



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-4005

March 28, 2008

Gary W. Baughman, P.E., Director  
Hazardous Materials and Waste  
Management Division  
Department of Public Health  
and Environment  
4300 Cherry Creek Drive South  
Denver, Colorado 80246-1530

Dear Mr. Baughman:

A periodic meeting with your State was held on March 4, 2008. The purpose of this meeting was to review and discuss the status of the Colorado Agreement State Program. The NRC was represented by Mr. William Rautzen from NRC's Office of Federal and State Materials and Environmental Management Programs, and me. Topics and issues of importance discussed at the meeting included a detailed discussion of recommendations from the 2006 IMPEP review and the status of your materials and uranium recovery programs.

I have completed and enclosed a general meeting summary, including any specific actions resulting from the discussions.

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) 860-8143 or e-mail [RRE@nrc.gov](mailto:RRE@nrc.gov) to discuss your concerns.

Sincerely,

*/RA/*

Randy Erickson

Enclosure:  
Periodic Meeting Summary for Colorado

(cc listing on next page)

Colorado Department of Health

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cc w/enclosure:

Mr. Joseph S. Vranka, P.E., Manager  
Radiation Control Program  
Hazardous Materials and Waste  
Management Division  
Department of Public Health  
and Environment  
4300 Cherry Creek Drive South  
Denver, Colorado 80246-1530

Mr. Steve Tarlton, Unit Leader  
Radiation Management Unit  
Hazardous Materials and Waste  
Management Division  
Department of Public Health  
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4300 Cherry Creek Drive South  
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AGREEMENT STATE PERIODIC MEETING SUMMARY FOR COLORADO

DATE OF MEETING: MARCH 4, 2008

<b>NRC Attendees</b>	<b>Colorado Attendees</b>
Randy Erickson, RSAO	Gary W. Baughman, P.E., Director
William Rautzen, FSME	Joseph S. Vranka, P.E., Manager
	Steve Tarlton, Unit Leader
	Ed Stroud, Health Physicist
	James Jarvis, Health Physicist
	Jennifer Opila, Health Physicist

**DISCUSSION:**

The Colorado Agreement State program (the Program) is administered by the Radiation Management Program consisting of two units, the Radioactive Materials Unit and the X-Ray / Mammography Unit. The Program, which administers the licensing and inspection portion of the Agreement State Program, is under the direct supervision of the Unit Leader. The Program is a part of the Division, which is one of several environmental programs located within the Department of Public Health and Environment. At the time of the review, the Colorado program regulated approximately 350 specific licenses.

The previous IMPEP review was conducted the week of March 13-17, 2006. At the conclusion of the review, the team recommended that Colorado's performance for all performance indicators be found satisfactory. The review team made four recommendations regarding the performance of the Program. Additionally, the review team recommended, and on June 13, 2006, the Management Review Board (MRB) agreed, that the Colorado Agreement State Program was adequate to protect public health and safety and compatible with NRC's program.

The proposed status for each of the recommendations from the 2006 Colorado final IMPEP report is summarized below.

- The review team recommends the Program conduct reciprocity inspections in accordance with the criteria outlined in NRC MC 1220.

Previous Status: For the period 2002 - 2005, the Program conducted 10 inspections of the 72 candidate reciprocity licensees (13 percent) who worked in the State during this period. The review team determined that the Program did not meet NRC's criteria of inspecting 20 percent of candidate licensees, as prescribed in NRC MC 1220, operating under reciprocity for the period 2002 - 2005.

Current Status: The Program reported that for the remainder of 2006, they did not meet NRC's criteria of inspecting 20 percent of candidate licensees; they again fell short of the criteria in 2007 but did get closer to the goal; however, they anticipate meeting the criteria for 2008. Program managers stated that during the previous two years three out

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of nine staff members retired or otherwise left the Program. Of the six remaining staff members, not all were capable of performing reciprocity inspections and newly hired staff is still training and in most cases they are not qualified to perform reciprocity inspections. This has placed a hardship on the Program and made it difficult to inspect 20 percent of candidate licensees. The Program noted Colorado winter weather as another factor making it difficult to meet the reciprocity inspection criteria. For months during the winter, snow and road conditions often make it difficult if not impossible at times to reach more remote areas of the state where oil and gas exploration is ongoing. These areas tend to be where much of the reciprocity work takes place. However, the Program indicated that the staff newly hired staff becomes more experienced, they should have little difficulty meeting the reciprocity inspection criteria.  
This recommendation remains open and should be evaluated at the next IMPEP review.

- The review team recommends that the Program develop and implement a process for issuance of provisional licenses in a timely manner as well as timely termination of these licenses.

Previous Status: The review team noted documentation shortfalls in the provisional licensing process. Issuance of a provisional license mandates that a facility provide a written plan for identification, characterization, and disposal of radioactive material within 30 days from the issuance of a provisional license; and store radioactive material in a manner that will preclude access and use by unauthorized personnel. The review team noted that in 2004 and 2005 there were multiple instances pertaining to approximately four facilities where provisional licenses should have been issued but were not.

Current Status: In response to this recommendation the Program established an emergency response duty officer position that is rotated among the staff. The assigned staff member carries a cell phone that can be reached 24 hours per day. In addition, provisional license training was conducted in the summer of 2007 to ensure the staff fully understood how provisional licenses should be handled. In summary, when the Program receives a call where a radioactive source has been located and the owner is unknown, the staff member is responsible for evaluation of the circumstances and should determine if issuance of a provisional license is warranted. If that determination is made, a provisional license is then issued to the individual or company who currently possesses the material. The Unit Leader is then notified. The Program follows-up with the individual to ensure that the source is handled and disposed of safely. The provisional license is then terminated. Emergency response procedures are currently being developed which will include a section on how handle provisional licenses.  
This recommendation should be verified and closed at the next IMPEP review.

- The review team recommends that the Program add a section to the two-page reviewer checklist to facilitate the appropriate, thorough and consistent review of license decommissioning and termination items.

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Previous Status: The review team found that actions involving terminating licenses had some documentation shortfalls. It was noted that in the three termination actions reviewed, two cases should have included more thorough documentation.

Current Status: The Program reported that they have not yet developed procedures or added a section to their licensing reviewer checklist to ensure the thorough and consistent review of license decommissioning and termination items. While the Program has not yet documented the process, they have developed a practice to ensure that all terminations are properly reviewed to ensure thorough processing. One of the senior Health Physicists has been assigned the task of reviewing all terminations to ensure they remain consistent and cover all the necessary items. The Program plans to revise the checklist to add this process. This recommendation remains open and should be evaluated at the next IMPEP review.

- The review team recommends that the Program transfer six sealed source and device certificates to inactive status, because their original manufacturers are no longer in business.

Previous Status: The review team noted from the IMPEP questionnaire that there are six licensees that have terminated licenses, but still have active SS&D certificates. The guidance in Section 13.4 of NUREG-1556, Vol. 3, directs the regulatory authority to transfer a registration certificate to inactive status if it is known that the registration certificate holder is out of business.

Current Status: In response to this recommendation the Program performed a thorough review of all SS&D certificates issued by Colorado. They confirmed the six active certificates associated with licenses that had been terminated. They also identified two additional certificates that should have been moved to inactive status. The Program is currently working to move these additional certificates to inactive status. Following the 2006 review, the Program established a fee structure for SS&D certificates. This has prompted licensees to self identify SS&D certificates that are out of date and to terminate them. This recommendation remains open and should be evaluated at the next IMPEP review.

Other topics covered at the meeting included.

Program Strengths: The Colorado Program is a very busy program that has experienced staff losses since the 2006 IMPEP review. Program management has worked to ensure that a balance is achieved across the program. Emphasis is placed on higher risk activities and the staff is focusing on them in an effort to maintain health and safety. Program management has managed available staff well, ensuring that incident response and emergency response activities are not neglected. While the Program has lost several staff members, they have been successful in hiring highly experienced and motivated individuals from industry bolstering the staff's already broad knowledge base.

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Staff members work well together and provide a high level of customer service to their licensees. They work together to make team decisions concerning technical matters and have regular staff meetings.

Program Weaknesses: The Program identified areas where weaknesses have existed and many involve a long term lack of change within the Program. The Unit Leader noted that some of the senior staff who recently left the Program had operated the licensing and inspection programs for many years and saw no reason to change what they believed was already working. Those vacancies provided opportunities for junior staff with fresh ideas to take over those positions and identify areas for improvement. Staff is now working to create or improve existing procedures, restructuring parts of the licensing and inspection programs, improving documentation, and have created new licensing templates. A lead position has been created for the inspection program and one will soon be created for the licensing program. A duty officer assignment has been created and additional emergency response procedures are being created. The Program also noted that the newer staff places a larger burden on the more experienced staff members, but as their experience levels increase the workload is expected to level out.

Staffing and training:

The Program has a total of 11 full-time staff members within the Radioactive Materials Unit, of which nine are dedicated to the radioactive materials licensing, inspection and compliance programs; sealed source and device programs, and the uranium recovery program. The remaining two are managers. Currently the Program has no vacant technical positions, but one individual plans to retire soon.

Program reorganizations:

The Program has not experienced any program reorganizations since the previous IMPEP review and none are expected; however, they now have a new Governor in place. The new Governor appointed a new Executive Director. The Program also has a new Director of Environmental Programs.

Changes in Program budget/funding.

The Program has not experienced problems with budgeting or funding. The Program is fee funded, has a dedicated fund, and is supported by regular fee increases that are approved by the Colorado Board of Health. The most recent fee increase was 13 percent and occurred in 2007. The Program is constrained by a legislative cap which restricts the Program from carrying over more than 16 percent of their budget from one year to the next.

Materials Inspection Program:

The Program reported that they currently have no overdue inspections. Routine inspections are generally performed by the due date, but because of staff losses,

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occasionally that goal is not met. Initial inspections are performed within 12 months of issuance. They have experienced difficulty in performing reciprocity inspections as noted above. They are currently working to meet the goal of performing inspections on at least 20 percent of candidate reciprocity licensees. The Program initially identified 30 licensees who were required to implement Increased Controls. The Program reported that all Increased Controls inspections were performed within the first year.

Regulations and Legislative changes:

The Program's rules and regulations are mostly up to date. They will be addressing comments from previous regulation reviews, and are working to address regulations that are due for adoption in the near future. The Program's fingerprinting license condition along with a regulation package addressing comments from a previous regulation review, are currently under review by NRC staff.

Event reporting, including follow-up and closure information in NMED.

The Program reported that all NMED information is up to date.

Response to incidents and allegations.

The Program continues to be sensitive to notifications of incidents and allegations. Incidents are quickly reviewed for their affect on public health and safety. Staff is dispatched to perform onsite investigations when necessary. The Program Manager has placed a high emphasis on maintaining an effective response to incidents and allegations.

Status of allegations and concerns referred by the NRC for action.

One allegation was referred by NRC to the Program since the 2006 review. That allegation is occurred in 2008 and is still being worked by the Program.

Significant events and generic implications.

The Program reported three significant enforcement actions in 2006, eight significant enforcement actions in 2007, and three significant enforcement actions to date in 2008. Most recently, one significant event involved the failure to lock and secure an unattended radiography truck containing a 75 curie iridium-192 source. The keys were left in the unattended vehicle's ignition for up to six hours. This was in violation of both Colorado and Increased Controls requirements. Orders against the individual are pending.

Current State Initiatives.

The Program indicated that they are in the process of developing licensing templates to assist license reviewers be more consistent in their approach to license development. They have developed TENORM guidance, are developing implementation guides, and continue working to enhance their generally licensed device program.

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Emerging Technologies.

The Program identified the increased use of yttrium-90 microspheres as a technology they are faced with. The Program is developing training requirements for the use of this technology and enhancing their inspection program to better inspect their use.

Large, complicated, or unusual authorizations for use of radioactive materials.

The Program reported an increased interest in uranium mining and the Program anticipates a new uranium mill application from Energy Fuels in the fall of 2008 or in early 2009. The Program also expects an application from PowerTech in February 2009. They are exploring the possibility of in-situ recovery of uranium.

The Program also noted that their first RCRA hazardous waste facility is now licensed to accept NORM and TENORM materials.

State's mechanisms to evaluate performance.

The Program has a master database that they use to track most programmatic activities. The Program Manager also performs accompaniments of the inspection staff to ensure they are performing at the expected level.

Current NRC initiatives:

NRC staff discussed ongoing initiatives with the Program. These included pre-licensing guidance, fingerprint orders, national source tracking, web based licensing, generally licensed devices, and the issues associated with tritium exit signs.

Schedule for the next IMPEP review:

It is recommended that the next IMPEP review to be held in two years.