

**Colorado Radiation Advisory Committee (RAC)
October 8, 2015 Meeting Minutes**

I. CALL TO ORDER	RAC Chair Tom Johnson called the regular meeting to order on October 8, 2015 at 1:05p.m., in Conference Room C1A, Building C, at the Colorado Department of Public Health and Environment (CDPHE) main campus.
Agenda	<p>The agenda sent October 1, 2015 was used with the exception that it was requested by staff that RAC members approve the minutes from the August 6, 2015 meeting during this October 8 meeting. The RAC determined that members had not fully reviewed the prior meeting minutes and requested that an email vote be used to approve the August minutes.</p> <p>Staff will adhere to this request and resend the August meeting minutes to the RAC.</p>
Introductions	<p>Radiation Advisory Committee (RAC) members and Radiation Control Program staff introduced themselves.</p> <p>RAC members in attendance: Tom Johnson, Phillip Koo, Craig Little, Riad Safadi, and Jennifer Stickel.</p> <p>The members present constituted a quorum.</p> <p>RAC member(s) absent: Ted Borst, Jim Burkhart, Frank Judson, and Vinod Ravindran.</p> <p>Radiation Program staff in attendance: Jim Grice, Cheri Hall, James Jarvis, Jennifer Opila, and Brian Vamvakias.</p>

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<p>II. Program Updates</p>	
<p>A. Radiation Program update</p>	<p>Jennifer Opila provided updates on the Radiation Program.</p> <p>Included in the update was:</p> <ul style="list-style-type: none"> - Information pertaining to the uranium “ablation” technique proposed by Black Range Minerals (a subsidiary of Western Minerals Corporation). The company is proposing to use a process that will take uranium bearing materials and then process the materials using an “ablation” technique to reduce waste materials prior to further (offsite) processing. In July the company submitted a white paper on the process for review by the Department. The Department reviewed the paper and subsequently sent a letter to the company requesting further information. The Department is awaiting a response from the company on the request for information. Western Minerals Corporation recently issued a press release indicating that they had performed successful pilot testing of their ablation process. The Department subsequently issued a notice directing the company to stop any further testing of the process involving greater than generally licensed amounts until the information requested is provided and a proper regulatory framework is determined. <p><i>RAC Member Tom Johnson expressed concerns over how the Department’s decision will be made to ensure that they are well laid out. The various technical/regulatory definitions and terms will require comparison.</i></p> <p><i>Jennifer Opila affirmed that any decisions of the Department on the topic will need to be carefully considered with a well founded technical basis. Technical information provided by the Nuclear Regulatory Commission (NRC) has helped to reinforce the Department’s current position.</i></p> <p>No written program update was available for the meeting.</p>
<p>B. Radioactive Materials (RAM) Unit update</p>	<p>Jim Grice provided an update on the activities of the Radioactive Materials Unit.</p> <p>Jim Grice discussed the current licensing and compliance issues:</p> <ul style="list-style-type: none"> - Staff member Cheri Hall had been promoted to the licensing lead position, effective today. This will result in an opening that is expected to be posted in the near

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	<p>future.</p> <ul style="list-style-type: none">- The facility in Longmont occupied by MDTI was decommissioned and released to the property owner. (MDTI was a cyclotron licensee with facilities in Denver and Longmont that went bankrupt within the past 2 years.) The second facility owned by MDTI remains contaminated and is licensed, but plans are underway to decommission this facility as well. A decommissioning work plan is expected to be received and reviewed within the next 1-2 months.- The program has received several applications from companies and waste facilities (landfills, etc.) who are interested in being able to receive and dispose of certain TENORM (Technologically Enhanced Naturally Occurring Radioactive Material) wastes at existing and proposed (to be constructed) facilities. The applications and information is being reviewed by the Department. Although worker exposures are expected to be very low, these types of facilities can present challenges with respect to potential worker dose. <p>ESCALATED ENFORCEMENT AND INCIDENTS</p> <ul style="list-style-type: none">- In addition to licensing activities, the Unit has seen a recent increase in the number of incidents and events involving industrial radiographers, including incidents involving inspectors finding radiographers leaving material unsecured/unattended while reportedly sleeping on the job. Incidents involving source disconnects and drive cables have also occurred. <p><i>RAC member Riad Safadi inquired as to whether the workers involved in the source disconnect incidents had received an exposure?</i></p> <p><i>-Jim Grice indicated that it is believed that the workers received a dose to the extremities (hands) in the range of 0-36 rem (as estimated by the licensee), although the investigation is ongoing. The licensee will need to provide a more accurate dose estimate.</i></p> <p><i>RAC member Riad Safadi asked whether there has been any outreach to radiographers to address the recent incidents?</i></p> <p><i>-Jennifer Opila indicated that the program has considered some type of outreach - possibly via written communication or by hosting a meeting specific to</i></p>
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	<p><i>radiographers.</i></p> <p><i>RAC member Tom Johnson noted that such outreach may help to allow radiographers to see the Department as a resource rather than “nuclear police”. He also recommended that we send a letter to radiography licensees emphasizing the public health, safety, and security issues surrounding the use of these materials and that unannounced inspections can occur at any time.</i></p> <p><i>-Jim Grice noted that while such communication and outreach could be beneficial for both the Department and licensees, licensees need to make the right decisions and fully evaluate who they hire as radiographers.</i></p> <ul style="list-style-type: none">- Jim Grice indicated there have been some issues relating to industrial radiography drive cables that may be contributing to what appears to be an increase in the number of source disconnects. Following an initial investigation by staff, it has become apparent that it is often challenging to be able to determine the age of drive cables and whether they are degrading with time. As we move forward and continue to inspect licensees, we will work to ensure that licensees have the appropriate drive cable maintenance plans in place. At this time it is unclear whether this is a national issue or is limited to certain Colorado licensees. - The property vacated by former licensee - Peak Veterinary - who abandoned radioactive materials at their facility, has been released to the property owner following verification surveys by Unit staff. - Following issuance of a notice of violation, a unilateral order against the former (Peak Veterinary) licensee is being prepared which is expected to have a significant monetary penalty associated with it and which will bar the individual from working in Colorado for a 3 year period. The Unit has notified NRC but also intends to issue a formal notice to other Agreement States and the NRC regarding the incident should the individual attempt to apply for a license in another state. <p><i>RAC member Tom Johnson inquired as to whether the Peak Veterinary owner was still in-state?</i></p>
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	<p><i>Jim Grice indicated that the responsible individual was believed to have left the state.</i></p> <p><i>RAC member Jennifer Stickel inquired as to whether veterinary licensees must provide the same instructions (to pet owners) as is done with human (thyroid) therapy?</i></p> <p><i>Jim Grice indicated that along with additional controls and requirements specific to (companion) animal use, instructions are required to be provided to the pet owner to minimize the exposure to humans.</i></p> <p>An update on the Grand Junction, Colorado crushed car incident discussed at prior RAC meetings was provided:</p> <ul style="list-style-type: none">- The isotope of concern was identified as Radium-226. Following assessment and assistance from the Buckley Civil Support Team, the material was secured and a provisional license was issued. The provisional license is now in the process of being terminated following proper disposal of the material. <p>Further details may be found on the attached radioactive materials update summary.</p>
<p>C. X-Ray Certification Unit update</p>	<p>Brian Vamvakias presented on the activities of the X-Ray Certification Unit (XRCU).</p> <p>The updates included the following:</p> <ul style="list-style-type: none">- There have been no significant compliance issues;- Limited progress has been made on the x-ray database, but the x-ray program continues to work with OIT (Office of Information Technology) staff in their development of the database;- The unit continues to experience challenges in its transition from paper to electronic records and has resulted in some modification in the approach to processing documents between the two methods. <p><i>RAC member Jennifer Stickel inquired as to whether it would be possible for the qualified inspectors to receive an electronic version of the (inspection) forms, perhaps before the database is complete?</i></p> <ul style="list-style-type: none">- <i>Brian Vamvakias responded that it is expected that the</i>

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	<p><i>database (under development) will allow for electronic filing capability and will allow updates of other information via a web based interface. The unit is continuing to look at methods for electronic submissions.</i></p> <p>No written x-ray unit update was available for the meeting.</p>
<p>D. Regulations / Special Projects update</p>	<p>James Jarvis provided an update and summary on the activities and status on regulations / special projects.</p> <p>James Jarvis updated the RAC on the current regulatory status, including the status of the three regulatory parts currently in process - Parts 1, 3, and 18. The comments on the rules received from stakeholders were discussed with the committee, including the reinstatement of the section of Part 18 pertaining to hearings (which was originally proposed for deletion).</p> <p><i>RAC Member Tom Johnson inquired as to who makes the decision on the type of hearing that would be held in a given instance?</i></p> <ul style="list-style-type: none"> - <i>Jennifer Opila indicated that it was the Department's decision as to the process to be used for hearings.</i> <p>James Jarvis provided an overview and summary of the draft schedule (regulatory agenda) for regulatory changes in 2016 as the Governor's Executive Order 2 requires that each state agency plan and publish their regulatory schedule for the coming calendar year. The regulatory agenda includes both regulatory reviews - a review of select regulations for continued effectiveness, consistency, etc. - and actual regulation amendments. For 2016 the regulatory agenda will involve the review of six regulatory parts as well as proposals to amend Parts 16 (well logging), 19 (panoramic irradiators), and 6 (radiation machines in the healing arts).</p> <p>James Jarvis also discussed that the terms of three current RAC members will be ending at the end of the year. A notice of the opportunity to apply is planned for early November and the current RAC members are encouraged to apply. RAC members will be informed when the announcement is sent.</p> <p>Refer to the regulatory update presentation for further details and information.</p>

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E. Subjects for future discussion	The RAC requested that at a future date, presentations be given to the RAC on the following topics to better educate the membership on topics they may be less familiar with: <ul style="list-style-type: none">- Industrial Radiography- Medical use of radioactive materials / machines
F. Adjourn	The meeting adjourned at approximately 2:40p.m.
Next RAC Meetings:	Remaining 2015 Meetings: <ul style="list-style-type: none">- December 3 2016 Meetings will be scheduled in the future following appointment of RAC members.

Attachments:

1. *Colorado Radiation Advisory Committee Agenda* as emailed October 1, 2015 (1 page)
2. Radioactive Materials Unit update (1 page)
3. Regulations and Special Projects update and presentation (10 pages)

The Radiation Advisory Committee meeting minutes for October 8, 2015, were approved by a quorum of 5 RAC members in attendance via email on November 9-16, 2015.



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Dedicated to protecting and improving the health and environment of the people of Colorado

**COLORADO RADIATION ADVISORY COMMITTEE
MEETING AGENDA**

**Thursday, October 8, 2015
1:00 P.M., CDPHE - Building C, Conference Room C1A**

REGULAR MEETING	
1:00 PM	I. CALL TO ORDER, INTRODUCTIONS, AGENDA ADDITIONS / CHANGES
	II. PROGRAM UPDATES
1:05 PM	A. Radiation Program update - Jennifer Opila (20 minutes)
1:25 PM	B. Radioactive Materials Unit update - Jim Grice (20 minutes)
1:45 PM	C. X-Ray Certification Unit - Brian Vamvakias (20 minutes)
2:05 PM	D. Regulations/Special Projects - James Jarvis (45 minutes) 1. Current regulatory status 2. Proposed 2016 Regulatory Agenda 3. RAC member terms
2:50 PM	E. Subjects for future discussion
~3:00 PM	F. ADJOURN
	2015 RAC Meetings: Thursday, December 3, 2015

NOTE: all times/dates are approximate and are subject to change



Radioactive Materials Unit
Project Status 10/8/15

Staffing:

- Licensing Lead: Cheri Hall has been promoted to licensing lead

Licensing/Compliance

- Update on MDTI:
 - Denver facility has had the contaminated areas decommissioned and the waste removed. They still have possession of the cyclotron itself and the Department is reviewing a work plan to remove the cyclotron and decommission the facility in its entirety.
- We have 3 potential TENORM waste disposal facilities in the queue.
 - Foothills has submitted a risk assessment and is working through comments
 - Midway has submitted a risk assessment and has met with the Department regarding comments
 - Pawnee Waste is proposing the construction of an oil and gas E&P waste disposal facility, has submitted a risk assessment and has met with the Department to discuss preliminary comments

Escalated Enforcement

- APPlus: Radiography Licensee Observed sleeping in truck with source unsecured. ~\$6500
- Peak Veterinary: Licensee doing feline thyroid treatments. Abandoned the property and all radioactive materials in facility. Did not follow procedures submitted for operations and construction of waste facilities/storage area. NOV was sent, we have received no reply and CDPHE will issue a unilateral order with penalty. Preliminary calculations indicate a very large penalty due to the number of days in which violations took place.
- Premier NDT: Working on orders related to source disconnect and improper training.
- Terracon: Order in preparation for an unsecured gauge being dropped from the back of a vehicle on the highway.

Incidents, emergencies, etc.

- Grand Junction: A crushed vehicle was rejected at a scrap facility after setting off rad portal monitor. The materials were removed by a licensed contractor and the provisional license for the possession of the materials is in the process of termination.
- Have had multiple industrial radiography source disconnects lately. The Unit is investigating all of the events to ascertain whether or not there is a drive cable issue.
- During a recent inspection two inspectors found gross contamination in a Nuc Med treatment room which led to a very busy day...

Regulation Status - YTD

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- Part 22 (*Physical Protection of Cat 1 and Cat 2...*)
 - Effective July 15, 2015
 - NRC review pending
 - Reminder letter sent to licensees in early September

- Part 4 (*Standards for Protection Against Radiation*)
 - Effective August 14, 2015
 - NRC review pending

Regulations Status - YTD

- Parts 1, 3, 18
 - Stakeholder meetings completed - comment period ended Sept 16
 - Written comments from ~six individuals
 - Definitions confusing/overlapping
 - Opposed to removal of hearing process requirements
 - Other activities should be subject to public meetings/hearings (financial warranties; decommissioning plans)
 - Comments on Basis and Purpose documents re: source material
 - NRC comments received
 - Rulemaking request - October 21
 - Final hearing December 16

2016 Tentative Regulatory Agenda / Regulatory Review

2016 *Tentative* Regulatory Reviews

- E02 Regulatory Reviews

- Part 4 (Standards for Protection Against Radiation)
- Part 5 (Industrial Radiography)
- Part 13 (Compliance Enforcement)
- Part 7 (Medical use of Radioactive Materials)
- Part 8 (Industrial x-ray devices)
- Part 10 (Notices, instructions, and reports to workers)

2016 *Tentative* Regulatory Agenda

- Parts 16 (well logging), 19 (panoramic irradiators), 6 (x-ray in healing arts)
 - Part 16 changes may involve...
 - Alignment of calibration & leak test record retention periods; a few differing provisions vs NRC language; possibly add exemption for neutron sources; add cross-ref to Part 22.
 - Part 19 changes may involve...
 - Possible incorporation of NRC irradiator specific licensing requirements; update tie to new “construction” definition in Part 1; add cross-ref to new Part 22.

- Part 6 changes may involve...

- Update sections consistent with recent SSR Part F rev's
 - Cone-beam criteria
 - Possible QC requirements for mammography systems
 - Consider need/req's for radiation safety committee
- Consider specifications for balancing photocells
- Consider phantom testing frequency
- Ensure consistency w/requirements for protective equipment
- Consider adding clarity to level of supervision
- Shielding design content vs. common practice
- Use of definitions through rule body
- Consider pediatric protocol statement (non-digital)
- Consider adding clarity for non-dental hand held sys

Tentative Schedule

PART(s)	RAC Review	Stakeholder Period	BOH Request	BOH Hearing
16 & 19	1ST QTR (JAN)	1ST QTR (MAR)	2ND QTR (MAY)	3RD QTR (JUL)
6	2ND QTR (MAY)	2ND QTR (JUN)	3RD QTR (SEP)	4TH QTR (NOV)

RAC Member Terms

RAC Turnover

- 3 RAC Member Terms expire January 1, 2016
- Announcement to be sent out in early November
 - Please share with anyone who might be interested
 - Applications due in early December
- Governor appointments expected by ~end of year