechnical Services Section and the Low Level Waste/Uranium Mills Section. At the time of the review, the Division had three radiation safety inspectors performing inspections and licensing activities for the three uranium mill facilities, the EnergySolutions 11e.(2) byproduct material facility, and the EnergySolutions LLRW facility. Various members of the Uranium Mills program staff participated in inspections and licensing activities at the three uranium mill facilities regulated by the Division. The amount of participation varied, depending on the individual's qualifications and workload. Since 2005, the Uranium Mills program had developed and matured, resulting in an effective interdisciplinary team of expertise, with an appropriate training program in place.

The review team found that the Uranium Mills program contains expertise in geology; hydrogeology; construction management; drainage and run off systems; storm water and wastewater design, permitting, and compliance; health physics; and radiation control. For topics where in-house expertise was not available or when workloads did not permit timely reviews of submittals, the Division contracted technical review work. The Division utilized an environmental and engineering design firm to assist in a major license amendment review for a new tailing impoundment, disposal Cell No. 4B, at the White Mesa facility and other smaller licensing related activities. The technical qualifications of consultant personnel available to the Uranium Mills program for technical reviews include chemical and fuels, civil, environmental, mechanical, nuclear engineers, geochemists and hydrogeologists.

As mentioned earlier, the Division indicated that a reorganization affecting the LLRW disposal

program and Uranium Mills program would occur following the on-site IMPEP review (See Section 3.1). The reorganization was the result of the Lean Six Sigma process improvement plan. As part of the reorganization, the Division added three new positions which include two engineers and one groundwater geologist for the LLRW and Uranium Mills programs. The review team determined that the Division's staffing level in the Uranium Mills program was adequate at the time of the review.

4.4.2 Status of Uranium Recovery Inspection Program

The review team focused on several factors in evaluating this sub-element, including inspection frequency, overdue inspections, and timely issuance of inspection reports and findings to licensees. The review team's evaluation is based on the Division's response to the questionnaire relative to this indicator, the Uranium Mills program inspection schedule, inspection casework files, and interviews with inspection staff and management.

The Division performed 24 radiation safety inspections at the licensed uranium mill sites between May 2008 and June 2011. This included 17 inspections at the White Mesa Mill, six inspections at the Lisbon Valley Mill and one inspection at the Shootaring Canyon Mill. The Division performed eight radiation safety inspections at the EnergySolutions 11e.(2) byproduct material facility. In addition, there were 22 groundwater inspections and 12 engineering inspections conducted by the Division at these facilities.

With respect to radiation safety inspections at the White Mesa Mill, the review team identified that a complete inspection of all modules was not performed on an annual basis during the period of review. The survey, shipping paper, and sources module was not inspected in 2009. The posting and exit monitoring module was overdue by six months and seventeen days in 2009, and was not inspected in 2010. Transportation activity inspections were only performed during 2009 and 2010. The review team discussed the Division's approach to conducting Uranium Mills program inspections at the facilities, and management agreed that the process should ensure, at a minimum, that all elements of a Uranium Mills program are inspected and documented on an annual basis. Although not all modules were completed on an annual basis, the review team determined that adequate, performance-based inspections of the licensees program were completed on an annual basis. In addition, the Division completed the groundwater and engineering modules on an annual basis. The radiation safety inspections regarding the EnergySolutions 11e.(2) disposal license were performed in conjunction with the low-level waste inspection modules. The review team concluded that there were no overdue inspections in the Uranium Mills program. A listing of the inspection casework reviewed can be found in Appendix C.

The review team determined that all inspection reports and inspection findings reports were issued within 30 days of the inspections. The supervisor reviewed all inspection reports. Appropriate follow-up actions were conducted when items of noncompliance were identified. Inspection files were easily retrieved and accessible. The Executive Secretary of the Board signed and issued final inspection reports, enforcement letters, notices of violations, and/or civil penalties, as necessary.

4.4.3 Technical Quality of Inspections

In reviewing this sub-element, the review team examined inspection files, inspection reports, and enforcement documentation. The Division regulates three uranium mill sites. The White Mesa Mill is the only operating facility. The facility processes ore for its uranium and vanadium content. The facility also processes alternate feed. The Shootaring Canyon Mill operated for only three months in 1982, at which time the facility generated a small amount of mill tailings. The mill tailings are the byproduct material wastes produced by extraction of uranium from natural ore. The Shootaring Canyon Mill remains in standby status, pending a license amendment to return the facility to operational status. The licensee is only performing maintenance and environmental sampling at the site. The Division also conducts groundwater sampling at the site. In a letter dated June 1, 2011, the Division requested the licensee, Uranium One (Shootaring Canyon Mill), to provide justification for continuing to maintain their radioactive material license or submit a decommissioning plan. A response from Uranium One had not been received at the time of the review. The third uranium mill site is the Lisbon Valley Mill, which has been in decommissioning status since November 1995. The final cover of the tailings impoundment was completed in December 2006. The licensee is continuing the site reclamation with natural vegetation on the impoundment, so that the site can be used for wildlife habitat and grazing. Groundwater sampling is being conducted by the licensee and the Division. The licensee plans to submit a final closure plan in May 2013. Semi-annual groundwater reports for all three Uranium Mill sites are submitted to the Division for their review.

The review team reviewed a representative sample of radiation safety inspections performed between May 2008 and June 2011. In addition to the radiation safety inspections, the Division also conducted several site visits associated with the groundwater discharge permit amendment. The review team determined that the Division observed and documented activities at the White Mesa Mill associated with the construction of a new tailings impoundment, designated as Cell 4B. There was no enforcement action for the period of review. A listing of the inspection casework reviewed can be found in Appendix C.

The Division followed the applicable sections of the Administrative Policy Document, "Inspection, Investigation, and Allegation Guidance" for conducting inspections. The inspection modules for each of the three facilities were developed, modified, or combined into other modules to address the relevant functional areas and operational status at each of the uranium facilities. Inspection modules were planned at the beginning of each year by management and appropriate staff members. The review team found that the inspections were generally conducted unannounced, were comprehensive, covered all appropriate functional areas and addressed compliance conditions of the licensees.

The review team found that the inspection reports provided appropriate depth of coverage, addressed license conditions and the regulations, 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. The reports were reviewed by the Section Manager, typically electronically, prior to final issuance by the Executive Secretary of the Board.

The Division's records indicated that supervisor accompaniments of radiation safety, inspectors were performed during the review period. The accompaniment documentation contained

comments on inspector performance and appeared to provide a sufficient evaluation for each inspector. The review team noted that during the June 6-8, 2010 accompaniment, the inspector did not have an instrument during the facility tour. In addition, during the July 1, 2009 accompaniment, one of the two instruments identified on the accompaniment record was out of calibration.

With respect to the radiation safety inspections at the EnergySolutions 11e.(2) byproduct material facility, the review team determined from evaluation of eight inspection modules, that findings were poorly documented. Only two out of the eight inspection modules clearly documented the findings. The review team discussed with management the importance of documenting the inspection activities and findings.

On June 6-8, 2011, members of the review team accompanied a Uranium Mills program inspector during an inspection of the Shootaring Canyon Mill, White Mesa Mill, and Lisbon Valley Mill facilities. The inspector did not carry a radiation survey instrument during the Shootaring Canyon Mill facility inspection. During the accompaniment at Shootaring Canyon Mill, the review team observed several instances of improper health physics practice by the licensee, which were not identified by the inspector. These items are noted in Appendix C; and were discussed with the inspectors at the conclusion of the accompaniments. During the accompaniment at the White Mesa Mill, the inspector carried a radiation survey instrument during the facility tour. The inspector demonstrated appropriate surveying skills and focused on specific aspects of the licensee's radiation protection and environmental programs, and followed up on items from the previous inspection. The review team accompanied the inspector during an inspection of the Lisbon Valley Mill facility. The inspector carried a radiation survey instrument during the facility tour. The inspector checked for proper postings and the integrity of the fence. The review team found the inspection modules to be comprehensive and appropriately reflected the requirements in the radioactive material license, and/or relevant NRC Regulatory Guides.

Based on the accompaniments and discussion with staff, the review team found that the Uranium Mills program staff did not consistently use instrumentation to perform independent and confirmatory survey measurements. The Division initially licensed the Uranium Mills in 2005 and utilized the staff from the LLRW program to implement the inspection modules. Therefore, the inspection program implementation is similar between the two programs. Calibrated instruments for independent and confirmatory measurements are required by the Division's Administrative Policy, Section 14.03 and 14.04. As previously discussed in Section 4.3.3, the review team recommends that independent and confirmatory measurements be performed with the appropriate calibrated instrumentation for inspections conducted by the Uranium Mills Section. The review team also recommends, as discussed in Section 4.3.3, that the Division ensure that sufficient numbers and types of calibrated instruments, appropriate to the activities conducted by the licensee, are available to the Uranium Mills Section.

4.4.4 Technical Quality of Licensing Actions

The Division utilized applicable portions of NUREG-1556, "Consolidated Guidance About Materials Licenses" in performing licensing actions for the Uranium Mills program. A draft licensing procedure that implemented the peer review process used by the Radioactive Materials Section, was nearing completion at the time of the IMPEP review. This procedure

was developed as part of the Lean Six Sigma process the Division initiated in 2010.

Licensing casework for the White Mesa Mill, Shootaring Canyon Mill, Lisbon Valley Mill, and EnergySolutions 11e.(2) byproduct material facility were evaluated. Licensing actions for the review period included two amendments for the White Mesa Mill, two amendments for the Shootaring Canyon Mill, one amendment for Lisbon Valley Mill, and two amendments for EnergySolutions 11e.(2) byproduct material facility.

The Division completed a licensing action related to the construction of a new tailings impoundment designated as Cell 4B and a groundwater quality discharge permit at the White Mesa Mill. The review team evaluated the licensing actions related to the construction of Cell 4B. The actions properly addressed health, safety, and environmental issues. The review team found that the licensing actions reviewed were thorough and the license conditions were clear and well written and supported by documentation in the file.

The review team concluded that these licensing actions were appropriate and that the Division's evaluation was of acceptable technical quality. Appendix D lists the licensing files reviewed for completeness and accuracy.

4.4.5 Technical Quality of Incident and Allegation Activities

For the review period, the Division did not receive reports of any incidents related to the Uranium Mills Program. With respect to the allegation program, the Division's response to the questionnaire indicated that no allegations were identified for the Uranium Mills Program. However, in reviewing the list of incidents and concerns, the review team identified two items that should have been identified as allegations, since the concerns were a statement or assertion of impropriety or inadequacy associated with regulated or potentially-regulated activities, in which the validity had not been established. The benefit for ensuring the item of concern is placed in the allegation process is that it brings resources to bear in resolving the concern, provides a tracking mechanism, and formally closes the concern with the individual who raised the issue. Based on interviews with the staff, the review team concluded that the staff did not consider these two items as allegations, because the concerns were not provided in writing and were not submitted by a licensee employee or ex-licensee employee.

As previously discussed in Section 4.3.1, the Division's policy is to document and follow up on allegations which are submitted in writing to the Division. In addition, the review team found that while the Radioactive Materials Section responded to both written and oral allegations when it appeared there may be a health or safety concern, it was not apparent that the LLRW/Uranium Mills Section would respond in the same manner. The review team discussed the need to reexamine the Division's policy to accept only written concerns or allegations, since an inconsistency between Sections was identified in handling oral allegations and there is indication that some concerns are not being captured as allegations and closed in an expeditious manner. The review team recommends that the Division institute appropriate training in all aspects of the allegation response program to ensure that LLRW and the Uranium Mills program staff have the same competency and consistency in handling allegations as demonstrated by the radioactive materials program staff.

Based on the IMPEP evaluation criteria, the review team recommends, that Utah's performance

with respect to the indicator, Uranium Mills program, be found satisfactory, but needs improvement.

5.0 SUMMARY

As noted in Sections 4.3 and 4.4 above, the review team recommends that Utah's performance be found satisfactory, but needs improvement for the performance indicators, Low-Level Radioactive Waste (LLRW) Disposal Program and Uranium Mills program. The review team found Utah's performance to be satisfactory for the other indicators reviewed. The review team made three recommendations regarding the performance of the State. Overall, the review team recommends that the Utah Agreement State Program be found adequate to protect public health and safety, and compatible with NRC's program.

Based on the results of the current IMPEP review, and in accordance with the criteria in NRC Management Directive 5.6, the review team recommends that the next Periodic Meeting be held in approximately 18 months, to assess the State's progress in addressing the open recommendations, and that the next IMPEP review be performed in three 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 Division institute appropriate training in all aspects of the allegation response program to ensure that LLRW and the Uranium Mills program staff have the same competency and consistency in handling allegations as demonstrated by the Radioactive Materials program staff.
2. The review team recommends that independent and confirmatory radiation measurements are performed with the appropriate calibrated instruments for inspections conducted by the LLRW and the Uranium Mills program staff.
3. The Division ensures that sufficient numbers and types of calibrated instruments, appropriate to the activities conducted by the licensee, are available to the LLRW and the Uranium Mills program staff and that the staff is trained in the proper use of the instrumentation.

LIST OF APPENDICES AND ATTACHMENT

Appendix A	IMPEP Review Team Members
Appendix B	Utah Organization Charts
Appendix C	Inspection Casework Reviews
Appendix D	License Casework Reviews
Appendix E	Incident Casework Reviews
Attachment	[Response from State on draft report]

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	Area of Responsibility
Kathleen Schneider, FSME,	Team Leader Technical Staffing and Training Technical Quality of Incident and Allegation Activities
Rachel Browder, Region IV	Team Leader in Training Technical Staffing and Training Technical Quality of Incident and Allegation Activities
Leira Cuadrado, FSME	Status of Materials Inspection Program Compatibility Requirements
Bryan Parker, Region I	Technical Quality of Inspections Materials Inspection Accompaniments
Robert Gattone, Region III	Technical Quality of Licensing Actions
Christopher Grossman, FSME	Low-Level Radioactive Waste Disposal Program
Kristen Schwab, Washington	Low-Level Radioactive Waste Disposal Program Low-Level Radioactive Waste Inspection Accompaniments
Muhammadali Abbaszadeh, Texas	Uranium Recovery Program Low-Level Radioactive Waste Inspection Accompaniments Uranium Recovery Inspection Accompaniments

APPENDIX B

UTAH ORGANIZATION CHARTS

ADAMS ACCESSION NO.: ML111860016

APPENDIX C

INSPECTION CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1 Licensee: Northern Utah Healthcare Corp (dba St. Mark's Hospital) Inspection Type: Routine, Unannounced Inspection Date: 12/13/10	License No.: UT1800253 Priority: 2 Inspector: MB
File No.: 2 Licensee: Cavanagh Services Group, Inc. Inspection Type: Initial Inspection Date: 12/01/08	License No.: UT1800510 Priority: 3 Inspector: PG
File No.: 3 Licensee: Cavanagh Services Group, Inc. Inspection Type: Routine, Unannounced Inspection Date: 11/16/10	License No.: UT1800510 Priority: 3 Inspector: GG
File No.: 4 Licensee: GammaWest Brachytherapy Inspection Type: Routine, Unannounced Inspection Date: 10/01/08	License No.: UT2900449 Priority: 2 Inspector: GG
File No.: 5 Licensee: GammaWest Brachytherapy Inspection Type: Routine, Unannounced Inspection Date: 09/30/09	License No.: UT2900449 Priority: 2 Inspector: MB
File No.: 6 Licensee: GammaWest Brachytherapy Inspection Type: Routine, Unannounced Inspection Date: 09/28/10	License No.: UT2900449 Priority: 2 Inspector: PG
File No.: 7 Licensee: IHC Health Services d/b/a LDS Hospital Inspection Type: Routine, Unannounced Inspection Date: 10/06/07	License No.: UT1800102 Priority: 2 Inspector: GG
File No.: 8 Licensee: IHC Health Services d/b/a LDS Hospital Inspection Type: Routine, Announced Inspection Date: 07/07/09	License No.: UT1800102 Priority: 2 Inspector: PG

File No.: 9

Licensee: Met-Chem Testing Lab of Utah, Inc.
Inspection Type: Routine, Announced
Inspection Dates: 03/01/11

License No.: UT1800146
Priority: 1
Inspector: MB

File No.: 10

Licensee: Utah State University
Inspection Type: Routine, Unannounced
Inspection Date: 10/26/09

License No.: UT0300159
Priority: 3
Inspector: GG

File No.: 11

Licensee: Staker & Parson Co.
Inspection Type: Routine, Announced
Inspection Date: 04/08/10

License No.: UT060044
Priority: 5
Inspector: RN

File No.: 12

Licensee: Park City Medical Center
Inspection Type: Initial
Inspection Dates: 10/27/09

License No.: UT2200524
Priority: 3
Inspector: GG

File No.: 13

Licensee: Isomedix/STERIS
Inspection Type: Routine, Announced
Inspection Date: 02/16/10

License No.: UT1800074
Priority: 2
Inspectors: MB

File No.: 14

Licensee: Isomedix/STERIS
Inspection Type: Routine, Unannounced
Inspection Date: 04/19/11

License No.: UT1800074
Priority: 2
Inspectors: PG

File No.: 15

Licensee: University of Utah – Radiological Health Dept
Inspection Type: Routine, Announced
Inspection Date: 01/12/09

License No.: UT1800458
Priority: 2
Inspector: DH

File No.: 16

Licensee: University of Utah – Radiological Health Dept
Inspection Type: Routine, Announced
Inspection Date: 02/15/11

License No.: UT1800458
Priority: 2
Inspector: PG

File No.: 17

Licensee: Westinghouse Electric Co. – Western Zirconium
Inspection Type: Routine, Unannounced
Inspection Date: 04/20/11

License No.: UT2900016
Priority: 2
Inspector: GG

File No.: 18

Licensee: American Red Cross
Inspection Type: Routine, Unannounced
Inspection Dates: 11/05/08

License No.: UT1800408
Priority: 5
Inspector: PG

File No.: 19

Licensee: Elekta, Inc.
Inspection Type: Reciprocity, Unannounced
Inspection Date: 07/27/09

License No.: GA 1153-1
Priority: 2
Inspector: PG

File No.: 20

Licensee: Dade Moeller & Assoc.
Inspection Type: Reciprocity, Announced
Inspection Dates: 10/22/08

License No.: MD-31-244-01
Priority: 3
Inspector: DH

File No.: 21

Licensee: National Inspection Services
Inspection Type: Reciprocity, Unannounced
Inspection Date: 01/13/11

License No.: LA-11160-L01
Priority: 2
Inspector: PG

File No.: 22

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: 08/06/2007
Inspection Module: 9, Site Security

License No.: UT2300249
Priority: 1
Inspectors: BI

File No.: 23

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: 04/18/2008
Inspection Module: 4, Environmental Monitoring Report 4th Quarter 2007

License No.: UT2300249
Priority: 1
Inspectors: BC

File No.: 24

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: Weekly 2008
Inspection Module: 18, Equipment Release/Conveyance Survey

License No.: UT2300249
Priority: 1
Inspectors: JF, RN, RJ, BI, and KC

File No.: 25

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: 08/07/2008 – 08/12/2008
Inspection Module: 16, Mixed Waste Health Physics/Radiation Safety

License No.: UT2300249
Priority: 1
Inspectors: BI

File No.: 26

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: 10/13/2008 – 10/16/2008
Inspection Module: 5, Radiation Safety

License No.: UT2300249
Priority: 1
Inspectors: KC

File No.: 27

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: 10/05/2009 – 10/13/2009
Inspection Module: 8, Site Access/Radiological Posting

License No.: UT2300249
Priority: 1
Inspectors: RJ

File No.: 28

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: 11/04/2009 – 11/30/2009
Inspection Module: 13, Liquids Management Plan

License No.: UT2300249
Priority: 1
Inspectors: JF

File No.: 29

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: Weekly 2009
Inspection Module: 18, Equipment Release/Conveyance Survey

License No.: UT2300249
Priority: 1
Inspectors: JF, RN, RJ, BI, and KC

File No.: 30

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: 07/29/2010 – 08/09/2010
Inspection Module: 20, Increased Controls

License No.: UT2300249
Priority: 1
Inspectors: BI

File No.: 31

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: 12/20/2010
Inspection Module: 3, Decontamination

License No.: UT2300249
Priority: 1
Inspectors: KC

File No.: 32

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: 10/13/2010 – 10/21/2010
Inspection Module: 13, Liquids Management Plan

License No.: UT2300249
Priority: 1
Inspectors: RJ

File No.: 33

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: 12/09/2010 – 12/14/2010
Inspection Module: 8, Site Access/Radiological Posting

License No.: UT2300249
Priority: 1
Inspectors: BI

File No.: 34

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: 06/09/2011 – 07/06/2011
Inspection Module: 1, Operations - Waste Handling/DAW

License No.: UT2300249
Priority: 1
Inspectors: BI

File No.: 35

Licensee: EnergySolutions
Inspection Type: Routine, Unannounced
Inspection Date: 06/09/2011
Inspection Module: 18, Materials Equipment and Package Surveys

License No.: UT2300249
Priority: 1
Inspectors: KC

File No.: 36

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Announced
Inspection Dates: 5/28-29/2008

License No.: UT1900479
Priority: 1
Inspector: RJ, KC

File No.: 37

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Announced
Inspection Dates: 8/11-12/2008

License No.: UT1900479
Priority: 1
Inspector: KC, RJ

File No.: 38

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Unannounced
Inspection Dates: 11/18-19/2008

License No.: UT1900479
Priority: 1
Inspectors: RJ, KC

File No.: 39

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Unannounced
Inspection Dates: 2/24-25/2009

License No.: UT1900479
Priority: 1
Inspector: KC

File No.: 40

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Announced
Inspection Date: 6/9/2009

License No.: UT1900479
Priority: 1
Inspectors: RJ, KC

File No.: 41

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Unannounced
Inspection Date: 9/1-2/2009

License No.: UT1900479
Priority: 1
Inspector: KC, RJ

File No.: 42

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Unannounced
Inspection Date: 12/2/2009

License No.: UT1900479
Priority: 1
Inspector: RJ

File No.: 43

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Unannounced
Inspection Date: 3/9/2010

License No.: UT1900479
Priority: 1
Inspector: RJ

File No.: 44

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Unannounced
Inspection Dates: 6/8-9/2010

License No.: UT1900479
Priority: 1
Inspectors: KC, RJ

File No.: 45

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Unannounced
Inspection Date: 9/21/2010

License No.: UT1900479
Priority: 1
Inspector: RJ

File No.: 46

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Announced
Inspection Date: 11/30/2010

License No.: UT1900479
Priority: 1
Inspector: RJ

File No.: 47

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Unannounced
Inspection Date: 2/23/2011

License No.: UT1900479
Priority: 1
Inspector: RJ, KC

File No.: 48

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
Inspection Type: Routine, Unannounced
Inspection Date: 4/19/2011

License No.: UT1900479
Priority: 1
Inspector: RJ

File No.: 49

Licensee: Rio Algom Mining, LLC (Lisbon Valley Mill)
Inspection Type: Routine, Unannounced
Inspection Date: 5/3/2008

License No.: UT1900481
Priority: 1
Inspectors: KC, RJ, JH

File No.: 50

Licensee: Rio Algom Mining, LLC (Lisbon Valley Mill)
Inspection Type: Routine, Unannounced
Inspection Date: 11/17/2008

License No.: UT1900481
Priority: 1
Inspector: KC

File No.: 51

Licensee: Rio Algom Mining, LLC (Lisbon Valley Mill)
Inspection Type: Routine, Unannounced
Inspection Date: 2/25/2009

License No.: UT1900481
Priority: 1
Inspector: RJ, KC

File No: 52

Licensee: Rio Algom Mining, LLC (Lisbon Valley Mill)
Inspection Type: Routine, Unannounced
Inspection Date: 6/10/2009

License No.: UT1900481
Priority: 1
Inspector: KC, RJ

File No.: 53

Licensee: Rio Algom Mining, LLC (Lisbon Valley Mill)
Inspection Type: Routine, Unannounced
Inspection Date: 2/24/2011

License No.: UT1900481
Priority: 1
Inspectors: KC, RJ

File No.: 54

Licensee: Rio Algom Mining, LLC (Lisbon Valley Mill)
Inspection Type: Routine, Unannounced
Inspection Date: 6/8/2011

License No.: UT1900481
Priority: 1
Inspector: RJ

File No.: 55

Licensee: Uranium One Americas, Inc. (Shootaring Canyon Mill)
Inspection Type: Routine, Announced
Inspection Date: 4/18/2011

License No.: UT1900480
Priority: 1
Inspector: KC

File No.: 56

Licensee: EnergySolutions (11e.(2) byproduct material facility)
Inspection Type: Routine, Unannounced
Inspection Dates: 3/31/2009-4/2/2009

License No.: UT2300478
Priority: 1
Inspector: BI

File No.: 57

Licensee: EnergySolutions (11e.(2) byproduct material facility)
Inspection Type: Routine, Unannounced
Inspection Dates: 6/17-29/2009

License No.: UT2300478
Priority: 1
Inspector: BI

File No.: 58

Licensee: EnergySolutions (11e.(2) byproduct material facility)
Inspection Type: Routine, Unannounced
Inspection Dates: 9/14-15/2009
Comment:

License No.: UT2300478
Priority: 1
Inspector: RJ

The License No. entered on the inspection report was incorrect.

File No.: 59

Licensee: EnergySolutions (11e.(2) byproduct material facility)
Inspection Type: Routine, Unannounced
Inspection Date: 11/3/2009
Comment:

License No.: UT2300478
Priority: 1
Inspector: RJ

The License No. entered on the inspection report was incorrect.

File No.: 60

Licensee: EnergySolutions (11e.(2) byproduct material facility)

Inspection Type: Routine, Unannounced

Inspection Dates: 11/4-30/2009

Comment:

The inspection report did not contain any information on the 11e.(2) byproduct material facility.

License No.: UT2300478

Priority: 1

Inspector: JF

File No.: 61

Licensee: EnergySolutions (11e.(2) byproduct material facility)

Inspection Type: Routine, Unannounced

Inspection Dates: 12/17-29/2009

Comment:

The inspection report did not contain any information on the 11e.(2) byproduct material facility.

License No.: UT2300478

Priority: 1

Inspector: BI

File No.: 62

Licensee: EnergySolutions (11e.(2) byproduct material facility)

Inspection Type: Routine, Unannounced

Inspection Dates: 9/14-30/2010

File No.: 63

Licensee: EnergySolutions (11e.(2) byproduct material facility)

Inspection Type: Routine, Unannounced

Inspection Dates: 10/13-21/2010

License No.: UT2300478

Priority: 1

Inspector: BI

License No.: UT2300478

Priority: 1

Inspector: RJ

INSPECTOR ACCOMPANIMENTS

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

Accompaniment No.: 1

Licensee: Isomedix/STERIS

Inspection Type: Routine, Unannounced

Inspection Date: 04/19/11

License No.: UT1800074

Priority: 2

Inspectors: PG

Accompaniment No.: 2

Licensee: Westinghouse Electric Co. – Western Zirconium

Inspection Type: Routine, Unannounced

Inspection Date: 04/20/11

License No.: UT2900016

Priority: 2

Inspector: GG

Accompaniment No.: 3

Licensee: Westinghouse Electric Co. – Western Zirconium

Inspection Type: Special, Unannounced

Inspection Date: 04/20/11

License No.: UT2900016

Priority: 2

Inspector: GG

Accompaniment No.: 4

Licensee: EnergySolutions

Inspection Type: Routine, Unannounced

Inspection Date: 06/09/2011

Inspection Module: 1, Operations - Waste Handling/DAW

Comment:

During an exposure rate survey, the inspector's survey speed appeared to be much faster than the response time of the instrument.

License No.: UT2300249

Priority: 1

Inspectors: BI

Accompaniment No.: 5

Licensee: EnergySolutions

Inspection Type: Routine, Unannounced

Inspection Date: 06/09/2011

Inspection Module: 18, Materials, Equipment and Package Surveys

Comment:

An inspector placed a smear wipe directly on the surface of the probe during a contamination survey.

License No.: UT2300249

Priority: 1

Inspectors: KC

Accompaniment No.: 6

Licensee: EnergySolutions

Inspection Type: Routine, Unannounced

Inspection Date: 06/09/2011

Inspection Module: Generator Site Access, Department of Transportation Inspection

Comment:

An inspector placed a pen directly into a tear in the waste package covering during an incoming package survey, without adequate survey indication that the package was not contaminated.

License No.: UT2300249

Priority: 1

Inspectors: JF

Accompaniment No.: 7

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)

Inspection Type: Routine, Unannounced

Inspection Date: 6/7-8/2011

Comment:

The review team noted that good health physics practices (i.e., proper use of personal protective equipment and personal dosimetry) were not followed by a few of the employees at the site while performing work. The inspector did not bring up these observations to the employees attention.

License No.: UT1900479

Priority: 1

Inspector: RJ

Accompaniment No.: 8

Licensee: Rio Algom Mining, LLC (Lisbon Valley Mill)

Inspection Type: Routine, Unannounced

Inspection Dates: 6/8/2011

License No.: UT1900481

Priority: 1

Inspector: RJ

Accompaniment No.: 9

Licensee: Uranium One Americas, Inc. (Shootaring Canyon Mill)

License No.: UT1900480

Inspection Type: Routine, Announced

Priority: 1

Inspection Dates: 6/6/2011

Inspector: RJ

Comment:

The inspector did not carry a radiation survey instrument during the facility inspection. During the exit survey, the review team noted that the instrument range selector switch was not properly set and that the two employees did not survey themselves properly for presence of contamination. No records were reviewed by the inspector during the inspection. Training and personnel monitoring records for two of the three employees were not reviewed by the inspector.

APPENDIX D

LICENSE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS

File No.: 1

Licensee: Production Logging Services, Inc.

Type of Action: Renewal

Date Issued: 6/1/09

License No.: UT2400260

Amendment No.: 9

License Reviewer: GG

File No.: 2

Licensee: McKay-Dee Hospital Center

Type of Action: Renewal

Date Issued: Pending as of 7/11/11

License No.: UT2900147

Amendment No.: 44

License Reviewer: GG

File No.: 3

Licensee: Weber State University

Type of Action: Renewal

Date Issued: 3/9/10

Comment:

The renewal action exceeded one year, which the Division investigated. There were no impacts to health, safety or security issues.

License No.: UT2900149

Amendment No.: 13

License Reviewer: PG

File No.: 4

Licensee: GEM Engineering, Inc.

Type of Action: Renewal

Date Issued: 1/5/10

License No.: UT1100484

Amendment No.: 02

License Reviewer: PG

File No.: 5

Licensee: Baker Hughes Oilfield Operations, Inc. d/b/a Baker Atlas

Type of Action: New

Date Issued: 6/8/09

License No.: UT2400518

Amendment No.: N/A

License Reviewer: PG

File No.: 6

Licensee: Quality Testing, LLC

Type of Action: New

Date Issued: 7/7/10

License No.: UT18000528

Amendment No.: N/A

License Reviewer: GG

File No.: 7

Licensee: Tech Corr USA, LLC

Type of Action: Termination

Date Issued: 2/11/09

License No.: UT1800523

Amendment No.: N/A

License Reviewer: CG

File No.: 8

Licensee: Logan Regional Hospital

Type of Action: Amendment

Date Issued: 10/23/08

License No.: UT0300150

Amendment No.: 20

License Reviewer: PG

File No.: 9

Licensee: Cardinal Health Pharmacy Services
Type of Action: Amendment
Date Issued: 4/13/11

License No.: UT1600225
Amendment No.: 26
License Reviewer: GG

File No.: 10

Licensee: IHC Health Services, Inc. d/b/a Intermountain Med. Ctr.
Type of Action: Amendment
Date Issued: 2/3/11

License No.: UT1800494
Amendment No.: 06
License Reviewer: PG

Comments:

One entity maintains four separate Utah licenses with duplicate authorizations at the same hospital location. Duplicate authorizations can cause confusion about responsibility, even though the entity is identical on all licenses.

File No.: 11

Licensee: Heart of Utah
Type of Action: Amendment
Date Issued: 6/4/10

License No.: UT2900495
Amendment No.: 02
License Reviewer: DH

File No.: 12

Licensee: AMEC Earth and Environmental, Inc.
Type of Action: Amendment
Date Issued: 6/10/10

License No.: UT1800164
Amendment No.: 19
License Reviewer: MB

File No.: 13

Licensee: Met-Chem Testing Laboratories
Type of Action: Amendment
Date Issued: Pending as of 7/12/11

License No.: UT1800146
Amendment No.: 18
License Reviewer: GG

File No.: 14

Licensee: Brigham Young University
Type of Action: Amendment
Date Issued: 7/7/10

License No.: UT2500081
Amendment No.: 13
License Reviewer: GG

Comments:

The licensee requested to add approval of polonium-209, however, the item was not included in the license condition for training as requested.

File No.: 15

Licensee: University of Utah
Type of Action: Amendment
Date Issued: 4/12/11

License No.: UT1800458
Amendment No.: 09
License Reviewer: PG

File No.: 16

Licensee: Dixie Regional Medical Center
Type of Action: Amendment
Date Issued: 3/15/11

License No.: UT2700007
Amendment No.: 33
License Reviewer: MB

File No.: 17

Licensee: Nova Drill
Type of Action: Denial
Date Issued: 6/1/09

License No.: N/A
Amendment No.: N/A
License Reviewer: GG

File No.: 18

Licensee: EnergySolutions
Type of Action: Renewal
Date Issued: 01/25/2008

License No.: UT2300249
Amendment No.: 0
License Reviewer: LM, Contractor

File No.: 19

Licensee: EnergySolutions
Type of Action: Amendment
Date Issued: 11/22/2010

License No.: UT2300249
Amendment No.: 8
License Reviewer: BI

File No.: 20

Licensee: EnergySolutions
Type of Action: Amendment
Date Issued: 05/10/2011

License No.: UT2300249
Amendment No.: 11
License Reviewers: JH, BC, RJ

File No.: 21

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
License Type: Renewal
Date issued: Pending
Comment:

License No.: UT1900479
Amendment No.: Pending
Reviewers: Multiple

At the time of the review, the draft license renewal was submitted to the Division's Director for his signature.

File No.: 22

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
License Type: Amendment
Date issued: 6/17/2010

License No.: UT1900479
Amendment No.: 4
Reviewers: Multiple, Contractor

File No.: 23

Licensee: Denison Mines (USA) Corporation (White Mesa Mill)
License Type: Amendment
Date Issued: 6/17/2010

Permit No.: UGW370004
Amendment No.: N/A
Reviewers: Multiple, Contractor

File No.: 24

Licensee: Rio Algom Mining, LLC (Lisbon Valley Mill)
License Type: Amendment
Date issued: 1/2/2010

License No.: UT1900481
Amendment No.: 3
Reviewer: Multiple

File No.: 25

Licensee: Uranium One Americas, Inc. (Shootaring Canyon Mill)
License Type: Amendment
Date issued: 7/12/2010

License No.: UT1900480
Amendment No.: 4
Reviewer: Multiple

File No.: 26

Licensee: Uranium One Americas, Inc. (Shootaring Canyon Mill)

License Type: Amendment

Date issued: 3/23/2011

License No.: UT1900480

Amendment No.: 5

Reviewer: Multiple

File No.: 27

Licensee: Uranium One Americas, Inc. (Shootaring Canyon Mill)

License Type: Amendment

Date issued: 3/23/2011

Comment:

The Division requested Uranium One to provide justification for continuing to maintain their radioactive material license or submit a decommissioning plan.

License No.: UT1900480

Amendment No.: Pending

Reviewer: Multiple

File No.: 28

Licensee: EnergySolutions (11e.(2) byproduct material facility)

License Type: Amendment

Date issued: 2/23/2009

License No.: UT2300478

Amendment No.: 6

Reviewer: Multiple

File No.: 29

Licensee: EnergySolutions (11e.(2) byproduct material facility)

License Type: Amendment

Date issued: Denied

License No.: UT2300478

Amendment No.: Denied

Reviewer: Multiple

APPENDIX E

INCIDENT CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1

Licensee: Kennecott Utah Copper Corporation

Date of Incident: 7/28/08

Investigation Date: 7/29/08

License No.: UT1800289

Event No.: UT080001

Type of Incident: FG equipment failure

Type of Investigation: On-site

Comment:

When the licensee attempted to close the shutter (Ohmart Model SH-F2, SN 1404CG) one of the screws for the operating handle broke and the shutter remained open.

File No.: 2

Licensee: Kennecott Utah Copper Corporation

Date of Incident: 8/6/08

Investigation Date: 8/7/08

License No.: UT1800289

Event No.: UT080002

Type of Incident: FG equipment failure

Type of Investigation: On-site

Comment:

When the licensee attempted to close the shutter (Ohmart Model SH-F2, SN 1849CG) one of the screws for the operating handle broke and the shutter remained open.

File No.: 3

Licensee: Holly Refining and Marketing Company

Date of Incident: 8/11/08

Investigation Date: 8/11/08

License No.: UT0600109

Event No.: UT080003

Type of Incident: FG equipment failure

Type of Investigation: On-site

Comment:

When the licensee attempted to close the shutter (Ohmart Model SH-F1, SN LS-620) both of the screws for the operating handle sheared off and the shutter remained open. The Radioactive Materials Section provided detailed information for File Nos. 1-3 above, to the State of Ohio regarding a potential Part 21 issue, in that the material for the screws may be suspect and did not meet the SS&DR.

File No.: 4

Licensee: Halliburton Energy Services

Date of Incident: 9/21/08

Investigation Date: N/A

License No.: UT2400026

Event No.: UT080004

Type of Incident: well-logging / source abandonment

Type of Investigation: 30-day report

File No.: 5

Licensee: Chevron USA, Inc.

Date of Incident: 12/22/08

Investigation Date: 1/13/09 (w/ Ronan representative)

License No.: UT1800057

Event No.: UT080006

Type of Incident: FG equipment failure

Type of Investigation: On-site

File No.: 6

Licensee: AMEC Earth & Environmental

Date of Incident: 2/23/10

Investigation Date: 3/3/10

License No.: UT1800164

Event No.: UT100001

Type of Incident: PG struck by excavator

Type of Investigation: On-site

Comment:

The licensee did not make a report to the State until 3/3/10, at which time the Division performed a special inspection/investigation.

File No.: 7

Licensee: Utah Inspection

Date of Incident: 9/19/10

Investigation Date: 6/27/11*

License No.: UT2400357

Event No.: UT100004

Type of Incident: radiography, detached guide tube

Type of Investigation: *followed up during inspection

File No.: 8

Licensee: Quality Inspection & Testing, Inc.

Date of Incident: 10/24/10

Investigation Date: 10/24/10

License No.: LA-11238-L01 (reciprocity)

Event No.: UT100005

Type of Incident: radiography transportation accident/security

Type of Investigation: On-site

File No.: 9

Licensee: Quality Inspection & Testing, Inc.

Date of Incident: 10/30/10

Investigation Date: 10/30/10

License No.: LA-11238-L01 (reciprocity)

Event No.: UT100006

Type of Incident: radiography transportation accident/security

Type of Investigation: On-site

File No.: 10

Licensee: Applied Geotechnical Engineering

Date of Incident: 3/22/11

Investigation Date: 3/23/11

License No.: UT1800298

Event No.: UT110001

Type of Incident: PG

Type of Investigation: On-site

Comment:

The licensee reported theft and recovery the same day, of a moisture/density gauge.

The Division spoke with law enforcement, licensee, and the individual who recovered the gauge as the Division developed their documentation of the event.

File No.: 11

Licensee: Team Industrial Services

Date of Incident: 5/24/11

Investigation Date: 5/24/11

License No.: UT0600519

Event No.: UT110004

Type of Incident: radiography, inability to retract source

Type of Investigation: On-site

File No.: 12

Licensee: Mistras Group
Date of Incident: 4/20/11
Investigation Date: 4/25/11

License No.: UT0600485
Event No.: UT110002
Type of Incident: radiography
Type of Investigation: On-site

Comment:

Failure to properly communicate between the radiographer and assistant, which resulted in the failure to verify that the guide tube was properly attached to the camera prior to exposing the radiography source.

File No.: 13

Licensee: Great Salt Lake Minerals Corp.
Date of Incident: 10/29/10 (reported 4/28/11)
Investigation Date: 5/26/11

License No.: UT2900154
Event No.: UT110003
Type of Incident: lost gauge
Type of Investigation: On-site

File No.: 14

Licensee: EnergySolutions
Date of Incident: 3/31/09
Investigation Date: 4/14/09

License No.: UT2300249
Event No.: UT090003
Type of Incident: DOT
Type of Investigation: On-site