



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION IV
1600 E. LAMAR BLVD.
ARLINGTON, TX 76011-4511

August 16, 2016

Jennifer Opila, Manager
Radiation Control Program
Hazardous Material & Waste
Management Division
Department of Public
Health & Environment
HMWMD-RAD-B2
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Dear Ms. Opila:

A periodic meeting with you and your staff was held on June 9, 2016. The purpose of this meeting was to review and discuss the status of the Colorado Agreement State Program. The U.S. Nuclear Regulatory Commission (NRC) was represented by Linda Howell, Deputy Director, Division of Nuclear Materials Safety (DNMS), Stephen Poy from the Office of Nuclear Materials Safety and Safeguards (NMSS) and me.

I have completed and enclosed a general meeting summary, including any specific actions resulting from the discussions. A Management Review Board (MRB) meeting to discuss the outcome of the periodic meeting has been scheduled for August 30, 2016 at 1:00 p.m. (ET). Call in information for the MRB will be provided in a separate transmission.

If you feel that our conclusions do not accurately summarize the meeting discussion, or have any additional remarks about the meeting in general, please contact me at (817) 200-1143 or via e-mail at Randy.Erickson@nrc.gov to discuss your concerns.

Sincerely,

/RA/

Randy R. Erickson
State Agreements Officer
Division of Nuclear Materials Safety

Enclosure:
Periodic Meeting Summary

Jennifer Opila, Manager
 Radiation Control Program
 Hazardous Material & Waste
 Management Division
 Colorado Department of Public
 Health & Environment
 HMWMD-RAD-B2
 4300 Cherry Creek Drive South
 Denver, Colorado 80246-1530

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 State Agreements Officer
 Division of Nuclear Materials Safety

Enclosure:
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| OFFICE | RIV:SAO | | | | |
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| DATE | 08/16/16 | | | | |

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AGREEMENT STATE PERIODIC MEETING SUMMARY FOR
COLORADO DEPARTMENT OF PUBLIC HEALTH
AND ENVIRONMENT
DATE OF MEETING: JUNE 9, 2016

| U.S. Nuclear Regulatory Commission (NRC) Attendees | Colorado Department of Public Health and Environment (CDPHE) Attendees |
|--|---|
| Randy Erickson, State Agreements Officer, Region IV | Jennifer Opila, Manager Radiation Control Program |
| Linda Howell, Deputy Director, Division of Nuclear Materials Safety, Region IV | James Grice III, Unit Leader Radioactive Materials Unit |
| Stephen Poy, Office of Nuclear Materials Safety and Safeguards | |

DISCUSSION:

The Colorado Agreement State Program is administered by the Radiation Control Program (the Program). The Program is part of the Hazardous Materials & Waste Management Division, within the Department of Public Health and Environment.

The previous IMPEP review (ML14192A007) was conducted the week of April 7-11, 2014. At the conclusion of the review the team found Colorado's performance to be satisfactory for seven of the eight performance indicators. The Compatibility Requirements indicator was found to be unsatisfactory, based on legislative changes made to Colorado statutes. The review team did not make any recommendations regarding program performance by the State. A Good Practice was noted regarding Colorado's implementation of the NRC's Web Based Licensing program.

Accordingly, the review team recommended, and the Management Review Board (MRB) agreed, that the Program was adequate to protect public health and safety, but that the Program be found not compatible with NRC's program, due to significant changes made to State statutes. The team recommended that the next full IMPEP review take place in four years and have an early periodic meeting in one year in order to monitor the State's progress in resolving the statutory differences; however, the MRB directed that an information meeting be held between the Regional State Agreements Officer and the State in 1 year to focus on this area, and that a periodic meeting be held in two years.

Program Challenges

The Program reported that staff turnover and staff training has been a challenge. Since the 2014 IMPEP review, the Program Manager and four other staff have left the Program, some retired and others left for personal reasons. This has resulted in a domino effect as existing staff have transitioned into new senior level leadership roles, and new staff have been hired to replace them.

The Program also noted that their uranium program has presented them with challenges. Intervenors have continued to challenge the Program through the filing of lawsuits that the Department must address.

The Program also reported that the dual regulation of the Uravan and Cotter sites between Colorado and the Environmental Protection Agency (EPA) has been difficult. They noted that because EPA is not acknowledging the NRC/EPA Memorandum of Understanding and is

requiring the Superfund process to be completed at these sites, decommissioning and license transfer has been hugely delayed.

Feedback on NRC's Program

While the Program expressed their appreciation for the availability of NRC training, they also expressed concern regarding their inability to retrain staff for certain courses that have been modified over time to the point that they are no longer the same course as was initially offered. Specifically, the Materials Control & Security Systems & Principles (S-201) course has evolved from a Safeguards oriented course, to an Increased Controls (IC) course, and now to a Part 37 based course. The Program believes that the course is no longer what some of their more tenured staff originally attended. The S-201 focus has changed to a Part 37 focused course and that NRC's GAP training, which is designed to transition staff from the ICs to Part 37, does not really fill all the gaps. They believe that for select staff, sending them back to the most recent version of the security course would be a great benefit to those individuals and to the Program. The Program would like for NRC to reconsider their position of across-the-board denial of retraining of Agreement State staff.

The Program expressed a concern, in the wake of GAO's licensing audit report entitled, "Nuclear Security: NRC Has Enhanced the Controls of Dangerous Radioactive Materials, but Vulnerabilities Remain", that there may be a better way to provide a basis for confidence that radioactive materials will be used as specified on the license. The Program believes that while the current guidance provides a certain level of confidence that the applicant intends to use materials for appropriate and authorized activities, they further believe that at some point it is likely that a more sophisticated individual or entity will be able to meet the criteria that is currently used to assess prospective licensees. The most recent GAO audit has exposed vulnerabilities in the current process. This concerns the Program because while licensing staff use current guidance to ensure individuals are who they say they are, and to the best of their ability provide a basis for confidence that radioactive materials will be used as specified on the license, they are not experts in the assessment of the intentions of individuals or entities seeking out a radioactive materials license. Program staff do not have access to the resources or tools that a law enforcement agency does, they do not run background checks, have access to criminal histories, credit reports, employment histories, etc., nor are they trained in criminal psychology or criminal justice. Because of this, the Program is recommending that NRC consider having a central law enforcement agency develop a program that would make these evaluations of entities or individuals, and provide to them a pre-application type certification. This certification could then be presented to the NRC or Agreement State materials program as part of the radioactive materials application process in order to provide that basis for confidence that the applicant will use the materials as specified in the license.

The Program noted that its working relationship with Region IV is excellent, but was concerned about the constant management changes in the Agreement State program within NMSS and how it affects relationships between NRC and the Agreement States. They are concerned that it is difficult at best to develop a truly beneficial working relationship that builds trust when NRC managers are more or less in the program on a rotational basis only. They believe it would benefit the States if NMSS managers were individuals who desired to be in the program instead of it being simply a stepping stone on their career path.

Program Reorganizations

There have been no reorganizations since the 2014 IMPEP review.

Program Budget/Funding

The Program reported that their budget is stable. A fee increase approved in 2014 became effective in 2015 and increased their budget by approximately \$600K. While part of this increase has been due to salary savings which will go away, the Program is still left with a sizeable increase in revenue. This revenue increase will allow them to move forward on several projects including the expansion of the General License program. Their next fee review will be in 2017.

Technical Staffing and Training (2014 IMPEP: Satisfactory)

The Radioactive Materials Unit is responsible for radioactive materials licensing, inspection, and emergency response activities. The Unit is composed of the Unit Leader, one inspection lead, one licensing lead, six health physicists, one uranium inspector/license reviewer and one general license coordinator. The health physicists perform licensing and inspection activities, as well as respond to incidents and allegations.

The Program reported that since the 2014 IMPEP review, the Program Manager and four other staff left the Program. Some of the vacancies were filled with existing staff who transitioned into new senior leadership positions and other staff were hired to fill entry level positions. At the time of the meeting, the Program was fully staffed.

The Program has a documented training plan consistent with NRC's Inspection Manual Chapter (IMC) 1248, "Qualification Programs for Federal and State Materials and Environmental Management Programs." They recently finalized modifications to their training and qualification program for both licensing and inspection. Part of those changes included changes to more formalize the licensing training and qualification program. A discussion was held to clarify the 24 hour continuing education requirement and the various ways that this requirement can be met.

Status of Materials Inspection Program (2014 IMPEP: Satisfactory)

Technical Quality of Inspections (2014 IMPEP: Satisfactory)

The Program conducted 122 Priority 1, 2, and 3 inspections since the 2014 IMPEP review. Two were conducted overdue. In addition, the Program performed 12 initial inspections over the same period. None were performed overdue. They added that they are meeting the 30 day goal of forwarding inspection findings to licensees following an inspection.

The Program reported that they also performed more than 20 percent of all reciprocity notifications in each year since the previous review. In 2014 they performed inspections of 40 percent of all candidate licensees and in 2015 they performed inspections of 39 percent of all candidate licensees.

The Program has a policy of performing annual supervisor accompaniments of all staff who perform inspections. The Program reported that in each year since the 2014 IMPEP review, supervisors have accompanied each inspector who performs inspections.

Technical Quality of Licensing Actions (2014 IMPEP: Satisfactory)

The Program currently has 326 specific licensees which is down from 332 at the time of the 2014 IMPEP review. The Materials Section completed a total of 597 licensing actions since the

last review. License renewals occur at 5 year intervals. The Program currently has 27 licenses under timely renewal.

The Program instituted the use of the NRC's Web Based Licensing (WBL) system and converted to a paperless system for document management in March 2014. They use WBL as their primary database. The Program reported that the NRC help desk is supportive, but often takes too long to get back to them with helpful responses. Colorado was the first state to fully embrace the live WBL system.

At the time of the 2014 IMPEP review, the review team found that Colorado consistently used the revised pre-licensing guidance attached to RCPD-08-020. The Program performs pre-licensing site visits of all new applicants. The Program checks to ensure that applicants are registered with the Secretary of State's Office and in good standing prior to granting approval of any license. In addition, the Program uses various on-line search mechanisms and interagency communications to verify the identity of individuals. If a pre-licensing site visit is necessary, each applicant is subject to an on-site evaluation of its radiation safety and security program prior to receipt of the initial license. At the time of the 2016 Periodic Meeting that process had not changed. The Program continued to implement pre-licensing guidance in accordance with established guidance.

Technical Quality of Incidents and Allegations (2014 IMPEP: Satisfactory)

When notified of an incident or an allegation, Program managers and staff discuss the initial response and the need for an on-site investigation. The Program revised their process for responding to events prior to the 2014 IMPEP review and made it clear that on-site investigations should be the default response unless there is a compelling reason to not do so. If the incident meets one of the reporting thresholds identified in SA-300, the Program notifies the NRC Headquarters Operation Officer (HOO) and opens a case in NMED. Regardless of whether or not an event meets HOO reporting requirements, all incidents are reported to the NMED database.

At the time of the meeting the incident staff had reported 43 events to the NMED database since the 2014 IMPEP review. At the time of the meeting, 7 events were still open.

The Program received three allegations since the 2014 IMPEP review. One allegation was reported directly to the Program and two allegations were received from NRC. The allegations have been investigated and closed. The Program strives to protect allegor's identities; however, the Program has been told by its attorney that allegor's identities cannot be protected in the case of a Colorado Open Records Act request.

Regulations and Legislative Changes (2014 IMPEP: Unsatisfactory)

The Department is authorized as the State's radiation control agency under the Colorado Revised Statutes Title 25, Article 11, known as the Radiation Control Act.

At the time of the 2014 IMPEP review, two amendments, RATS IDs 2004-1 and 2009-1 were overdue for adoption.

At the time of the 2016 Periodic Meeting, six amendments, RATS IDs 2004-1, 2009-1, 2012-2, 2012-3, 2012-4 and 2013-1 were final with outstanding comments.

Subsequent to the Periodic Meeting, on July 5 and August 3, 2016 respectively, the Program submitted four final amendments 2004-1, 2012-2, 2012-3 and 2012-4 to resolve outstanding comments. RATS IDs 2009-1 and 2013-1 are currently final with outstanding comments yet to be resolved.

At the time of the 2014 IMPEP review, it was noted that due to changes to the Radiation Control Act initiated by external stakeholder groups, that seven items in their enabling legislation were now identified as no longer legislatively compatible. The Program was able to amend their legislation and to bring these incompatibilities to the Radiation Control Act back into compatibility.

Sealed Source and Device Evaluation Program (2014 IMPEP: Satisfactory)

At the time of the 2014 IMPEP review the Program had eight staff who were qualified to perform SS&D reviews. Four left the Program since the review and four SSD qualified staff remain. Since the 2014 IMPEP review they have not had any actions in the SSD Program. No incidents related to SSD defects involving sources or devices registered by the Program were reported since the 2014 IMPEP review.

Uranium Recovery Technical Staffing and Training (2014 IMPEP Rating: Satisfactory)

At the time of the review, the uranium recovery program had two technical staff members (approximately 1.5 FTE total) who perform the vast majority of the project management, inspections, and licensing action reviews for Colorado's uranium recovery program.

The uranium recovery program also has access to individuals from within the Program and others in the Hazardous Materials and Waste Management Division, and the Department, for technical support.

One individual resigned from the uranium recovery program during the review period. That individual was replaced and there are no vacancies in the uranium recovery program.

Uranium Recovery Status of the Inspection Program (2014 IMPEP Rating: Satisfactory)

The Program performed 21 inspections (including one initial inspection) during the review period at licensed uranium mill/mine sites representing a range of activities in various stages of license operations. In addition, the Program conducted groundwater sampling and reviewed groundwater and progress reports submitted by licensees.

The review team identified that two uranium recovery inspections were conducted overdue, by five and six months, respectively. Three instances of late reports to licensees were also noted, sent from 56 to 129 days after the inspection.

Although not all inspections were completed in a timely manner or had inspection results conveyed to the licensee in a timely manner, the review team determined that the Program's inspection program is performance based and adequate with no health and safety implications noted by the team.

Uranium Recovery Technical Quality of Inspections (2014 IMPEP Rating: Satisfactory)

The Program's records indicated that supervisor accompaniments of the 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 accompaniments were not performed in 2010 or 2011, and that Program managers identified this failure and have conducted staff accompaniments since.

Uranium Recovery Technical Quality of Licensing (2014 IMPEP Rating: Satisfactory)

The uranium recovery program reported over 250 licensing actions completed during the review period.

Uranium Recovery Technical Quality of Incidents and Allegations (2014 IMPEP Rating: Satisfactory)

The uranium recovery program did not report any incidents; nor did the review team identify any during casework reviews or inspector accompaniments. The NRC referred two allegations to the State during the review period. Based on Colorado's interactions with the NRC regarding the allegations, the review team concluded that the Program took prompt and appropriate actions in response to the concerns raised. The review team found that the Program has appropriate procedures in place for handling incidents and allegations.

Updates on the following sites:

There were no operational facilities in the State at the time of the 2014 review. All of the facilities were in standby, storage-only or decommissioning status.

Uranium recovery sites:

- **Energy Fuels Resources Piñon Ridge Mill**

2014 IMPEP Review: During the 2014 review period, the uranium recovery program issued a license for the Energy Fuels Resources Piñon Ridge conventional uranium mill.

2016 Periodic Meeting: The license is still in litigation and "held in abeyance". Construction has not begun.

- **Cotter Corporation Cañon City Mill**

2014 IMPEP Review: The Cotter Corporation Cañon City Mill is in closure status. The Program has been instructed by the Colorado Governor's office not to address additional decommissioning activities outside of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process.

2016 Periodic Meeting: All mill facilities have been torn down and the Program is working with EPA on implementing the Superfund process. This has led to delay. No remediation has taken place since 2012 and the Program is anticipating that no remedial investigation work will begin until 2018.

- **Umetco Uravan Mill**

2014 IMPEP Review: Decommissioning at the Umetco Uravan Mill has been completed and is awaiting finalization of the Completion Report Review by the NRC and the Department of Energy, and the NRC decisions on transfer boundaries for license termination.

2016 Periodic Meeting: The Umetco Uravan Mill remediation is complete. The Program is working with EPA to implement the Superfund process. EPA may have an issue with the ACLs. The Program is working on CRR, which they hope to have a draft complete at the end of 2016.

- **Hecla Durita Mill**

2014 IMPEP Review: The Hecla Durita Mill has been decommissioned and is awaiting the NRC review and decision.

2016 Periodic Meeting: The Hecla Durita Mill CRR review process should be nearing completion. The NRC has a path forward and they think they can approve the CRR just a matter of getting people to do the work.

- **Sweeney Mill**

2014 IMPEP Review: The Sweeney Mill is closed and stable with no funding available.

2016 Periodic Meeting: No change in site status. The Program is working on enforcement action to determine a path forward for clean up.

- **George E. Davis Mill**

2014 IMPEP Review: The George E. Davis Mill was not addressed in the 2014 IMPEP report.

2016 Periodic Meeting: Colorado had nothing to report on the George E. Davis Mill.

Uranium decay chain contamination sites:

- **Cotter Corporation Schwartzwald Mine**

2014 IMPEP Review: The Cotter Corporation Schwartzwald Mine is a former uranium mine site and is being remediated by removing uranium from groundwater.

2016 Periodic Meeting: Colorado had nothing to report on the Cotter Schwartzwald Mine.

- **Colorado School of Mines Creekside**

2014 IMPEP Review: The license for the Colorado School of Mines Research Institute Creekside and a second Cotter Corporation Schwartzwalder Mine license were terminated.

2016 Periodic Meeting: Colorado School of Mines Creekside is terminated and under covenant.

- **Colorado School of Mines Research Institute Table Mountain Research Center**

2014 IMPEP Review: The Colorado School of Mines Research Institute Table Mountain Research Center is in decommissioning status and stable with no funding available.

2016 Periodic Meeting: Colorado School of Mines Research Institute Table Mountain Research Center is in the license termination process. They are dealing with the nature and extent of contamination.

Information Exchange

Current State Initiatives

Program managers presented several initiatives ongoing within the Department. These included:

- Ablation technology at Black Range Minerals stakeholder process ongoing to determine if the process needs to be licensed.
- Nonmilitary radium sites.

Current NRC Initiatives

NRC managers presented several initiatives ongoing at NRC. These included:

- Project AIM 2020
- Rebaselining
- Management Changes
- Staff Consolidations
- Leaving of Commissioner Ostendorf
- Agreement State training
- Changing licensing renewals from 10 to 15 years
- Proposed Rulemaking
- Revising Inspection Manual Chapter (IMC) 2800

CONCLUSIONS:

NRC staff recommends that the next IMPEP review be conducted as scheduled in May 2018.