

**UTAH DIVISION OF RADIATION CONTROL
DENISON MINES (USA) CORPORATION
WHITE MESA URANIUM MILL
BLANDING, UTAH**

HEALTH PHYSICS INTERROGATORIES – ROUND 1

NOVEMBER 24, 2008

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ACRONYMS AND ABBREVIATIONS

ALARA	As Low As Reasonably Achievable
CFR	Code of Federal Regulations
DOT	US Department of Transportation
NRC	Nuclear Regulatory Commission
OSL	Optically Stimulated Luminescence
RML	Radioactive Materials License
RPP	Respiratory Protection Program
RSO	Radiation Safety Officer
RWP	Radiation Work Permit
SOP	Standard Operating Procedures
URCR	Utah Radiation Control Rules

INTERROGATORY STATEMENT- RADIATION SAFETY OFFICER (RSO):

Appendix I: ALARA program outlines all of the responsibilities the RSO has for Radiation Safety at the mill which includes but not limited to being a member of the mills ALARA committee, SERP committee, reviewing all procedures and Radiation Work Permits (RWPs) and etc. The RSO has been assigned other tasks beyond Radiation Safety. This section of interrogatory statements is to provide the DRC a better understanding of the RSO's duties and staff.

1. Provide an organizational chart for the Mills Radiation Safety Department. Include the RSOs designee, if the RSO is not available, and the specific responsibilities of staff members.

BASIS FOR INTERROGATORY:

Section 7 of the Radioactive Materials License UT1900479 Renewal Application dated February 28, 2007 asks the applicant to list the Individual(s) Responsible for Radiation Safety Program and Their Training and Experience. Volume 1 Section 6.1.1 Management: states that "the RSO may be assigned staff to maintain compliance with the applicable regulations".

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Volume 1 Section 6.1.1 *Management*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.4.2 *Radiation Safety Technicians*.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.31: Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Recovery Facilities will be As Low As is Reasonably Achievable, Section 2.4.2 *Health Physics Technicians*

INTERROGATORY STATEMENT-RADIATION SAFETY OFFICER (RSO):

2. Explain the training program that has been established for the mills Radiation Safety Technicians to qualify them to the NRC Regulatory Guide 8.31 Section 2.4.2 Standard. Also explain, how this training will continue to maintain a level of competence.

BASIS FOR INTERROGATORY:

Section 7 of the Radioactive Materials License UT1900479 Renewal Application dated February 28, 2007 asks the applicant to list the Individual(s) Responsible for Radiation Safety Program and Their Training and Experience. Volume 1 Section 6.1.1 Management: states that “the RSO may be assigned staff to maintain compliance with the applicable regulations”. Appendix I: ALARA program states in section 2.4.2 that the Radiation “Safety Technician should have the level of education, training and experience recommended in NRC Reg. Guide 8.31”. During an inspection conducted May 28 and 29, 2008 it was observed that all of the mills Radiation Safety Technicians had one year or less experience and five out of the six were still in training.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Volume 1 Section 6.1.1 *Management*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.4.2 *Radiation Safety Technicians*.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.31: Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Recovery Facilities will be As Low As is Reasonably Achievable, Section 2.4.2 *Health Physics Technicians*

INTERROGATORY STATEMENT-RADIATION SAFETY OFFICER (RSO):

3. According to the Mills Organizational Chart the RSO is also responsible for the Occupational Safety Department. Provide an organizational chart for the Mills Occupational Safety Department. Include the RSOs designee in the Occupational Safety Department, if the RSO is not available, and the specific responsibilities of staff members.

BASIS FOR INTERROGATORY:

Volume 1 Section 6.1.1 Management: states that “the RSO may be assigned staff to maintain compliance with the applicable regulations”. This section does state that the Safety Coordinator reports to the RSO and that staff will be assigned to these duties.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Volume 1 Section 6.1.1 *Management*.

INTERROGATORY STATEMENT-RADIATION SAFETY OFFICER (RSO):

4. Explain the training program that has been established for the mills Occupational Safety Technicians. Also explain, how this training will continue to maintain a level of competence.

BASIS FOR INTERROGATORY:

Volume 1 Section 6.1.1 Management: states that “the RSO may be assigned staff to maintain compliance with the applicable regulations”. There are no qualification standards, a limited explanation of duties and training for Occupational Safety Technicians in renewal application.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Volume 1 Section 6.1.1 *Management*.

INTERROGATORY STATEMENT-RADIATION SAFETY OFFICER (RSO):

5. According to the Mills Organizational Chart the RSO is also responsible for the Environmental Department. Provide an organizational chart for the Mills Environmental Department. Include the RSOs designee in the Environmental Department, if the RSO is not available, and the specific responsibilities of staff members.

BASIS FOR INTERROGATORY:

Volume 1 Section 6.1.1 Management: states that “the RSO may be assigned staff to maintain compliance with the applicable regulations”. This section does state that staff will be assigned to these duties.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Volume 1 Section 6.1.1 *Management*.

INTERROGATORY STATEMENT-RADIATION SAFETY OFFICER (RSO):

6. Explain the training program that has been established for the mills Environmental Technicians. Also explain, how this training will continue to maintain a level of competence.

BASIS FOR INTERROGATORY:

Volume 1 Section 6.1.1 Management: states that “the RSO may be assigned staff to maintain compliance with the applicable regulations”. There are no qualification standards, explanation of duties and training for Environmental Technicians in renewal application.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Volume 1 Section 6.1.1 *Management*.

INTERROGATORY STATEMENT-RADIATION SAFETY OFFICER (RSO):

7. Explain how the RSO can effectively manage the extra Radiation Safety needs and requirements during an emergency if he is also acting as the mills Fire Chief.

BASIS FOR INTERROGATORY:

Appendix D: Emergency Response Plan states in section 5.3 that the Radiation Safety Officer is responsible to train fire crews, maintain crews and equipment and direct fire crews and equipment in the event of an emergency. NRC Reg. Guide 3.67 *Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities* is a good resource. Section 4.2.2: *Onsite Staff Emergency Assignments* gives a detailed list of different assignments that need to be covered in the event of an emergency. Who will be performing radiological surveys and assessments and overseeing personnel and facility decontamination if the RSO is the mills Fire Chief.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-22-32(8). Filing Application for Specific License

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix D: Emergency Response Plan Section 5.3 *Radiation Safety Officer/Fire Chief*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.67: Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities.

INTERROGATORY STATEMENT-RADIATION SAFETY OFFICER (RSO):

8. Explain how the Radiation Safety needs at the mill are being managed if the RSO is responding off site to a transportation accident.

BASIS FOR INTERROGATORY:

Appendix N: Transportation Accident Response Plan in Table 4-1 the Radiation Safety Officer is named as a Response Team Leader.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-22-32(8). Filing Application for Specific License

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix N: Transportation Accident Response Plan.

INTERROGATORY STATEMENT-RADIATION SAFETY OFFICER (RSO):

9. Describe how the RSO allocates his time for his Radiation Safety, Occupational Safety, Environmental duties and any other duties assigned.

BASIS FOR INTERROGATORY:

Radioactive Materials License UT1900479 Renewal Application dated February 28, 2007 figure 6.1-1 “Mill Management Organization Chart”, shows that the RSO is over the Radiation Safety Department, the Environmental Department and the Occupational Safety Department. The RSOs responsibilities are further explained in Volume 1 Section 6.1.1 *Management*: the Radiation Safety Officer is responsible for Occupational Safety, Radiation Safety and Environmental Compliance at the mill. Also in Appendix 1 of Appendix C *Spill Prevention, Control and Countermeasures Plan for Chemicals and Petroleum Products* Section 1.2 *Responsibilities*: Lists the RSO as the Department Head, Health, Safety and Environment. Appendix D: Emergency Response Plan states in section 5.3 that the Radiation Safety Officer is responsible to train fire crews, maintain crews and equipment and direct fire crews and equipment in the event of an emergency. Appendix N: Transportation Accident Response Plan in Table 4-1 the Radiation Safety Officer is named as a Response Team Leader.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Volume 1 Section 6.1.1 *Management*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix C: Storm Water Best Management Plan: Appendix 1 Spill Prevention, Control and Countermeasures Plan for Chemicals and Petroleum Products Section 1.2 *Responsibilities*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix D: Emergency Response Plan Section 5.3 *Radiation Safety Officer/Fire Chief*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.4.2 *Radiation Safety Technicians*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix N: Transportation Accident Response Plan.

INTERROGATORY STATEMENT-THE EMERGENCY RESPONSE PLAN:

10. The submitted Emergency Response Plan does not sufficiently address all of Staff Emergency Assignments that should be covered. These include but not limited to Radiological Surveys and Assessments, Decontamination of the mills Personnel and Facility, First Aid and etc. Explain how the mill plans on addressing these and other issues in the event of an emergency

BASIS FOR INTERROGATORY:

Appendix D: the Emergency Response Plan does not include all of the concerns in an emergency and who is responsible for dealing with these concerns. NRC Reg. Guide 3.67 *Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities* is a good resource. Section 4.2.2: *Onsite Staff Emergency Assignments* gives a detailed list of different assignments that need to be covered in the event of an emergency.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-22-32(8). Filing Application for Specific License

R313-22-33(1)(b). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix D: Emergency Response Plan.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.67: Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities.

INTERROGATORY STATEMENT-ALTERNATE FEED:

11. Provide the inspection procedure that discusses the inspection requirements of the alternate feed material that are stored in containers other than drums from when the mill takes acceptance of the material until they process the material.

BASIS FOR INTERROGATORY:

Appendix C: Best Management Practices Plan 4.2.2 states that drums and other containers stored outdoors are maintained in good condition and secured from wind or leakage. Procedure, *Containerized Alternate Feedstock Material Storage Procedure PBL-19 Rev No. R-0*, discusses the inspection of drums upon arrival and during routine weekly inspections. It does not discuss other containers such as super sacks. During multiple inspections it has been observed and documented with photographs that alternate feed materials have been shipped and stored in super sack type containers. These containers have been compromised and this material is exposed to the wind.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority
R313-15-101. Radiation Protection Programs

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix C: Best Management Practices Plan Section 4.2.2 *Protect Material Outside*.
Denison Mines (USA) Corp. Standard Operating Procedure: *Containerized Alternate Feedstock Material Storage Procedure PBL-19 Rev No. R-0*

INTERROGATORY STATEMENT-ALTERNATE FEED:

12. Provide the procedure that discusses how alternate feed material that arrives in super sacks, placed on the ore storage pad and is exposed to the wind will be containerized.

BASIS FOR INTERROGATORY:

Appendix C: Best Management Practices Plan 4.2.2 states that drums and other containers stored outdoors are maintained in good condition and secured from wind or leakage. Procedure, *Containerized Alternate Feedstock Material Storage Procedure PBL-19 Rev No. R-0*, discusses that compromised drums will be placed in over-pack containers. It does not discuss other containers such as super sacks. During multiple inspections it has been observed and documented with photographs that alternate feed that have been shipped and stored in super sack type containers. These containers have been compromised and this material is leaking and is exposed to the wind.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix C: Best Management Practices Plan Section 4.2.2 *Protect Material Outside*.

Denison Mines (USA) Corp. Standard Operating Procedure: *Containerized Alternate Feedstock Material Storage Procedure PBL-19 Rev No. R-0*

INTERROGATORY STATEMENT-ALTERNATE FEED:

13. Provide the procedure used to determine how and when alternate feed material is to be processed through the mill.

BASIS FOR INTERROGATORY:

Volume V, Appendix C, Introduction, 3rd Paragraph, Last sentence: states that “Milling of conventional ore is scheduled for early 2008, when milling of currently available feed material is complete”. During multiple inspections in 2008 it has been observed and documented with photographs that alternate feed is being store at the mill for future process.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Volume V Appendix C *Dose Assessment in Support of the License Renewal Application and Environmental Report to the White Mesa Uranium Mill.*

INTERROGATORY STATEMENT-RELEASE SURVEYS:

14. Release Surveys for Ore Trucks: Explain how the survey techniques, the release standards used and documentation of surveys of ore trucks are sufficient to demonstrate regulatory compliance and maintain public health and safety. Explain why surveying techniques such as the use of Large Area Wipes to look for removable contamination are not being used in surveys for release.

BASIS FOR INTERROGATORY:

No procedure for surveying Ore trucks out of the Restricted Area. Appendix I references procedure *End Dump Trailer Acceptance, Handling and Release, PBL-9, Rev No R-0*, but the procedure was not included with renewal application. Appendix I Section 2.6 states that all surveys will be performed in accordance with NRC Reg. Guide 8.30.

APPLICABLE RULE(S) OR REGULATION(S):

- R313-24-1(3). Purpose and Authority
- R313-15-101. Radiation Protection Programs
- R313-15-501(1). Survey and Monitoring-General

REFERENCES:

- Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program 2.6 *Surveys*.
- U.S. Nuclear Regulatory Commission Regulatory Guide 8.30: Health Physics Surveys in Uranium Recovery Facilities.

INTERROGATORY STATEMENT-RELEASE SURVEYS:

15. Release Surveys for Intermodals: Explain how the survey techniques, the release standards used and documentation of surveys of Intermodals that contain, may contain or have contained radioactive material are sufficient to demonstrate regulatory compliance and maintain public health and safety. Explain why surveying techniques such as the use of Large Area Wipes or swipes to look for removable contamination are not being used on Intermodals being surveyed for release.

BASIS FOR INTERROGATORY:

No procedure for surveying Intermodal Containers out of the Restricted Area. Appendix I references procedure *Intermodal Container Acceptance, Handling and Release, PBL-2, Rev No R-3*, but the procedure was not included with renewal application. Appendix I Section 2.6 states that all surveys will be performed in accordance with NRC Reg. Guide 8.30.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority
R313-15-101. Radiation Protection Programs
R313-15-501(1). Survey and Monitoring-General

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.6 *Surveys*.
U.S. Nuclear Regulatory Commission Regulatory Guide 8.30: Health Physics Surveys in Uranium Recovery Facilities.

INTERROGATORY STATEMENT-RELEASE SURVEYS:

16. Release Surveys for Product Drums: Explain how the survey techniques, the release standards used and documentation of surveys of Product Drums that contain radioactive material are sufficient to demonstrate regulatory compliance and maintain public health and safety. Explain why surveying techniques such as the use of Large Area Wipes or swipes to look for removable contamination are not being used on all Product Drums being surveyed for release.

BASIS FOR INTERROGATORY:

Appendix B and E: says that a fixed Alpha Survey will be performed on each product drum but a removable survey will only be performed on 25% of the product drums. Main concern is removable contamination but survey procedures only require 25%. Appendix I Section 2.6 references NRC Reg. Guide 8.30 which states that product shipments should not exceed DOT limits in 49 CFR 173.443 on removable external contamination. 49 CFR173.443(1) describes the method of surveying for removable contamination. Specifies release limits for removable contamination are in Table 9 at 2,200 dpm/100 cm² Alpha and 2,200 dpm/100 cm² Beta and the dose rate is less than 0.5 mrem/hr which is in paragraph (c).

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority
R313-15-101. Radiation Protection Programs
R313-15-501(1). Survey and Monitoring-General

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix B: Release and Shipping of Vanadium Blackflake Section 5 *Product Shipment Surveys*.
Radioactive Materials License Renewal Application for RML UT1900479: Appendix E: Radiation Protection Manual Section 2.7 *Product Shipment Surveys*.
Radioactive Materials License Renewal Application for RML UT1900479: Appendix G: Yellowcake Precipitation Section 10 *Procedures for preparing yellowcake drums and shipping*.
U.S. Nuclear Regulatory Commission Regulatory Guide 8.30: Health Physics Surveys in Uranium Recovery Facilities Section 2.8 *Surveys of Packages Prepared for Shipment*.
49CFR173.443 Contamination Control.

INTERROGATORY STATEMENT-RELEASE SURVEYS:

17. Release Surveys for Equipment: Explain how the survey techniques, the release standards used and documentation of surveys of Equipment are sufficient to demonstrate regulatory compliance and maintain public health and safety. Explain why surveying techniques such as the use of Large Area Wipes and swipes to look for removable contamination are not being used on all items being surveyed for release

BASIS FOR INTERROGATORY:

Appendix E also says that equipment will meet Reg. Guide 1.86 standards but does not indicate how the surveys will be performed. No procedure in renewal application for conducting an unrestricted survey or releasing surveyed equipment out of the Restricted Area.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority
R313-15-101. Radiation Protection Programs
R313-15-501(1). Survey and Monitoring-General

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix E: Radiation Protection Manual Section 2.6 *Equipment Release Surveys*.
U.S. Nuclear Regulatory Commission Regulatory Guide 1.86: Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use.

INTERROGATORY STATEMENT-ALARA:

18. Designated Eating Areas within the Restricted Area: Explain the justification of having designated eating areas and the number of eating areas within the restricted area.

BASIS FOR INTERROGATORY:

Appendix I: ALARA Program Section 2.2.2 *Policy for Eating-Restricted Area*: lists nine different areas within the restricted area that are designated eating areas.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.2.2 *Policy for Eating-Restricted Area*.

INTERROGATORY STATEMENT-ALARA:

19. Designated Eating Area within the Restricted Area: Define the criteria used for determining designated eating areas within the Restricted Area.

BASIS FOR INTERROGATORY:

Appendix I: ALARA Program Section 2.2.2 *Policy for Eating-Restricted Area*: lists nine different areas within the restricted area that are designated eating areas. Explain the process and criteria used by the RSO in determining appropriate eating areas within the restricted area this is not clearly defined in this section and how is the criteria maintained.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-15-501(1). Survey and Monitoring-General

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.2.2 *Policy for Eating-Restricted Area*.

INTERROGATORY STATEMENT-AIR MONITORING:

20. Breathing Zone Sampling Sheet: Explain why the sampling form does not have the name of the individual wearing the air sampler and why the names of the individuals working with the assigned employee are not on the form.

BASIS FOR INTERROGATORY:

In Appendix E of the license renewal in section 1.1.2 Breathing Zone Sampling lists the information to be recorded including the name and/or identification number of the individual wearing the sampling pump but this information is not required on the sampling form. In addition to the person wearing the pump it is good practice to list all of the individuals working with the individual wearing the pump as well. If there is a concern with the results of the air sample then the individual associated with the air sample can be quickly identified and the appropriate measures can be taken sooner.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority
R313-15-101. Radiation Protection Programs

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix E: Radiation Control Plan Section 1.1.2 *Breathing Zone Sampling* and the *Breathing Zone Sampling Sheet*.

INTERROGATORY STATEMENT-AIR MONITORING:

21. Provide SOP for using the DRY CAL or equivalent for calibrating air sampling equipment.

BASIS FOR INTERROGATORY:

In Appendix E of the license renewal in section 3.2 Personnel Air Samplers lists the Bubble Tube Calibration Method and the Mass Flow Method. In a telephone conversation with one of the DRC Inspectors it was indicated that DRY CALs are being used to calibrate Personnel Air Sampling devices.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix E: Radiation Control Plan Section 3.2 *Personnel Air Samplers*.

INTERROGATORY STATEMENT-AIR MONITORING:

22. Dust Control: Explain the site inspection interval and the standard used to implement the dust control measures on the ore pad.

BASIS FOR INTERROGATORY:

Volume 1 Section 5.1.2 Airborne Dust Control-Stockpiles, references Appendix A Section 3.3 but it just says that dust will be controlled as necessary. In Appendix C: Best Management Practice Plan Section 4.4.2 *Manage Stockpiles to Prevent Windborne Contamination*, it states “water spray the ore pad and unpaved areas at appropriate frequency in accordance with mills SOPs” and “Water spray stockpiles as required by opacity standards or weather conditions”. None of these references are very specific on what is considered a necessary amount of dust for dust control measures to be implemented.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority
R313-15-101. Radiation Protection Programs
R313-15-702(1)(d). Use of Other Controls

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Volume 1 Section 5.1.2 Airborne Dust Control-Stockpiles.
Radioactive Materials License Renewal Application for RML UT1900479: Appendix A: Environmental Protection Manual Section 3.3 *Procedure: Dust Minimization for Ore Stockpiles*.
Radioactive Materials License Renewal Application for RML UT1900479: Appendix C: Best Management Practice Plan Section 4.4.2 *Manage Stockpiles to Prevent Windborne Contamination*.

INTERROGATORY STATEMENT- EXTERNAL RADIATION MONITORING:

23. Explain why a new employee is not always issued an external monitoring device prior to being allowed to work inside the restricted area.

BASIS FOR INTERROGATORY:

Volume 1 Section 6.4.1 Mill External Radiation Monitoring: states that OSL badge or equivalent will be issued to new employees that will be working in the Restricted Area within 30 days of employment. During an inspection on May 28 and 29, 2008, inspectors observed that an employee who escorted them through the mills restricted area was not wearing a dosimetry badge.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-15-501(3). Survey and Monitoring-General

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Volume 1
Section 6.4.1 *Mill External Radiation Monitoring*.

INTERROGATORY STATEMENT- EXTERNAL RADIATION MONITORING:

24. Explain why external monitoring devices are allowed to be worn on the hard hats of an individuals working inside the restricted area.

BASIS FOR INTERROGATORY:

Appendix E Section 1.3.1 Monitoring Procedures: states that OSL badge may be worn on the torso of the body or on the exterior of the hard hat. This is also in the Training Manual, Appendix J, Addendum 9: *Radiation Protection*.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-15-503(1). Location of Individual Monitoring Devices

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix E Section 1.3.1 *Monitoring Procedures*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix J Addendum 9: *Radiation Protection*.

INTERROGATORY STATEMENT- EMPLOYEE TRAINING:

25. Demonstrate that the Radiation Safety Program covers all of the material that is outlined in NRC Reg. Guide 8.31 Section 2.5 *Radiation Safety Training*. Explain in detail how this training is documented.

BASIS FOR INTERROGATORY:

In Appendix I, ALARA Program, it references Reg. Guide 8.31 Section 2.5 and that the Radiation Safety training will follow the topics listed in six subsections. After reviewing Appendix J, The Training Manual, Addendum 9, Radiation Safety it is unclear on how the mills Radiation Safety Training correlates with the topics outlined in Reg. Guide 8.31. An Inspector during an inspection on May 28 and 29, 2008, found the training staff was using additional material for radiation safety training then what was submitted in the License Renewal application dated February 28, 2007. The inspector was still unable to correlate at least one topic in each subsection outlined in NRC Reg. Guide 8.31 with the material being taught at the mill.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.5.2 *Radiation Training for New Employees*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix J: Training Manual Addendum 9: *Radiation Protection*.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.31: Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Recovery Facilities will be As Low As is Reasonably Achievable, Section 2.5 *Radiation Safety Training*.

INTERROGATORY STATEMENT- EMPLOYEE TRAINING:

26. Demonstrate that the Respiratory Protection Program covers all of the material that is outlined in NRC Reg. Guide 8.15 Section 5.2 *Training*. Explain in detail how this training is documented.

BASIS FOR INTERROGATORY:

In Appendix I, ALARA Program, Section 2.7.5: Says that the Respiratory Protection Program will follow Reg. Guide 8.15. In Section 5.2 of Reg. Guide 8.15 outlines the topics of Respiratory Protection Training. After reviewing Appendix J, the Training Manual, Addendum 9, Radiation Safety and Appendix L the Respirator Protection Program it is unclear on how respirator training correlates with the topics outlined in Reg. Guide 8.15. Inspectors during an inspection on May 28 and 29, 2008 were also unable to correlate all of the Respiratory Protection Program topics in the course outlines being used with all of the Respiratory Protection Program topics outlined in NRC Reg. Guide 8.15.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-15-703(3)(d)(ii). Use of Individual Respiratory Protection Equipment.

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix L: Respiratory Protection Program Section 2.3 *Training of Respirator Users*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.7.5 *RPP Complies with Regulatory Requirements*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix J: Training Manual Addendum 10: *Respiratory Protection Training*.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.15: Acceptable Programs for Respiratory Protection, Section 5.2 *Training*.

INTERROGATORY STATEMENT- EMPLOYEE TRAINING:

27. Explain what is considered a passing score for tests (i.e. Radiation Safety, Respirator Protection, Standard Operating Procedure, etc.). Explain what is done when an employee fails a test. Explain how many times an employee is allowed to fail a test before they are not allowed to perform the task. Explain in detail how this testing is documented.

BASIS FOR INTERROGATORY:

Neither the Training Manual in Appendix J or the Respiratory Protection Program in the License Renewal addresses this information.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-15-703(3)(d)(ii). Use of Individual Respiratory Protection Equipment

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.5.2 *Radiation Training for New Employees.*

Radioactive Materials License Renewal Application for RML UT1900479: Appendix J: Training Manual Addendum 9: *Radiation Protection.*

U.S. Nuclear Regulatory Commission Regulatory Guide 8.31: Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Recovery Facilities will be As Low As is Reasonably Achievable, Section 2.5 *Radiation Safety Training.*

Radioactive Materials License Renewal Application for RML UT1900479: Appendix L: Respiratory Protection Program Section 2.3 *Training of Respirator Users.*

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.7.5 *RPP Complies with Regulatory Requirements.*

Radioactive Materials License Renewal Application for RML UT1900479: Appendix J: Training Manual Addendum 10: *Respiratory Protection Training.*

U.S. Nuclear Regulatory Commission Regulatory Guide 8.15: Acceptable Programs for Respiratory Protection, Section 5.2 *Training.*

INTERROGATORY STATEMENT-STANDARD OPERATING PROCEDURES:

28. Provide a complete list and copies of all operating procedures used at the mill. Explain how employees are trained on the procedures that they use. Explain where procedures are kept and how employees have access to the procedures that they use.

BASIS FOR INTERROGATORY:

There appears that there are Standard Operating Procedures that are missing from the application the follow are examples, but not limited to, of procedures that are missing from the application: The Respirator Protection Program and the ALARA Program references NRC Reg. Guide 8.15. Reg. Guide 8.15 and UAC R313-15-703 lists all of the procedures needed for a Respirator Protection Program and not all of those procedures are part of this application. Also in the ALARA program section 2.6 references two procedures (Intermodal Container Acceptance, Handling & Release and End Dump Acceptance, Handling & Release) that were not part of the License Renewal application. In addition Appendix E the Radiation Protection Plan has the survey procedures for releasing equipment and product drums but does not contain a procedure for properly releasing Ore Trucks.

APPLICABLE RULE(S) OR REGULATION(S):

- R313-24-1(3). Purpose and Authority
- R313-15-101. Radiation Protection Programs
- R313-15-703(3)(d). Use of Individual Respiratory Protection Equipment
- R313-22-33(1)(b). General Requirements for Issuance of Specific License

REFERENCES:

- Radioactive Materials License Renewal Application for RML UT1900479: Appendix E: Radiation Protection Manual Section 2.6 *Equipment Release Surveys*; Section 2.7 *Product Shipment Surveys*.
- Radioactive Materials License Renewal Application for RML UT1900479: Appendix L: Respiratory Protection Program Section 2.8 *Storage of Respiratory Equipment*.
- Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Sections 2.6 *Surveys* and 2.7.5 *RPP Complies with Regulatory Requirements*.
- U.S. Nuclear Regulatory Commission Regulatory Guide 8.15: Acceptable Programs for Respiratory Protection, Section 3.2 *Written Procedures*.

INTERROGATORY STATEMENT-RESPIRATORY PROTECTION PROGRAM:

29. Define an occasional respirator user and an infrequent respirator user. Explain why respirators are not issued as needed and turned in at the completion of the day or assignment.

BASIS FOR INTERROGATORY:

The Respiratory Protection Program, Appendix L Section 2.8, says respirators are exchanged for cleaning and maintenance depending on frequency of use. For example, if an employee uses their respirator for four or more hours in a day they exchange their respirator daily, an occasional user will exchange their respirator weekly and an infrequent user will exchange their respirator monthly. During interviews with employees at the mill during an inspection conducted on May 28 and 29, 2008 employees indicated that they don't exchange respirators according to the Respiratory Protection Program.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-15-703(3)(d)(vi). Use of Individual Respiratory Protection Equipment

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix L: Respiratory Protection Program Section 2.8 *Storage of Respiratory Equipment*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.7.5 *RPP Complies with Regulatory Requirements*.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.15: Acceptable Programs for Respiratory Protection, Section 3.2 *Written Procedures*.

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INTERROGATORY STATEMENT-RESPIRATORY PROTECTION PROGRAM:

30. Provide the procedure for performing a quantitative fit test.

BASIS FOR INTERROGATORY:

The Respiratory Protection Program, Appendix L Section 2.4, provides the Qualitative fit test procedure (smoke test). During an inspection on March 29, 2008, inspectors observed a quantitative fit test machine is being used at the mill.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-15-703(3)(d)(iii). Use of Individual Respiratory Protection Equipment

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix L: Respiratory Protection Program Section 2.4 *Fit Testing*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.7.5 *RPP Complies with Regulatory Requirements*.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.15: Acceptable Programs for Respiratory Protection, Section 3.2 *Written Procedures*.

INTERROGATORY STATEMENT-RESPIRATORY PROTECTION PROGRAM:

31. If a respirator user is allowed to keep their respirator longer than a day, explain the mills procedure to check if respirator users are clean shaven.

BASIS FOR INTERROGATORY:

The Respiratory Protection Program, Appendix L Section 2.8, says respirators are exchanged for cleaning and maintenance depending on frequency of use. For example, if an employee uses their respirator for four or more hours in a day they exchange their respirator daily, an occasional user will exchange their respirator weekly and an infrequent user will exchange their respirator monthly.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-15-703(8). Use of Individual Respiratory Protection Equipment

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix L: Respiratory Protection Program Section 1.3: *Policy Regarding Facial Hair.*

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.7.5 *RPP Complies with Regulatory Requirements.*

U.S. Nuclear Regulatory Commission Regulatory Guide 8.15: Acceptable Programs for Respiratory Protection, Section 6.2: *Face-to-Facepiece Seal Integrity.*

INTERROGATORY STATEMENT-RESPIRATORY PROTECTION PROGRAM:

32. Provide examples of the forms used to document the Mills Respiratory Protection Program.

BASIS FOR INTERROGATORY:

The Respiratory Protection Program, Appendix L Section 2.10, did not contain the forms used to document program compliance.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-15-703(3)(d)(viii). Use of Individual Respiratory Protection Equipment

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix L: Respiratory Protection Program Section 2.10 *Record Keeping*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.7.5 *RPP Complies with Regulatory Requirements*.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.15: Acceptable Programs for Respiratory Protection, Section 4.6: *Record Keeping*.

INTERROGATORY STATEMENT-RESPIRATORY PROTECTION PROGRAM:

33. Explain why swipe samples are not taken on respirators to evaluate removable alpha contamination.

BASIS FOR INTERROGATORY:

The Radiation Control Plan section 2.3.3.1 Respirators, The procedure for surveying respirators is explained but looking for removable contamination is not included. The Respiratory Protection Program, Appendix L Section 2.9, says that an instrument survey or a swipe test may be preformed. Appendix I the ALARA program section 2.6 says that all surveys will conform to NRC Reg. Guide 8.30. NRC Reg. Guide 8.30 section 2.10 says that a respirator should be surveyed for alpha contamination by a standard wipe or smear technique and that removable contamination should be less than 100 dpm/100cm².

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-15-703(3)(d)(vii) Use of Individual Respiratory Protection Equipment

R313-15-501(1). Survey and Monitoring-General

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix E: Radiation Control Plan Section 2.3.3.1 *Respirators*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix L: Respiratory Protection Program Section 2.9 *Maintenance, Repair, Testing and Quality Assurance or Respiratory Equipment*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.6 *Surveys*.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.15: Acceptable Programs for Respiratory Protection, Section 4.6: *Record Keeping*.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.30: Health Physics Surveys in Uranium Recovery Facilities Section 2.10 *Surveys for Contamination on Respirators*.

INTERROGATORY STATEMENT-RESPIRATORY PROTECTION PROGRAM:

34. Explain how the respirator technician, who issue respirators, knows if someone has met all of the prerequisites (i.e. fit test, respirator training, and medical clearance) and is authorized to wear a respirator.

BASIS FOR INTERROGATORY:

The Respiratory Protection Program, Appendix L Section 4.1, says respirators will only be issued to authorized users.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-15-703(3)(d)(vi). Use of Individual Respiratory Protection Equipment

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix L: Respiratory Protection Program Section 4.1 *Routine Respirator Use*.

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.7.5: *RPP Complies with Regulatory Requirements*.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.15: Acceptable Programs for Respiratory Protection, Section 4.5: *Control and Issuance*.

INTERROGATORY STATEMENT-RECORDS:

35. Explain how the Chain of Custodies for air monitoring and environmental monitoring are being kept as part of your record keeping program.

BASIS FOR INTERROGATORY:

The Environmental Protection Manual, Appendix A in each section does not explain how you keep track of your chain of custodies. In each section of the Environmental Protection Manual where record keeping is discussed record keeping, Chain of Custodies are not mentioned.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-15-1102. Records of Radiation Protection Programs

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix A: Environmental Protection Manual.

INTERROGATORY STATEMENT-REVISIONS AND UPDATES

36. Provide all revisions to procedures and programs that have been added or revised since February 2007 License renewal application was submitted. Also provide all procedures and programs that were not included with the February 2007 License renewal application.

BASIS FOR INTERROGATORY:

RML UT1900479 License Condition 9.6 requires SOPs for operational activities and non-operational activities. For example, Appendix I references procedures *Intermodal Container Acceptance, Handling and Release, PBL-2, Rev No R-3* and *End Dump Trailer Acceptance, Handling and Release, PBL-9, Rev No R-0*, but the procedures were not included in the renewal application.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority

R313-15-101. Radiation Protection Programs

R313-22-33(1)(a). General Requirements for Issuance of Specific License

REFERENCES:

Radioactive Materials License Renewal Application for RML UT1900479: Appendix I: ALARA Program Section 2.6 *Surveys*.