



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

August 24, 2015

Mr. Alan Matheson, Executive Director  
Utah Department of Environmental Quality  
195 North 1950 West  
P.O. Box 144810  
Salt Lake City, UT 84114

Dear Mr. Matheson:

The U.S. Nuclear Regulatory Commission (NRC) uses the Integrated Materials Performance Evaluation Program (IMPEP) in the evaluation of Agreement State programs. Enclosed for your review is the draft IMPEP report, which documents the results of the Agreement State review held in Utah on July 27-31, 2015. Mr. Jim Lynch was the team leader for the review. The review team's preliminary findings were discussed with you and other members of 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, but needs improvement, and not compatible with the NRC's program.

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

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

The team will review the response, make any necessary changes to the report, and issue it to the MRB as a proposed final report. Our preliminary scheduling places the Utah MRB meeting on October 29, 2015. The NRC will provide invitational travel for you or your designee to attend the MRB meeting at NRC Headquarters in Rockville, Maryland. The NRC has video conferencing capability if it is more convenient for the State to participate through this medium. Please contact me if you desire to establish a video conference for the meeting.

A. Matheson

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If you have any questions regarding the enclosed report, please contact Mr. Lynch at 630-829-9661 or me at 301-415-5422.

Thank you for your cooperation.

Sincerely,

***/RA Stephen Poy for/***

Christian E. Einberg, Chief  
Agreement State Programs Branch  
Division of Material Safety, State, Tribal  
and Rulemaking Programs  
Office of Nuclear Material Safety  
and Safeguards

Enclosure:  
Utah Draft IMPEP Report

cc: Scott Anderson, Director  
Division of Waste Management  
and Radiation Control

Rusty Lundberg, Deputy Director  
Division of Waste Management  
and Radiation Control

Phil Goble, Manager  
Uranium Mills and Radioactive  
Materials Section

Don Verbica, Manager  
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OFFICE	RIII:TL	ASPB	ASPB:BC
NAME	JLynch via e-mail with edits <del>edits</del>	LDimmick	SPoy for CEinberg
DATE	8/20/15	8/21/15	8/24/15

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

July 27–31, 2015

**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 27–31, 2015, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC), the State of South Carolina, and the Commonwealth of Virginia.

Based on the results of this review, Utah's performance was found satisfactory for six of the eight performance indicators reviewed. The Technical Quality of Incident and Allegation Activities indicator was found to be satisfactory, but needs improvement. The Compatibility Requirements indicator was determined to be unsatisfactory. The review team made one recommendation for the State regarding Utah statute compatibility.

The cause of the unsatisfactory finding in the compatibility indicator was due to a number of modifications to Utah statutes which are not compatible with the NRC requirements. The modifications were made by the State Legislature without concurrence by the Radiation Control Program. This matter is discussed in Section 4.1.

The review team made one recommendation regarding statute compatibility and determined that the three recommendations from the 2011 IMPEP review should be closed.

Accordingly, the review team recommends that the Utah Agreement State Program be found adequate to protect public health and safety, but needs improvement, and not compatible with the NRC's program. The review team recommends that the NRC initiate a period of heightened oversight for Utah. The review team further recommends that a periodic meeting be held within 1 year and that a follow-up IMPEP review take place approximately 1 year following the periodic meeting.

## 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 27–31, 2015, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC), the State of South Carolina, and the Commonwealth of Virginia. 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 (MD 5.6), “Integrated Materials Performance Evaluation Program (IMPEP),” dated February 26, 2004. Preliminary results of the review, which covered the period of July 15, 2011 to July 31, 2015, were discussed with State managers on the last day of the review.

The Utah Agreement State Program (the Program) is administered by the Division of Waste Management and Radiation Control (the Division). Within the Division are the Uranium Mills/Radioactive Materials (U Mills/RAM) Section and the Low-Level Radioactive Waste (LLRW) Section. The Division is part of the Utah Department of Environmental Quality (the Department). Organization charts for the State may be found in the NRC’s Agencywide Documents Access and Management System (ADAMS) using the Accession Number ML15202A086.

At the time of the review, the Utah Agreement State Program regulated approximately 200 specific licenses authorizing possession and use of radioactive materials. The review focused on the radioactive materials program as it is carried out under the Section 274b. (of the Atomic Energy Act of 1954, as amended) Agreement between the NRC and the State of Utah.

In preparation for the review, a questionnaire addressing the common and applicable non-common performance indicators was sent to the State on December 10, 2014. The State provided its response to the questionnaire on July 14, 2015. A copy of the questionnaire response may be found using the ADAMS Accession Number ML15202A076.

The review team evaluated the information gathered against the established criteria for each common and the applicable non-common performance indicator and made a preliminary assessment of the Utah Agreement State Program’s performance.

## 2.0 PREVIOUS IMPEP REVIEW AND STATUS OF RECOMMENDATIONS

The previous IMPEP review concluded on July 14, 2011. The final report is available in ADAMS (Accession Number ML112850130). The results of the previous review and the status of the recommendations are as follows:

Technical Staffing and Training: Satisfactory  
Recommendations: None

Status of Materials Inspection Program: Satisfactory

Recommendations: None

Technical Quality of Inspections: Satisfactory  
Recommendations: None

Technical Quality of Licensing Actions: Satisfactory  
Recommendations: None

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

Compatibility Requirements: Satisfactory  
Recommendations: None

Low-Level Radioactive Waste Disposal Program: Satisfactory, but Needs Improvement

Recommendation 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. (Sections 4.3.1 and 4.4.1 of the 2011 IMPEP report)

Status: During the review period, all LLRW and Uranium Mills staff had been trained annually on receipt and disposition of allegations. Discussions with staff members indicated that they are aware of the allegation process and are capable of handling any verbal or written allegation. The review team recommends that this recommendation be closed.

Recommendation 2: The review team recommends that independent and confirmatory radiation measurements are consistently performed with the appropriate calibrated instruments for inspections conducted by the LLRW and the Uranium Mills program staff. (Sections 4.3.3 and 4.4.3 of the 2011 IMPEP report)

Status: The review team observed the LLRW and Uranium Mills inspectors using the appropriate radiation survey instruments during the accompaniments to the LLRW and uranium mill facilities. Discussions with inspection staff indicated that radiation survey meters are used during all health physics inspections. The review team recommends that this recommendation be closed.

Recommendation 3: The review team recommends that the Division ensures 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. (Sections 4.3.3 and 4.4.3 of the 2011 IMPEP report)

Status: The review team observed all radiation survey meters available to the LLRW and Uranium Mills inspection staff and found them to be adequate for the range of

licensee activities. All survey meters are calibrated annually and backup instruments are available. The inspectors demonstrated to the review team the proper use of each instrument. The review team recommends that this recommendation be closed.

Uranium Recovery Program: Satisfactory, but Needs Improvement  
Recommendations: Same as LLRW above

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

### 3.0 COMMON PERFORMANCE INDICATORS

Five common performance indicators are used to review the NRC 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

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

##### a. Scope

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

- A well-conceived and balanced staffing strategy has been implemented throughout the review period.
- Agreement State training and qualification program is equivalent to NRC's Inspection Manual Chapter (IMC) 1248, "Formal Qualifications Program for Federal and State Materials and Environmental Management Programs."
- Qualification criteria for new technical staff are established and are being followed or that qualification criteria will be established if new staff members are hired.
- Any vacancies, especially senior-level positions, are filled in a timely manner.
- There is a balance in staffing of the licensing and inspection programs.
- Management is committed to training and staff qualification.

- Individuals performing materials licensing and inspection activities are adequately qualified and trained to perform their duties.
- License reviewers and inspectors are trained and qualified in a reasonable period of time.

b. Discussion

The Utah Agreement State Program was reorganized on July 1, 2015. The Division of Radiation Control and the Division of Solid and Hazardous Waste were consolidated by legislation passed in early 2015. The new Division is “The Division of Waste Management and Radiation Control.” The Sections were also reorganized and assigned two new managers. The new Sections are the U Mills/RAM Section and the LLRW Section. The Program also lost two experienced managers to retirement approximately 5 to 8 months before the end of the review period. The manager of the former Compliance Section for Uranium Mills and Low-level Waste was selected to be the manager of the U Mills/RAM Section. A new manager with experience managing the Resource Conservation and Recovery Act (RCRA) waste sites within the State of Utah was selected for the LLRW Section.

The Utah Agreement State Program for radioactive materials is composed of four technical staff members who are fully qualified, the Section manager, the Deputy Division Director, and the Division Director that account for a total of 4.5 full-time equivalent (FTE) staff.

Currently, there are no vacancies in the U Mills/RAM Section. During the review period, one staff member moved to another Section. There was also one vacancy at the beginning of the review period. The Program hired two staff members early in the review period; one to account for the vacancy, and the other to account for the staff member that moved to the other Section. The positions were vacant for about nine months.

Utah has a training and qualification manual equivalent to IMC 1248, with the exception of the new refresher training requirements. The new manager of the U Mills/RAM Section will update the refresher training requirements in the Utah Training and Qualifications manual to be equivalent to the IMC 1248 refresher training requirements.

c. Evaluation

The team determined that, during the review period, the Utah program met the performance indicator objectives listed in Section 3.1.a.

d. Results

Based on the IMPEP evaluation criteria in MD 5.6, 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

Periodic inspections of licensed operations are essential to ensure that activities are being conducted in compliance with regulatory requirements and consistent with good safety practices. The frequency of inspections is specified in IMC 2800, "Materials Inspection Program" and is dependent on the amount and kind of material, the type of operation licensed, and the results of previous inspections. There must be a capability for maintaining and retrieving statistical data on the status of the inspection program.

#### a. Scope

The review team used the guidance in State Agreements procedure SA-101, "Reviewing the Common Performance Indicator: Status of the Materials Inspection Program," and evaluated the State's performance with respect to the following performance indicator objectives:

- Initial inspections and inspections of Priority 1, 2, and 3, licensees are performed at the frequency prescribed in IMC 2800.
- Candidate licensees working under reciprocity are inspected in accordance with the criteria prescribed in IMC 1220, "Processing of NRC Form 241, Report of Proposed Activities in Non-Agreement States, Areas of Exclusive Federal Jurisdiction, and Offshore Waters, and Inspection of Agreement State Licensees Operating Under 10 CFR 150.20."
- Deviations from inspection schedules are normally coordinated between technical staff and management.
- There is a plan to perform any overdue inspections and reschedule any missed or deferred inspections; or a basis has been established for not performing any overdue inspections or rescheduling any missed or deferred inspections.
- Inspection findings are communicated to licensees in a timely manner (30 calendar days, or 45 days for a team inspection, as specified in IMC 0610, "Nuclear Material Safety and Safeguards Inspection Reports").

#### b. Discussion

The Program conducted approximately two percent of Priority 1, 2, 3, and initial inspections overdue, during the review period. The Program conducted 3 of 136 Priority 1, 2, 3, inspections overdue. All initial inspections of new licenses were performed within 12 months of license issuance.

The Program performed greater than 20 percent of candidate reciprocity inspections each year during the review period, except in 2013. The team determined that, during 2013, there was a transition of staff, and the responsibility for the tracking of reciprocity inspections was overlooked. The Program identified this in late 2013 and subsequently assigned a staff member to track reciprocity inspections, beginning in 2014.

The Program currently has no inspections overdue and has a system in place to track and inspect reciprocity licensees.

c. Evaluation

The review team determined that, during the review period, Utah met the performance indicator objectives listed in Section 3.2.a.

d. Results

Based on the IMPEP evaluation criteria in MD 5.6, 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

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

a. Scope

The review team used the guidance in State Agreements procedure SA-102, "Reviewing the Common Performance Indicator: Technical Quality of Inspections," and evaluated the State's performance with respect to the following performance indicator objectives:

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

b. Discussion

The review team evaluated the inspection reports, enforcement documentation, and interviewed inspectors for 23 materials inspections conducted during the review period. The casework reviewed included inspections conducted by four Program inspectors and covered medical, industrial, commercial, academic, research, and service licenses.

Review team members accompanied three Utah inspectors on June 2–4, 2015. The inspector accompaniments are identified in Appendix B.

Supervisory accompaniments were conducted annually for nearly all inspectors. One inspector who performed a limited number of inspections was not accompanied in 2011.

c. Evaluation

The review team determined that, during the review period, Utah met the performance indicator objectives listed in Section 3.3.a.

d. Results

Based on the IMPEP evaluation criteria in MD 5.6, 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 quality, thoroughness, and timeliness of licensing actions can have a direct bearing on public health and safety, and security. An assessment of licensing procedures, actual implementation of these procedures, and documentation of communications and associated actions between the Program licensing staff and the regulated community will be a significant indicator of the overall quality of the Program.

a. Scope

The review team used the guidance in State Agreements procedure SA-104, "Reviewing the Common Performance Indicator: Technical Quality of Licensing Actions," and evaluated the State's performance with respect to the following performance indicator objectives:

- Licensing action reviews are thorough, complete, consistent, and of acceptable technical quality with health, safety, and security issues properly addressed.
- Essential elements of license applications have been submitted and elements meet current regulatory guidance (e.g., financial assurance, increased controls, pre-licensing guidance).
- License reviewers, if applicable, have the proper signature authority for the cases they review independently.
- License conditions are stated clearly and are inspectable.
- Deficiency letters clearly state regulatory positions and are used at the proper time.
- Reviews of renewal applications demonstrate a thorough analysis of a licensee's inspection and enforcement history.
- Applicable guidance documents are available to reviewers and are followed (e.g., NUREG-1556 series, pre-licensing guidance, regulatory guides, etc.).
- Licensing practices for risk significant radioactive materials are appropriately implemented including increased controls and fingerprinting orders (Part 37

- equivalent).
- Documents containing sensitive security information are properly marked, handled, controlled and secured.

b. Discussion

During the review period, the Program performed 575 radioactive materials licensing actions. The review team evaluated 27 radioactive materials licensing actions. The licensing actions selected for review included three new applications, nine amendments, seven renewals, and eight terminations. The review team evaluated casework which included the following license types and actions: broad scope, medical diagnostic and therapy, industrial radiography, research and development, academic, nuclear pharmacy, gauges, pool and self-shielded irradiators, well-logging, service providers, decommissioning actions, and financial assurance. The casework sample represented work from five current and former license reviewers.

c. Evaluation

The review team determined that, during the review period, Utah met the performance indicator objectives listed in Section 3.4.a.

d. Results

Based on the IMPEP evaluation criteria in MD 5.6, 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

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

a. Scope

The review team used the guidance in State Agreements procedure SA-105, "Reviewing the Common Performance Indicator: Technical Quality of Incident and Allegation Activities," and evaluated the State's performance with respect to the following performance indicator objectives:

- Incident response, investigation, and allegation procedures are in place and followed.
- Response actions are appropriate, well-coordinated, and timely.

- On-site responses are performed when incidents have potential health, safety or security significance.
- Appropriate follow-up actions are taken to ensure prompt compliance by licensees.
- Follow-up inspections are scheduled and completed, as necessary.
- Notifications are made to the NRC Headquarters Operations Center for incidents requiring a 24-hour or immediate notification to the Agreement State or NRC.
- Incidents are reported to the Nuclear Material Events Database (NMED).
- Allegations are investigated in a prompt, appropriate manner.
- Concerned individuals are notified of investigation conclusions.
- Concerned individuals' identities are protected, as allowed by law.

b. Discussion

During the review period, 16 incidents were reported to Utah. The review team evaluated 15 reportable radioactive materials incidents. The types of incidents reviewed included three lost/stolen radioactive materials, one potential overexposure, two medical events, four damaged equipment, three equipment failures, one leaking source, and one contamination event. Utah dispatched inspectors for onsite follow-up for 10 of the cases reviewed.

A review team member accompanied a Program inspector during an incident response on June 3, 2015. The inspector accompaniments are identified in Appendix B.

During the review period, 10 radioactive material allegations were received by Utah. The review team evaluated all 10 allegations, including 4 allegations that the NRC referred to the State.

c. Evaluation

The Program has detailed procedures for incidents and allegations. The review team identified that these procedures were not being consistently followed throughout the review period.

The review team determined that the Program was appropriately responding to incidents by performing onsite and telephonic investigations in a timely manner commensurate with the risk significance of the incident. However, the review team identified that in 8 of the 15 incidents reviewed, the Program did not make timely notifications of the incidents to the NRC Headquarters Operations Officer, or to the NMED as required by State Agreements procedure SA-300, "Reporting Material Events". Some of the incidents were reported as much as 3 to 4 months late. During interviews with staff, the team identified that one reason for the late reporting could be because of a misunderstanding of the reporting requirements for certain equipment failures. In particular, radiography equipment failures were being reported to NMED under the 30-day reporting requirement in 10 CFR 34.101 (applicable to radiography licensees), however, these events were not considered to be reportable under the 24-hour reporting requirements in 10 CFR 30.50(b) which is applicable to all specific licensees. The review team discussed this potential misunderstanding with the Program's management and

additional oversight by the new management team will be provided to ensure that staff consider all reporting requirements to ensure timely notification to the NRC.

For allegations, the review team determined that the procedure required the staff to gather very specific information about alleged and their concerns. For example, the staff should obtain an alleged's contact information, employer, facility involved, the nature and details of the allegation, the potential safety impact, records that the staff should review, etc. In addition to documenting receipt of the allegations, the procedure also requires documentation of the results of the investigations and formal written or telephonic closure of the allegation with the alleged. The review team and current Program staff could not find documentation in all case files that identified the results of the investigation or whether the alleged were contacted post-investigation.

The Program responded to most of the concerns in a timely manner by performing onsite or telephone investigations. The review team could not determine in all cases whether the appropriate concerns were addressed by the Program due to the lack of receipt and closure documentation. Also, the Program manager had retired, so the review team did not have the opportunity to interview the supervisor in charge during most of the review period.

The review team determined that the Program's procedure is adequately written such that, if followed in all cases, there can be high confidence that incidents and allegations will be received, investigated, and closed appropriately. The new Section manager committed to providing additional oversight of incident and allegation activities, reviewing the procedures with the staff, modifying and implementing forms, checklists, guidance, as necessary to facilitate easy documentation of incidents and allegations, and ensuring staff is held accountable for adhering to procedures. The review team member from Virginia shared his program's allegation receipt form with the Section manager, to assist with the effort.

Given that the review team determined the procedures were adequate for this performance indicator and had management's commitment to improve adherence to the procedure, the team decided not to make a recommendation for the Program at this time.

d. Results

Although the Program has incident and allegation response procedures in place and it appeared that the Program was responsive to incidents and allegations, the procedures were not consistently followed in all cases during the review period. The lack of timely reporting of incidents to the NRC combined with insufficient receipt and closure documentation for allegations resulted in less than fully satisfactory performance for this indicator.

Based on the IMPEP evaluation criteria in MD 5.6, the review team recommends that Utah's performance with respect to the indicator, Technical Quality of Incident and Allegation Activities, be found satisfactory, but needs improvement.

#### 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. The NRC's Agreement with Utah does not relinquish regulatory authority for a sealed source and device evaluation program; therefore, three non-common performance indicators are applied to this review.

##### 4.1 Compatibility Requirements

State statutes should authorize the State to establish a program for the regulation of agreement material and provide authority for the assumption of regulatory responsibility under the agreement. The statutes must authorize the State to promulgate regulatory requirements necessary to provide reasonable assurance of protection of public health, safety, and security. The State must be authorized through its legal authority to license, inspect, and enforce legally binding requirements, such as regulations and licenses. NRC regulations that should be adopted by an Agreement State for purposes of compatibility or health and safety should be adopted in a time frame so that the effective date of the State requirement is not later than 3 years after the effective date of NRC's final rule. Other program elements, as defined in Appendix A of State Agreements procedure SA-200, "Compatibility Categories and Health and Safety Identification for NRC Regulations and Other Program Elements," that have been designated as necessary for maintenance of an adequate and compatible program should be adopted and implemented by an Agreement State within 6 months following NRC designation.

###### a. Scope

The review team used the guidance in State Agreements procedure SA-107, "Reviewing the Non-Common Performance Indicator: Compatibility Requirements," and evaluated the State's performance with respect to the following performance indicator objectives. A complete list of regulation amendments may be found on the NRC Web site at the following address: [https://scp.nrc.gov/rss\\_regamendments.html](https://scp.nrc.gov/rss_regamendments.html).

- The Agreement State program does not create conflicts, duplications, gaps, or other conditions that jeopardize an orderly pattern in the regulation of radioactive materials under the Atomic Energy Act, as amended.
- Regulations adopted by the Agreement State for purposes of compatibility or health and safety were adopted no later than 3 years after the effective date of the NRC regulation.
- Other program elements, as defined in SA-200, that have been designated as necessary for maintenance of an adequate and compatible program have been adopted and implemented within 6 months of NRC designation.
- The State statutes authorize the State to establish a program for the regulation of agreement material and provide authority for the assumption of regulatory responsibility under the agreement.
- The State is authorized through its legal authority to license, inspect, and enforce

- legally binding requirements such as regulations and licenses.
- Impact of sunset requirements, if any, on the State's regulations.

b. Discussion

Utah became an Agreement State on April 1, 1984. Statutory authority is contained in the *Utah Code Annotated*, Title 19, Chapter 3, Radiation Control Act. The Division implements the Radiation Control Program.

When the NRC amends its regulations, the appropriate Section Manager initiates the rulemaking process. The State is required to adopt Federal rules by reference whenever possible. Draft rules are published in the State Bulletin for public comment.

Utah regulations are subject to sunset review. Each State Agency is required to review each of its administrative rules every 5 years. Agencies file a "5-Year Notice of Review and Statement of Continuation" to meet the requirement.

During the review period, Utah submitted nine legislation and regulation amendment packages to the NRC for a compatibility review. One of the amendments (RATS 2007-3) was overdue for State adoption at the time of submission. At the time of this review, one amendment (RATS 2011-2) was overdue for adoption, however, the final regulation package for RATS 2011-2 was mailed to the NRC during the review.

c. Evaluation

One of the proposed legislation packages, Utah Senate Bill 173 (SB 173), also discussed in Section 4.2 below, addresses the financial surety required for the LLRW disposal licensee. The package was sent to the NRC on February 25, 2015. The NRC provided three comments to Utah in a letter dated March 18, 2015. These comments identified program elements that could cause conflicts, duplications, or gaps in the orderly pattern of regulations on a nationwide basis. As of July 31, 2015, the comment letter from the NRC has not been answered.

The first comment identified a conflict between the proposed legislation that limited decommissioning funding and 10 CFR 61.62, *Funding for disposal site closure and stabilization*. The NRC regulation requires changes in the surety amount in accordance with predicted factors affecting the costs of stabilization. One of those factors is potential increases in the amount of disturbed land (61.62(d)). The legislation conflicts with this requirement, as it specifies, "...financial assurance for closing the areas within the disposal embankments shall be limited to the cost of closing areas where waste has been disposed."

The second comment relates to the annual evaluation of financial surety needs for the LLRW disposal site. The legislation went beyond the existing compatible Utah provisions on decommissioning funding and is in conflict with 10 CFR 61.62(c) that requires the licensee's surety mechanism will be annually reviewed to assure that sufficient funds are available for completion of the closure plan. The proposed language allows the licensee to update financial assurance requirements annually without a

detailed review by the Program to assure that sufficient funds are available for completion of a site closure plan.

The third comment identified that the legislation authorizes the Division Director to conduct inspections at any location where waste is generated, transported, stored, treated, or disposed of. Since some of those locations are outside Utah jurisdiction, the State provision needs to limit the inspection authority to exclude facilities under the regulatory jurisdiction of the NRC or other Agreement States.

In 2014, the Program issued a license amendment that required the licensee to increase the amount of the surety contingency funds available for unforeseen expenses, should the site need to be remediated. The licensee appealed the amendment and it is currently under review by the Program. The review team evaluated the Program's financial surety process and found it to be appropriate and in agreement with the NRC's process.

Subsequent to the license amendment, the State legislature drafted SB 173. It became effective in May 2015 and became law. The State's legislative process did not, however, take into account the surety determinations made by Program staff members during their routine licensing process.

The review team's analysis identified a number of "disturbed lands" at the disposal site which are not currently included in the licensee's financial surety determinations, since they are outside "where waste has been disposed", as defined in the State statute. These disturbed lands include: A railroad spur which handles train cars containing loose radioactively contaminated soil; settling ponds which may have radioactive contamination; buildings which would have to be characterized prior to, and after demolition; haul roads on the property, including roads between embankments (waste cells); and excavated land bordering the site where Program staff identified potential erosion and groundwater concerns.

The review team determined that not allowing the Program to analyze annual financial assurance modifications puts the burden of site remediation on the State of Utah, should the licensee terminate operations, without the benefit of assuring that adequate surety is available.

The review team concluded that the Utah statutes are in conflict with the scope of Federal statutes and regulations.

The review team recommends that the State modify financial surety statutes for the LLRW disposal site, such that the statutes ensure adequate financial surety and do not conflict with Federal requirements.

d. Results

Based on the IMPEP evaluation criteria in MD 5.6, the review team recommends that Utah's performance with respect to the indicator, Compatibility Requirements, be found unsatisfactory.

## 4.2 Low-Level Radioactive Waste (LLRW) Disposal Program

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

### a. Scope

The review team used the guidance in State Agreements procedure SA-109, "Reviewing the Non-Common Performance Indicator: Low-Level Radioactive Waste Disposal Program," and evaluated the State's performance with respect to the following performance indicator objectives:

#### Technical Staffing and Training

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

#### Status of Low-level Radioactive Waste Disposal Inspection Program

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

#### Technical Quality of Inspections

- Inspections of LLRW licensed activities focus on health, safety, and security.
- Inspection findings are well-founded and properly documented in reports.
- Management promptly reviews inspection results.

- Procedures are in place and used to help identify root causes and poor licensee performance.
- Inspections address previously identified open items and violations.
- Inspection findings lead to appropriate and prompt regulatory action.
- Supervisors conduct annual accompaniments of each LLRW inspector to assess performance and assure consistent application of inspection policies.
- For Agreement States, inspection guides are consistent with NRC guidance.
- An adequate supply of calibrated survey instruments is available to support the inspection program.

#### Technical Quality of Licensing Actions

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

#### Technical Quality of Incident and Allegation Activities

- LLRW incident response, investigation, and allegation procedures are in place and followed.
- Response actions are appropriate, well-coordinated, and timely.
- On-site responses are performed when incidents have potential health, safety or security significance.
- Appropriate follow-up actions are taken to ensure prompt compliance by licensees.
- Follow-up inspections are scheduled and completed, as necessary.
- Notifications are made to the NRC Headquarters Operations Center for incidents requiring a 24-hour or immediate notification to the Agreement State or NRC.
- Incidents are reported to the NMED.

- Allegations are investigated in a prompt, appropriate manner.
- Concerned individuals are notified of investigation conclusions.
- Concerned individuals' identities are protected, as allowed by law.

b. Discussion

Technical Staffing and Training

The Program has nine qualified LLRW staff members (7.5 FTE). One of the staff members is permanently assigned to the LLRW facility as an on-site inspector. In addition, three former members of the LLRW staff now have primary responsibilities within the U Mills/RAM Section, so their collective experience, process and program knowledge has been retained within the Program. The current recently hired LLRW Section Manager held an equivalent position in the Department's RCRA Section. He is currently the only staff member needing basic health physics training. Currently, there are no Program vacancies. During the review period, two of the staff members (1.4 FTE) left the LLRW program and two staff members (1.2 FTE) were hired. Utah has a training program equivalent to NRC training requirements in IMC 1248, Appendix E, "Training Requirements and Qualification Journal for Division of Waste Management Inspector and License Reviewer."

Status of LLRW Disposal Inspection Program

The Program completed 183 inspection modules during the review period. The review determined that Utah completed the LLRW inspections in accordance with the frequency described in IMC 2800. In addition, the Program's on-site inspector conducts transportation and waste receipt inspections at the LLRW disposal site. The team's review of inspections conducted and documented within the Program's "Generator Site Access" electronic database and interviews with inspection staff indicated a thorough and well documented inspection program.

Technical Quality of LLRW Inspections

On April 9–10, 2015, the review team accompanied one LLRW inspector to the LLRW disposal facility. The review team observed the inspector perform an inspection module involving the disposal of a containerized LLRW shipment, which included the following licensed activities: waste receipt and verification procedures, health physics practices, disposal operations, in-situ waste package remediation processes, facility security, and the verification of required facility postings.

The review team also observed the on-site inspector conducting a radiological survey and conveyance inspection of an incoming LLRW shipment.

The review team evaluated nine inspection files which included disposal site operations, hydro-geological, radiological, engineering, and environmental hazards.

### Technical Quality of LLRW Licensing Actions

The Program completed nine LLRW licensing actions during the review period. The review team examined all of the licensing actions which included four amendments, one of which is currently under appeal, one renewal, which is pending, and four financial assurance submittals.

The review team identified a compatibility concern with respect to the financial surety required for the LLRW disposal facility, as included in the amendment under appeal. The license amendment under appeal is Amendment 16 to the LLRW license, which was issued in May 2014.

The amendment modified the license to prevent waste placement in newly added areas until financial surety reflected the newly approved embankment (waste cell) expansion. A change in surety corresponds with 10 CFR 61.62(b), which requires changes in engineering plans and changes in amount of disturbed land to be reflected in surety dollar amounts. The amendment also increased the financial surety contingency dollar amount from 11 percent to 15 percent as a step toward an eventual contingency of 25 percent.

In June 2014, the licensee filed a Request for Agency Action appealing Amendment 16 for which the appeal process is still pending. In February 2015, the State legislature passed a bill, *Financial Assurance Determination Review Process* (SB 173), limiting the amount of financial surety needed for the LLRW licensee. The legislation became effective in May 2015.

The review team determined that the Program performed an adequate evaluation of the financial surety needed for the LLRW licensee. However, SB 173 superseded the license amendment and creates a conflict with Federal statutes. This issue is discussed in Section 4.1 of this report.

### Technical Quality of Incident and Allegation Activities

The review team evaluated three allegations involving the LLRW program during the review period, none of which were referred by the NRC. No incidents involving the LLRW program were identified during the review period. The Program has written procedures for the handling, review, analysis, response and follow-up of incidents and allegations. The allegations were documented, investigated, reviewed and closed out in a timely manner.

#### c. Evaluation

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

d. Results

Based on the IMPEP evaluation criteria in MD 5.6, the review team recommends that Utah's performance with respect to the indicator, Low-Level Radioactive Waste Disposal Program, be found satisfactory.

4.3 Uranium Recovery (UR) Program

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

a. Scope

The review team used the guidance in State Agreements procedure SA-110, "Reviewing the Non-Common Performance Indicator: Uranium Recovery Program," and evaluated the State's performance with respect to the following performance indicator objectives:

Technical Staffing and Training

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

Status of the Uranium Recovery Inspection Program

- UR facilities are inspected at frequencies prescribed in IMC 2641, "In-Situ Leach Facilities Inspection Program" or IMC 2801, "Uranium Mill 11e. (2) Byproduct Material Disposal Site and Facility Inspection Program", as applicable.
- Statistical data on the status of the inspection program are maintained and can be retrieved.
- Deviations from inspection schedules are coordinated between UR technical staff and management.
- There is a plan to reschedule any missed or deferred inspections or a basis has been established for not rescheduling any missed inspections.
- Inspection findings are communicated to licensees in a timely manner.

### Technical Quality of Inspections

- Inspections of UR licensed activities focus on health, safety, and security.
- Inspection findings are well-founded and properly documented in reports.
- Management promptly reviews inspection results.
- Procedures are in place and used to help identify root causes and poor licensee performance.
- Inspections address previously identified open items and violations.
- Inspection findings lead to appropriate and prompt regulatory action.
- Supervisors conduct annual accompaniments of each UR inspector to assess performance and assure consistent application of inspection policies.
- For Agreement States, inspection guides are consistent with NRC guidance.
- An adequate supply of calibrated survey instruments is available to support the inspection program.

### Technical Quality of Licensing Actions

- Licensing action reviews are thorough, complete, consistent, and of acceptable technical quality with health, safety, and security issues properly addressed.
- Applicable UR guidance documents are available to reviewers and are followed (e.g., pre-licensing guidance, regulatory guides, etc.).
- Essential elements of license applications have been submitted and meet current NRC or Agreement State regulatory guidance (e.g., financial assurance, increased controls, etc.).
- UR license reviewers, if applicable, have the proper signature authority for the cases they review independently.
- License conditions are stated clearly and are inspectable.
- Deficiency letters clearly state regulatory positions and are used at the proper time.
- Reviews of renewal applications demonstrate a thorough analysis of a licensee's inspection and enforcement history.

### Technical Quality of Incident and Allegation Activities

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

b. Discussion

At the time of the IMPEP review, Utah's UR program consists of one active conventional mill license, one conventional mill license currently under decommissioning and undergoing groundwater assessment, and one conventional mill licensee in "standby" status. The duties and responsibilities for Utah's UR program are assigned to staff within the U Mills/RAM Section.

Technical Staffing and Training

The UR program has six qualified staff members. During the review period, the UR staff was reorganized. As of July 1, 2015, three members from the former Licensing Section and three members from the former Compliance Section were assigned to the newly formed U Mills/RAM Section. Approximately 5.9 FTE were tasked to perform UR duties under the prior organization and 6.0 FTE are tasked to perform UR duties under the new organization. The U Mills staff is currently balanced with two groundwater hydrologists, two health physicists, and two professional engineers. Currently, there are no vacancies.

During the review period, one manager left the U Mills program and four staff members were hired in the Licensing and Compliance Sections of the LLRW and U Mills programs, as the programs were formally organized. Two of those hired during the review period have been assigned to the U Mills/RAM Section and two have been assigned to the LLRW Section under the new organizational structure. The Program has a training program equivalent to NRC training requirements listed in IMC 1248. The review team found the U Mills staff and management to be well educated, well trained, and experienced.

Status of the Uranium Recovery Inspection Program

The Program performed 71 field inspections during the review period, which included health physics, engineering, and groundwater inspection modules. The review team determined that the Program completed the UR inspections in accordance with the frequency in IMC 2801, "Uranium Mill and 11e. (2) Byproduct Material Disposal Site And Facility Inspection Program."

Technical Quality of Inspections

On March 24–25, 2015, the review team accompanied two Utah inspectors at the White Mesa uranium milling facility. Respiratory protection and storm water inspection modules were observed.

The review team evaluated 28 inspection files which included health physics, groundwater, engineering, and storm water management inspection modules.

### Technical Quality of Licensing Actions

For the three conventional mill sites, the licensing actions during the review period consisted of license renewals, annual financial assurance updates, groundwater corrective action plan reviews, transfer of control reviews, compliance monitoring, and post-decommissioning monitoring for groundwater compliance. The State does not have any in-situ uranium recovery facilities.

The Program completed six license amendments during the review period and multiple licensing reviews. The review team evaluated seven complex UR licensing reviews which included an alternate feed amendment request, a nitrate plume ground water corrective action plan, a chloroform plume groundwater corrective action plan, a request to reduce radon flux monitoring, a transfer of control application, and two license renewal requests. The team also evaluated two surety actions that the State categorizes under its Engineering Inspection Modules and 10 groundwater report reviews that the State categorizes under its Inspection Modules.

### Technical Quality of Incident and Allegation Activities

During the review period there were no uranium recovery incidents reported to the Program. The review team evaluated one allegation received by Utah's UR program. Utah has written procedures for the handling, review, analysis, response and follow-up of incidents and allegations.

#### c. Evaluation

The review team determined that, during the review period, Utah met the performance indicator objectives listed in Section 4.3.a.

#### d. Results

Based on the IMPEP evaluation criteria in MD 5.6, the review team recommends that Utah's performance with respect to the indicator, Uranium Recovery Program, be found satisfactory.

## 5.0 SUMMARY

As noted in Sections 3.0 and 4.0 above, Utah's performance was found satisfactory for six of the eight performance indicators reviewed. One indicator, Technical Quality of Incident and Allegation Activities, was found satisfactory, but needs improvement. One indicator, Compatibility Requirements, was found to be unsatisfactory. The review team made one recommendation regarding program performance by Utah and determined that the recommendations from the 2011 IMPEP review should be closed.

Accordingly, the review team recommends that the Utah Agreement State Program be found adequate, to protect public health and safety, but needs improvement, and not compatible with the NRC's program. The review team recommends that the NRC initiate

a period of heightened oversight for Utah. The review team further recommends that a periodic meeting be held within one year and that a follow-up IMPEP review take place approximately one year following the periodic meeting.

Below is the review team's recommendation, as mentioned in the report, for evaluation and implementation by Utah:

The review team recommends that the State modify financial surety statutes for the LLRW disposal site, such that the statutes ensure adequate financial surety and do not conflict with Federal requirements. (Section 4.1)

## LIST OF APPENDICES

Appendix A	IMPEP Review Team Members
Appendix B	Inspection Accompaniments

## APPENDIX A

### IMPEP REVIEW TEAM MEMBERS

<b>Name</b>	<b>Area of Responsibility</b>
Jim Lynch, Region III	Team Leader Compatibility Requirements Inspector Accompaniments
Binesh Tharakan, Region IV	Technical Staffing and Training Technical Quality of Incident and Allegation Activities
Shawn Seeley, Region I	Status of Materials Inspection Program Technical Quality of Inspections
Charles Coleman, Virginia	Technical Quality of Licensing Actions
Mark Yeager, South Carolina	Low-Level Radioactive Waste Disposal Program Inspector Accompaniments
Linda Gersey, Region IV	Uranium Recovery Program Inspector Accompaniments
Ron Linton, NMSS	Uranium Recovery Program Inspector Accompaniments

## APPENDIX B

### INSPECTION ACCOMPANIMENTS

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

Accompaniment No.: 1	License No.: 1900479
License Type: Uranium Mill	Priority: 1
Inspection Date: 3/24-25/15	Inspectors: KC, TR

Accompaniment No.: 2	License No.: 2300249
License Type: Waste Disposal	Priority: 1
Inspection Date: 4/9-10/15	Inspector: BI

Accompaniment No.: 3	License No.: 1800550
License Type: HDR	Priority: 2
Inspection Date: 6/2/15	Inspector: SW

Accompaniment No.: 4	License No.: 1800408
License Type: Irradiator	Priority: 2
Inspection Date: 6/3/15	Inspector: PG

Accompaniment No.: 5	License No.: 0600519
License Type: Industrial Radiography	Priority: 1
Inspection Date: 6/4/15	Inspector: MG

Accompaniment No.: 6	License No.: 0300159
License Type: Lost Source Incident	Priority: GL
Inspection Date: 6/3/15	Inspector: PG