UTAH DIVISION OF WASTE MANAGEMENT AND RADIATION CONTROL

RIO ALGOM MINING LLC

LISBON VALLEY, UTAH

11e.(2) RADIOACTIVE MATERIALS LICENSE UT1900481 RENEWAL APPLICATION

TECHNICAL REVIEW AND ENVIRONMENTAL ASSESSMENT REPORT

NOVEMBER 2016

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ACRONYMS AND ABBREVIATIONS

ACL	Alternative Concentration Limit
ALARA	As Low As Reasonably Achievable
AMSL	Above Mean Sea-Level
ASRSO	Assistant Site Radiological Safety Officer
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CQA/QC Manual	Construction Quality Assurance/ Quality Control Manual
DHP	Director of Health Physics at the Clive Facility
DOT	US Department of Transportation
DRC	Utah Division of Radiation Control
DWMRC	Utah Division of Waste Management and Radiation Control
GWQDP	State of Utah Groundwater Quality Discharge Permit
LTGMP	Long Term Groundwater Monitoring Plan
LRA	License Renewal Application
NRC	Nuclear Regulatory Commission
NOV	Notice of Violation
m	Meter
OPB	Governor's Office of Planning and Budget
OSHA	Occupational Safety and Health Administration
OSL	Optically Stimulated Luminescence
PCP	Post Closure Period
PMF	Probable Maximum Flood
PMP	Probable Maximum Precipitation
RCRA	Resource Conservation and Recovery Act
RIO ALGOM	Rio Algom Mining LLC.
RML	Radioactive Materials License
RPP	Respiratory Protection Program
RSO	Radiation Safety Officer
RWP	Radiation Work Permit
SCA	Stipulated Consent Agreement
SOP	Standard Operating Procedure
TAL	Target Action Limits
TDS	Total Dissolved Solids
TLD	Thermoluminescent dosimeters
UDOT	Utah Department of Transportation
URCR	Utah Radiation Control Rules
WDHIA	West Desert Hazardous Industries Area

Technical Review and Environmental Assessment Report (TREA)

PURPOSE OF THE PROPOSED LICENSING ACTION

The purpose of completing this RML renewal is to provide a path-forward through appropriate License Conditions to complete the closure of the Lisbon Valley Uranium Mill site and to turn the site over to the U.S. Department of Energy for long term surveillance as per the Atomic Energy Act.

INTRODUCTION TO THE TREA

On February 6, 2012, The Director of the Utah Division of Radiation Control (DRC) signed Amendment 4 to Rio Algom's Lisbon Valley facility's Radioactive Material License (RML) UT1900481. One of the changes to the RML was to License Condition 4 in which the Expiration Date was changed from "Until Terminated" to "February 1, 2013". On February 8, 2013, a Notice of Violation (NOV) was issued to Rio Algom for not submitting an RML renewal application to the DRC 30 days prior to the expiration date, as required by Utah Administrative Code (UAC) R313-22-36(1). In response to this NOV, Rio Algom paid a civil penalty and prepared an RML renewal application. To aid in the review, the DRC staff created a topical outline of the information that needed to be addressed in an RML renewal application from applicable NRC Regulatory Guides and NUREGs. This topical outline was adjusted to fit the specific licensed facility's unique circumstances. This topical outline was provided to the Licensee, for them to follow in developing their renewal application. The renewal application was submitted to the DRC on May 9, 2013. On June 17, 2013, the DRC issued a letter stating that the Renewal application was incomplete and requested that the missing information to be submitted. November 26, 2013, Rio Algom submitted the revised application for RML renewal. In support of the RML renewal application Rio Algom also submitted an application for a Groundwater Discharge Permit on October 3, 2013 and a Construction Completion Report also dated November 26, 2013. In addition to the documents submitted for the RML renewal application the following documentation was also used:

- Documents associated with the ongoing groundwater investigation that is required by License Condition 56; and
- A site radiological assessment using the RESRAD OFFSITE modeling program was submitted September 18, 2015.

As per Title II Section 102 of the National Environmental Protection Act (NEPA), Environmental Impact Statements (EIS) and Environmental Assessments (EA) are required when:

1. A Federal Agency is the regulatory agency;
2. Federal funds are being used; or
3. The proposed action is done on Federal Lands.

This RML renewal does not require a NEPA style EIS or an EA as defined by NEPA because:

1. The Utah Division of Waste Management and Radiation Control (a State Agency) is the regulatory agency;
2. No federal funds are being used for this RML renewal; and
3. The Lisbon Valley Uranium Mill site is privately owned by Rio Algom Mining LLC.

However since NRC guidance documents were used to develop the outline for the RML renewal application many of the same topics found in NEPA EAs were used in this Technical Review and Environmental Assessment.

Note: During the 2015 Utah Legislature Session, while the RML renewal process was underway the Utah Division of Radiation Control (DRC) and the Utah Division of Solid and Hazardous Waste were merged to form the Utah Division of Waste Management and Radiation Control (DWMRC). This merger transferred the regulatory oversite of the Lisbon Valley Uranium Mill to the new division. For the remainder of this document, actions completed by either the DRC or DWMRC will be referred to as DWMRC, with some exceptions, including when the language is a quote from another document.

BACKGROUND TO THE LISBON VALLEY FACILITY

The following background information was taken directly from Section 1.1 of the Environmental Assessment Report of the Rio Algom Lisbon Valley RML renewal application:

"*The Site is located in southeastern Utah. The Lisbon Mine is a former uranium mining, milling, processing, and tailings disposal site. The Site is made up of land holdings of approximately 600 acres. The Site is situated within Township 29 South, Range 24 East, Salt Lake Meridian (SLM), in San Juan County, Utah. The Site is approximately 30 miles southeast of Moab, Utah and approximately 4 miles south-southwest of the town of La Sal, Utah.*

Uranium mining operations began in May 1972 and continued until October 1988, when the mine was closed for economic reasons. Underground uranium ore was mined from a depth of 2,750 feet below ground surface (bgs). Ore was mined by conventional room and pillar and had an average uranium grade of approximately 0.20 percent uranium. In addition, ore was also processed from other mining companies and uranium-bearing residues were obtained from other process facilities for toll mining and extraction of uranium. During operation, a 750 ton per day carbonate-leach mill was used for ore processing. Milling ceased in early 1989. Water from the underground mine was stored and treated to remove radium in a nominal 7-acre pond referred to as Bisco Lake. Approximately 5.5 million tons of ore were extracted during the mine operation. A total of approximately 22 million pounds uranium concentrate were produced. The mine employed approximately 400 people.

Tailings from the ore milling process were discharged to two impoundments located northwest of the mill. The upper tailings impoundment (UTI) is located immediately east and slightly above the lower tailings impoundment (LTI). Each impoundment covers an area of approximately 50 acres. Low profile dams were constructed between the two impoundments and at the western end of the LTI. Neither impoundment possessed a constructed liner at their base.

Site reclamation commenced in 1989. Reclamation activities have included draining of Bisco Lake (1990), decommissioning of the mill (1996) and burial at the toe of the UTI, management of mine-impacted soil, excavation and disposal of unlined evaporation pond residues placement of an approved engineered earthen radon barrier, contouring and revegetation of the tailings surface, and construction of storm water diversions.

Predecessor companies to RAML began investigating tailings seepage in 1973, shortly after mine operations began. Interim remedial measures were implemented by RAML in the early 1980s to mitigate local degradation of shallow groundwater quality resulting from tailings seepage. Interim remedial measures continued, and additional site investigations were conducted, until a formal groundwater Corrective Action Program (CAP) was approved by the U.S. Nuclear Regulatory Commission (NRC) in 1990. The CAP included groundwater extraction from six wells, evaporation of extracted groundwater in ponds constructed on top of the UTI and LTI, and monitoring of groundwater quality. NRC approved cessation of the CAP in 2004 after it was demonstrated by RAML to be no longer effective at achieving operational goals.

In 2001, RAML submitted an Application for Alternate Concentration Limits (ACLs) to NRC (Lewis Water Consultants, Inc., 2001). In the application, RAML demonstrated that a monitored natural attenuation remedy was feasible for the Site. The ACL application was approved by NRC in 2004. Subsequently, RAML prepared a Long Term Groundwater Monitoring Plan (LTGMP) (Komex, 2004), which formed the basis for establishing compliance monitoring conditions in the License for the Site. In 2004, DRC obtained lead regulatory authority for the Site from NRC. From 2004 to 2010, RAML and DRC worked together to refine compliance conditions, which were ultimately incorporated into Amendment 3, Section 53, of the License. The License was approved by DRC in January 2010. Since 2004, groundwater monitoring has been conducted at the Site in accordance with the LTGMP and the License. The primary constituents of concern (COC) in groundwater at the Site are uranium, molybdenum, selenium, and arsenic. Total dissolved solids, chloride, sulfate, bicarbonate, and groundwater elevation are also monitored at the Site.

In February 2011, DRC requested RAML to address a groundwater compliance issue at the Site (DRC, 2011). In response to this request, RAML hired Montgomery & Associates (M&A), an independent hydrogeologic consulting firm, to evaluate Site data and recommend response actions. A work plan for additional characterization of groundwater conditions at the Site was approved by DRC in September 2012 (M&A, 2012). In conjunction with this approval, RAML and DRC entered into a Stipulation and Consent Agreement (SCA) (UDEQ, 2012) that outlines the requirements and schedule for a two-phase investigation and evaluation of groundwater flow and quality at the Site. The results of this investigation will be used to re-establish groundwater compliance conditions at the Site. Phase 1 of the investigation is complete and Phase 2 is scheduled to begin in July 2013 pending DRC and Bureau of Land Management (BLM) approvals".

TREA Document Format

To aid in the review, DWMRC staff created a topical outline of the information that needed to be addressed in an 11e.(2) RML renewal application from applicable NRC Regulatory Guides and

NUREGs. This topical outline was adjusted to fit the specific licensed facility's unique circumstances. This topical outline was provided to the Licensee, for them to follow in developing their renewal application. The DWMRC staff used the topical outline to develop the outline to write the Technical Review and Environmental Assessment Report (TREA).

A description of the format of the TREA is as follows:

REVIEW TOPIC:

A brief description of what information was provided by the Licensee and a justification from the DWMRC staff of why the information provided by the Licensee is complete.

APPLICABLE RULE(S) OR REGULATION(S):

The DWMRC will list the State of Utah Administrative Code Rules (UAC) and the Federal Regulations that apply to the section topic.

REFERENCES:

The DWMRC Staff will list and reference any document(s) used in the review of the section. These include but not limited to NRC Regulatory Guides, NRC NUREGs, the 11e.(2) RML License Conditions, DWMRC Forms and etc.

SECTION 1.0-PROPOSED ACTION

The Licensee in this section provided information on the history, what the current activities are being done, and the proposed action to be done at the Lisbon Valley uranium mill site. The proposed actions identified in the renewal application were:

- The continued safe and secure storage of tailings in the Upper Tailings Impoundment (UTI) and Lower Tailings Impoundment (LTI) in a manner protective of public health and the environment;
- Continued compliance with groundwater monitoring and reporting program specified in License Condition 53; and
- Complete the groundwater investigation required by License Condition 56.

The DWMRC also included to the proposed action

- To provide a regulatory path-forward to complete final closure of the Lisbon Valley Uranium mill site so it can be transferred to the United States Department of Energy (DOE) for long term surveillance.

After reviewing the information provided by Rio Algom, the DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-1(3). Purpose and Authority
R313-15-101. Radiation Protection Programs
R313-19-2(2). General
R313-22-33(1)(c). General Requirements for issuance of Specific Licenses
R313-24-4. Clarifications or Exceptions
10 CFR 40.41(c). Terms and conditions of licenses
10 CFR 40 Appendix A Criterion 4

REFERENCES:

Utah Department of Environmental Quality, Division of Radiation Control, Form DRC-01 *Application for Radioactive Material License*, Section 6 *Purpose For Which Licensed Material Will Be Used.*

United States Nuclear Regulatory Commission (NRC): *Standard Review Plan for In Situ Leach Uranium Extraction License Applications,* NUREG 1569, *Section 1.0: Proposed Activities*.

U.S. Nuclear Regulatory Commission NUREG 1748: *Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 5.1.1: Purpose and Need for the Proposed Action.*

U.S. Nuclear Regulatory Commission, Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills, Section C1: Proposed Activities.*

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: *Preparation of Environmental Reports for Uranium Mills, Chapter 1: Proposed Activities.*

SECTION 2.0-SITE CHARACTERIZATION

The information required for this section is discussed in the subsections of 2.1 through 2.14.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(a). Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 1, 4 and 6

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: *Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 2.0: Site Characterization.*

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills, Section 2.0: Site Characteristics*.

U.S. Nuclear Regulatory Commission, Regulatory Guide 3.8: *Preparation of Environmental Reports for Uranium Mills, Chapter 2: The Site.*

SECTION 2.1-LOCATION AND LEGAL DESCRIPTION

The Licensee provided information in this section by stating that the site consists of 600 acres situated on Sections 16, 21, 22 and 28 in Township 29 South, Range 24 East, Salt Lake Meridian in San Juan County, Utah. After reviewing the information provided by the Licensee, the DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-33(1)(c). General Requirements for issuance of Specific Licenses
R313-24-3(1)(a). Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 1 and 4

REFERENCES:

U.S. Nuclear Regulatory Commission, NUREG 1569: *Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 2.1: Site Location and Layout*.

U.S. Nuclear Regulatory Commission, Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills, Section 2.0 Site Characteristics*.

U.S. Nuclear Regulatory Commission, Regulatory Guide 3.8: *Preparation of Environmental Reports for Uranium Mills, Chapter 2.1: Site Location and Layout.*

SECTION 2.2-SITE LOCATION AND LAYOUT

The Licensee provided a map showing land ownership and described the location and general description of the Lisbon Valley uranium mill property. After reviewing the information provided by the Licensee, the DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-33(1)(c). General Requirements for issuance of Specific Licenses
R313-24-3(1)(a). Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 1 and 4

REFERENCES:

U.S. Nuclear Regulatory Commission, NUREG 1569: *Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 2.1: Site Location and Layout*.

U.S. Nuclear Regulatory Commission, Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills, Section 2.0 Site Characteristics*.

U.S. Nuclear Regulatory Commission, Regulatory Guide 3.8: *Preparation of Environmental Reports for Uranium Mills, Chapter 2.1: Site Location and Layout.*

SECTION 2.3-USE OF ADJACENT LANDS AND WATERS

The Licensee described the use of adjacent lands within a 1 mile radius being used for livestock. The Licensee also referenced the annual land use survey that is required by License Condition 21. The DWMRC review of the annual land use survey looks at the use of adjacent lands to 5 km (3.1 miles) radius. In a memo of DWMRC staff review of the 2015 land use survey it was noted that the document contains the following items:

1. A cover letter,
2. Contact information for the individual water well rights and property owners (address and telephone numbers),
3. UT Division of Water Rights well lists including plot positions and activity status,
4. San Juan County Section Plots (by lot number and area) & Land Ownership descriptions,
5. Division of Oil, Gas and Mining record of Oil and Gas Activity and Rights,
6. Electronic copy of the land use map (pdf), and 8½" X 11" paper copy, including all water wells and property ownership within a 5 kilometer radius,
7. Electronic copy of the land use map (pdf), and 8½" X 11" paper copy, including oil and gas wells and property ownership plots within a 5 kilometer radius,
8. Electronic copy of the land use map (pdf), and 8½" X 11" paper copy, including plots of building structures and property ownership within a 5 kilometer radius,
9. Electronic copies of all Survey Documents on Compact Disk.

DWMRC staff concluded that the 2015 annual land use survey complied with the requirements of License Condition 21. Due to the Mill being dismantled and the site in the process of being decommissioned, DWMRC staff also concluded by meeting the requirements of License Condition 21 that the information provided in the annual land use survey met the applicable regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-33(1)(c). General Requirements for Issuance of Specific Licenses
R313-24-3(1)(a). Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 1 and 4

REFERENCES:

Radioactive Material License UT1900481, License Conditions 21.

U.S. Nuclear Regulatory Commission, NUREG 1569, *Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 2.2: Uses of Adjacent Lands and Waters.*

U.S. Nuclear Regulatory Commission, NUREG 1748, *Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 5.3.1: Land Use.*

U.S. Nuclear Regulatory Commission, Regulatory Guide 3.5, *Standard Format and Content of License Applications for Uranium Mills, Section 2.0 Site Characteristics.*

U.S. Nuclear Regulatory Commission, Regulatory Guide 3.8, *Preparation of Environmental Reports for Uranium Mills, Chapter 2.2: Use of Adjacent Lands and Waters.*

SECTION 2.4-POPULATION DISTRIBUTION

The Licensee provided the population of San Juan County and the communities of La Sal, Moab and Monticello, Utah based off the 2010 U.S. Census. The Licensee did not provide information for a 50-mile radius that is suggested in guidance documents, however due to the Mill being already dismantled DWMRC staff concluded that a 50 –mile radius was not needed. DWMRC staff concluded that the information provided in the RML application met the applicable regulatory requirements for this review

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-33(1)(c). General Requirements for issuance of Specific Licenses
R313-24-3(1)(a). Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 1 and 4

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 2.0 *Site Characteristics*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 2.3: *Population Distribution*.

SECTION 2.5-HISTORIC, SCENIC, ARCHEOLOGICAL AND CULTURAL RESOURCES

The Licensee references a cultural resource survey that was conducted as part of the groundwater contamination investigation as required under License Condition 12. The RML application states that 100 known cultural resource sites were identified within a 1-mile radius of the proposed drilling locations. In accordance with License Condition 12, in conducting groundwater investigations, the Licensee must conduct additional cultural resource surveys in areas that have not been surveyed. Therefore, cultural resources within the affected area(s) of the Mill site will be protected. DWMRC staff concluded that the requirements of License Condition 12 meet the applicable regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-33(1)(c). General Requirements for issuance of Specific Licenses
R313-24-3(1)(a). Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 1 and 4

REFERENCES:

Radioactive Material License UT2300481, License Conditions 12.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 2.4: *Regional, Historic, Archeological, Architectural, Scenic, Cultural, and Natural Landmarks*.

SECTION 2.6-METEOROLOGY AND CLIMATOLOGY

The Licensee provided information on the annual average precipitation, the month of highest temperature average, the month of the lowest temperature average and the estimated average evaporation rate. In addition, the Licensee provided an Environmental Assessment (EA) done by the Bureau of Land Management (BLM) to support its application. The EA provides additional information on the meteorology and climate. DWMRC staff concluded that the information provided in both the RML renewal application and the BLM EA met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-15-302 Compliance with Dose Limits for Individuals Members of the Public
R313-15-501 Surveys and Monitoring-General
R313-24-3(1)(a) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40.65(a)(1) Effluent Monitoring Reporting Requirements
10 CFR 40 Appendix A Criterion 7 and 8

REFERENCES:

U.S. Bureau of Land Management, Finding of No Significant Impact, Environmental Assessment, DOI-BLM-UTY010-2013-00273-EA, Rio Algom Groundwater Monitoring Well Installation Project, San Juan County Utah: June 2013.

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 2.5: *Meteorology*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 5.3.6: *Meteorology, Climatology and Air Quality*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 2.2: *Meteorology*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Section 2.8: *Meteorology*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.63: Onsite Meteorological Measurement Program for Uranium Recovery Facilities- Data Acquisition and Reporting.

SECTION 2.7-GEOLOGY AND SEISMOLOGY

The Licensee described the main geologic features of the area, the stratigraphy, provided geologic figures and discussed the local seismology. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1) & (1)(a) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40.31 (h) Application for Specific Licenses
10 CFR 40 Appendix A Criterion 1,4e, 6, & 7

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 2.4 *Geology and Seismology,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 2 Section 2.5 *Geology and Soils* and Section 2.6 *Seismology,* 1982.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, Revision 1, Section 1.0 *Geology and Seismology,* 2003.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.3.3 *Geology and Soils* and Section 6.4.3 *Geology and Soils Impacts,* 2003.

SECTION 2.8-HYDROLOGY AND HYDROGEOLOGY

The information required for this section is discussed below in the subsections of 2.8.1 and 2.8.2.

APPLICABLE RULE(S) OR REGULATION(S):

10CFR 40.43 Renewal of Licenses
10CFR 40.31 Application for Specific Licenses
10 CFR 40 Appendix A Criterion 4
R317-6 Utah Ground Water Protection

REFERENCES:

None Required

SECTION 2.8.1-SURFACE WATER

In the RML renewal application the Licensee states that there are no perennial surface water bodies. The Licensee provided a figure that illustrates ephemeral drainages at the Mill site. What is shown in the figure is consistent with DWMRC staff observations when performing inspections at the facility. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1) (b) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10CFR 40.31 (h) Application for Specific Licenses
10CFR40 Appendix A Criterion 1, 4(a), 4(b) and 11

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 2.3 *Hydrology,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 2 Section 2.7 *Hydrology and* Section 2.6 *Seismology,* 1982.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, Revision 1, Section 3.0 *Surface Water Hydrology and Erosion Protection,* 2003.

SECTION 2.8.2-GROUNDWATER

Groundwater monitoring at the Mill site was conducted in accordance with the 2004 Long Term Groundwater Monitoring Plan (LTGMP) (Komex, 2004). The LTGMP was prepared in association with the 2001 Application for Alternate Concentration Limits (ACLs), submitted and approved by the NRC. In 2010, sampling results identified that uranium concentrations in monitoring well RL-1 exceeded the Mill sites Target Action Levels (TALs). Sampling results from 2011 also identified monitoring well EF-8 exceeded the TAL for uranium.

In 2012 and 2013, the Licensee prepared and implemented two separate phases of a groundwater investigation plan approved by the Director. The investigations have resulted in the installation and sampling of numerous new groundwater monitoring wells at the facility. Results from those first two phases have been reviewed by the DWMRC. The Licensee developed a third phase groundwater investigation plan as described in the *Work Plan for the Lisbon Facility Hydrogeological Supplemental Site Assessment* (December 3, 2015) and addenda dated January 12, 2016 and March 4, 2016. In addition, a new Groundwater Monitoring Plan has been developed and was approved by the DWRC in August of 2015. The Groundwater Monitoring Plan has been developed in lieu of requiring the Licensee to have a Groundwater Quality Discharge Permit for the Mill site. License Condition 29 has been modified in the RML to require the Licensee to comply with the new Groundwater Monitoring Plan. Condition 30 has been added to the Licensee comply with the requirements of the Phase 3 groundwater investigation. The groundwater investigation will continue until enough data has been collected to conceptualize groundwater flow and contaminant transport at the site, conduct numerical groundwater modeling, and establish newly approved ACLs and TALs. DWMRC staff concluded that the information submitted by the licensee adequately addressed the topics identified in the Regulatory Guided, NUREGs and Rules, as applicable to this site.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1) (b) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10CFR 40.31 (h) Application for Specific Licenses
10CFR40 Appendix A Criterion 1, 4(a), 4(b) and 11

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 2.3 *Hydrology,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 2 Section 2.7 *Hydrology and* Section 2.6 *Seismology,* 1982.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, Revision 1, Section 3.0 *Surface Water Hydrology and Erosion Protection,* 2003.

SECTION 2.9-ECOLOGY

The information required for this section is discussed below in the subsections of 2.9.1 and 2.9.2.

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-33(1)(c). General Requirements for Issuance of Specific Licenses
R313-24-3(1)(a). Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 1 and 7

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 2.8: *Ecology*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.3.5: *Ecology*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Section 2.9: *Ecology*.

SECTION 2.9.1-FLORA

In the RML renewal application, the Licensee describes the flora as a pinion-juniper-big sagebrush plant community. With the upland areas of the Mill site dominated by dwarfed pinon pine and juniper trees and the lowland areas dominated by shrubs of black sagebrush, Wyoming big sagebrush, yellow rabbit brush and black brush. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-33(1)(c). General Requirements for issuance of Specific Licenses
R313-24-3(1)(a). Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 1 and 7

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 2.8: *Ecology*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.3.5: *Ecology*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Section 2.9: *Ecology*.

SECTION 2.9.2-FUANA

The Licensee references sections 3.3.2 and 3.3.3 of an EA that was conducted by the BLM as part of the Phase 2 groundwater investigation. In this EA a survey for sensitive species was conducted that extends across the majority of the site. The sections referenced in this EA discuss both critical and noncritical species in the area around the Mill site. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-33(1)(c). General Requirements for issuance of Specific Licenses
R313-24-3(1)(a). Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 1 and 7

REFERENCES:

U.S. Bureau of Land Management, Finding of No Significant Impact, Environmental Assessment, DOI-BLM-UTY010-2013-00273-EA, Rio Algom Groundwater Monitoring Well Installation Project, San Juan County Utah: June 2013.

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 2.8: *Ecology*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.3.5: *Ecology*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Section 2.9: *Ecology*.

SECTION 2.10-SOILS

The Licensee in the RML renewal application gives a brief description of the main soil types found at the Mill site. They also provide a soils map in Figure 22 of the application that shows the locations of the different soil types. In addition the Licensee also references Section 4.3 of the Lisbon Construction Completion Report in which there is a detailed geotechnical analysis of the soil as it pertains to the final construction of the UTI and LTI. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40.31 (h) Application for Specific Licenses
10 CFR 40 Appendix A Criterion 1

REFERENCES:

Guernsey, Lisbon Construction Completion Report: Section 4.3 *Geotechnical Design Assessment/Investigation*, Prepared for Rio Algom Mining LLC, 2013.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 2.4 *Geology and Seismology,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 2 Section 2.5 *Geology and Soils,* 1982.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.3.3 *Geology and Soils* and Section 6.4.3 *Geology and Soils Impacts,* 2003.

SECTION 2.11-MINIMIZATION OF EROSION AND DISPERSION

The renewal application references Section 3.1.3 of the Lisbon Construction Completion Report. In this section of the Lisbon Construction Completion report the Licensee discusses how the impoundment design meets Criterion 4 of 10 CFR 40 Appendix A. Below are some excerpts from this discussion as it applies to minimizing erosion and dispersion of mill tailing:

"Criterion 4 sets specific technical criteria for disposal of tailings. Criterion 4 (a) requires that upstream rainfall catchment areas be minimized so that the tailings are protected from floods. This criterion was met by directing upstream drainage areas away from the tailings whenever possible. Approximately 93 percent of the upstream catchment area is diverted by a ditch to the south of the tailings impoundments."

"To minimize the effects of wind erosion, the tailings were covered with a soil/rock matrix over the radon cover."

"This criterion is met as the slopes of the tops of the tailings piles are about 2 percent and the embankment outslopes are 20 percent. These slopes are protected against extreme flood runoff conditions by a soil/rock layer on the top of the tailings and riprap on the outslopes."

"Due to the arid nature of the site, a soil/rock cover was used."

DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):
R313-24-3(1)(a) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40.31 (h) Application for Specific Licenses
10 CFR 40 Appendix A Criterion 7

REFERENCES:

Guernsey, Lisbon Construction Completion Report: Section 3.1.1.1 *Dispersion by Natural Forces* and Section 3.1.3 *Criterion 4*, Prepared for Rio Algom Mining LLC, 2013.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title **II** of the Uranium Mill Tailings Radiation Control Act of 1978, Section 3.4 *Design of Erosion Protection* and Section 3.5 *Design of Erosion Protection Covers,* 2003.

SECTION 2.12-CONSOLIDATION OF WASTE FACILITIES

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. The Lisbon Construction Completion Report describes how the facility was dismantled, cleaned up and consolidated into the tailings impoundments. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40.31 (h) Application for Specific Licenses
10 CFR 40 Appendix A Criterion 2

REFERENCES:

Guernsey, Lisbon Construction Completion Report: Section 3.1.1.1 *Dispersion by Natural Forces* and Section 3.1.3 *Criterion 4*, Prepared for Rio Algom Mining LLC, 2013.

SECTION 2.13-BACKGROUND RADIOLOGICAL CHARACTERISTICS

The renewal application references the Lisbon Construction Completion Report. In Section 5.1.2.5 the Licensee discusses the Background levels of Radium-226. The following is from the Lisbon Construction Completion Report:

"In the summer of 1997, soil samples were collected near the Lisbon mill site to determine the background level of radium-226 concentrations in the area. These samples were collected on the eight points of the compass at a distance of two kilometers from the center of the site. A survey crew was enlisted to locate and mark the eight points. Below, Table 5.1-3 lists the radium-226 concentrations found.

Table 5.1-3 Background Radium-226 Concentrations Near the RAMC Lisbon Mill

Compass Position	*Zero to Six-Inch Ra-226 pCi/g*	*Six to Twelve-Inch Ra-226 pCi/g*
North	*1.3*	*1.5*
Northeast	*1.1*	*0.9*
East	*1.4*	*0.8*
Southeast	*1.3*	*1.3*
South	*1.2*	*0.3*
Southwest	*32.1*	*5.3*
West	*1.1*	*1.1*
Northwest	*1.4*	*0.6*
*Average**	*1.2*	*0.9*

** The averages listed above reflect only seven of the eight sample points. The Southwest point coincidentally was located in the parking lot of an abandoned Uranium mine across the Lisbon Valley fault from the Lisbon site. If the average of all eight points would have been used, the values for the six- and twelve-inch backgrounds would have been 5.1 pCi/g and 1.5 pCi/g. The use of these averages would have presented an erroneously high indication of the natural radium-226 concentration background."*

DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses
10 CFR 40 Appendix A Criterion 7

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 2.9: *Backgound Radiological Characteristics*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Section 2.10: *Background Radiological Characteristics*.

SECTION 2.14-BACKGROUND NON-RADIOLOGICAL CHARACTERISTICS

Background groundwater monitoring wells have been installed. Background data is found in the annual monitoring reports. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses
10 CFR 40 Appendix A Criterion 7

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Section 2.11: *Background Nonradiological Characteristics*.

SECTION 3.0-DESCRIPTION OF FACILITY

The Licensee states that the Mill has been dismantled and describes the Mill sites current features as:

- Access and service roads around the fenced licensed facility;
- Two engineered tailings impoundments (the UTI and LTI)
- Storm water diversion channels; and
- Groundwater monitoring wells.

Except for the access and service roads, each feature is discussed in more detail in the sections below. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-33(1)(b) General Requirements for the Issuance of Specific Licenses
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 4 and 5

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 3.0 *Mill Process and Equipment,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 2 Section 3.0 *The Mill and Mine,* 1982.

SECTION 3.1-EMBANKMENT DESIGN, CONSTRUCTION AND PERFORMANCE

On November 26, 2013 as part of the RML renewal application, the Licensee submitted the Final Construction Completion Report. DWMRC staff reviewed this report and sent the Licensee a Request for Information (RFI) on November 26, 2014. The Licensee responded to the RFI on March 3, 2015; however, the Licensee's response did not resolve all of the DWMRC staff concerns with the embankment design, construction and performance. These concerns are not health and safety related. Rather the concerns are about long term performance of the UTI and LTI. Therefore License Condition 22E has been added to RML UT1900481 in which the Licensee will be required to submit a plan to resolve the DWMRC staff concerns about the embankment design, construction and performance of the UTI and LTI.

APPLICABLE RULE(S) OR REGULATION(S):
R313-22-33(1)(b) General Requirements for the Issuance of Specific Licenses
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 4 and 5

REFERENCES:

Guernsey, Lisbon Construction Completion Report: Prepared for Rio Algom Mining LLC, 2013.

Guernsey, Guernsey's Responses to Comments made by: State of Utah, Department of Environmental Quality Division of Radiation Control, March 3, 2015.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 3.0 *Mill Process and Equipment,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 2 Section 3.0 *The Mill and Mine,* 1982.

Utah Division of Radiation Control, *RML# UT1900481: Request for Information, Review of Final Construction Completion Report, Lisbon Mine, Utah, report dated November, 25, 2013*, November 26, 2014.

SECTION 3.1.1-STORM-WATER DESIGN

On November 26, 2013 as part of the RML renewal application, the Licensee submitted the Final Construction Completion Report. DWMRC staff reviewed this report and sent the Licensee a Request for Information (RFI) on November 26, 2014. The Licensee responded to the RFI on March 3, 2015; however, the Licensee's response did not resolve all of the DWMRC staff concerns with the storm-water design. Specifically how well precipitation and snow melt flows off the UTI and LTI. These concerns are not health and safety related. Rather the concerns are about long term performance of the UTI and LTI. Therefore License Condition 22E has been added to RML UT1900481 in which the Licensee will be required to submit a plan to resolve the DWMRC staff concerns about the storm-water design of the UTI and LTI.

APPLICABLE RULE(S) OR REGULATION(S):
10CFR 40.43 Renewal of Licenses
10CFR 40.31 Application for Specific Licenses
10 CFR 40 Appendix A Criterion 4
R317-6 Utah Ground Water Quality Protection

REFERENCES:

Guernsey, Lisbon Construction Completion Report: Prepared for Rio Algom Mining LLC, 2013.

Guernsey, Guernsey's Responses to Comments made by: State of Utah, Department of Environmental Quality Division of Radiation Control, March 3, 2015.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, Revision 1, Section 3.0 *Surface Water Hydrology and Erosion Protection,* 2003.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1623: Design of Erosion Protection for Long Term Stability, Revision 1, 2002.

Utah Division of Radiation Control, *RML# UT1900481: Request for Information, Review of Final Construction Completion Report, Lisbon Mine, Utah, report dated November, 25, 2013*, November 26, 2014.

SECTION 3.1.2-COVER DESIGN AND CONSTRUCTION

On November 26, 2013 as part of the RML renewal application, the Licensee submitted the Final Construction Completion Report. DWMRC staff reviewed this report and sent the Licensee a Request for Information (RFI) on November 26, 2014. The Licensee responded to the RFI on March 3, 2015; however, the Licensee's response did not resolve all of the DWMRC staff concerns with the cover design and construction. These concerns are not health and safety related. Rather the concerns are about long term performance of the UTI and LTI. Therefore License Condition 22E has been added to RML UT1900481 in which the Licensee will be required to submit a plan to resolve the DWMRC staff concerns about the cover design and construction of the UTI and LTI.

APPLICABLE RULE(S) OR REGULATION(S):
10CFR 40.43 Renewal of Licenses
10CFR 40.31 Application for Specific Licenses
10 CFR 40 Appendix A Criterion 4
R317-6 Utah Ground Water Quality Protection

REFERENCES:

Guernsey, Lisbon Construction Completion Report: Prepared for Rio Algom Mining LLC, 2013.

Guernsey, Guernsey's Responses to Comments made by: State of Utah, Department of Environmental Quality Division of Radiation Control, March 3, 2015.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, Revision 1, Section 3.0 *Surface Water Hydrology and Erosion Protection,* 2003.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1623: Design of Erosion Protection for Long Term Stability, Revision 1, 2002.

Utah Division of Radiation Control, *RML# UT1900481: Request for Information, Review of Final Construction Completion Report, Lisbon Mine, Utah, report dated November, 25, 2013*, November 26, 2014.

SECTION 3.1.3-MONITORING WELLS

The Licensee references the ongoing groundwater investigation being conducted and the Mill site. The locations and construction details of the monitoring well network at the Mill site are being reviewed and approved (as necessary) in accordance with a February 7, 2011 Confirmatory Action Letter issued to the Licensee by the Director, requiring re-evaluation of the current License conditions for groundwater compliance, and subsequent agreements for study by Stipulation and Consent Agreements (SCA's), including the most recent May 9, 2016 Duly Executed SCA to evaluate and reassess the currently Licensed Groundwater Alternate Concentration Limits (ACL's) and Target Action Levels (TAL's). License Condition 30 has been added to RML UT1900481 to require the Licensee to submit a draft final report to the Director for approval on the date specified in the currently approved SCA which will document actions completed as part of the groundwater investigation. Per agreements in the May 9, 2016 SCA, the submission date of the draft final report may be extended if approved by the Director.

APPLICABLE RULE(S) OR REGULATION(S):

R317-6 Ground Water Quality Protection

REFERENCES:

None required.

SECTION 3.2-INSTRUMENTATION AND CONTROL

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. The only other instrumentation and controls used at the site are for the ongoing groundwater investigation. The only control structures at the site are perimeter diversion channels for storm water. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-15-406 Minimization of Contamination
R313-22-33(1)(b) General Requirements for the Issuance of Specific Licenses.
R313-24-4. Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 4

REFERENCES:

Utah Department of Environmental Quality, Division of Radiation Control, Form DRC-01 APPLICATION FROM RADIOACTIVE MATERIAL LICENSE, Section 9 *FACILITIES AND EQUIPMENT.*

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 3.3: Instrumentation and Control.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.6: Environmental Measurements and Monitoring Programs.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Sections C3.2: Mill Equipment and C3.3: Instrumentation.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Section 6.2: Applicant's Proposed Operational Monitoring Programs.

SECTION 4.0-EFFLUENT CONTROL SYSTEMS

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. Normal effluent controls associated with uranium mills are no longer applicable. More specific information required for this section is discussed in the subsections of 4.1 through 4.3.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-4 Clarifications or Exceptions
10 CFR 40.65(a)(1) Effluent Monitoring Reporting Requirements
10 CFR 40 Appendix A Criterion 7 and 8

REFERENCES:

Utah Department of Environmental Quality, Division of Radiation Control, Form DRC-01 APPLICATION FROM RADIOACTIVE MATERIAL LICENSE, Section 11 *WASTE MANAGEMENT.*

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 4.0: *Effluent Control Systems*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Sections C3.4: *Waste Management System*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Section 6.2: *Applicant's Proposed Operational Monitoring Programs*.

SECTION 4.1-GASEOUS AND AIRBORNE PARTICULATES

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. The Licensee describes in the RML renewal application that the only particulate emissions that occur at the site is fugitive dust emissions during drilling of monitoring wells. The Licensee controls this fugitive dust with water. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-4 Clarifications or Exceptions
10 CFR 40.65(a)(1) Effluent Monitoring Reporting Requirements
10 CFR 40 Appendix A Criterion 7 and 8

REFERENCES:

Utah Department of Environmental Quality, Division of Radiation Control, Form DRC-01 APPLICATION FROM RADIOACTIVE MATERIAL LICENSE, Section 11 *WASTE MANAGEMENT.*

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 4.1: *Gaseous and Airborne Particles*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Sections C3.4: *Waste Management System*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Section 6.2: *Applicant's Proposed Operational Monitoring Programs*.

SECTION 4.2-LIQUIDS AND SOLIDS

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. The Licensee describes in the RML renewal application that the only liquids and solids that need to be managed are from drilling and sampling of monitoring wells. The drill cutting and the waste water from these activities are sent offsite and disposed of at an appropriate disposal facility. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-4 Clarifications or Exceptions
10 CFR 40.65(a)(1) Effluent Monitoring Reporting Requirements
10 CFR 40 Appendix A Criterion 7 and 8

REFERENCES:

Utah Department of Environmental Quality, Division of Radiation Control, Form DRC-01 APPLICATION FROM RADIOACTIVE MATERIAL LICENSE, Section 11 *WASTE MANAGEMENT.*

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 4.2: *Liquids and Solids*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Sections C3.4: *Waste Management System.*

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Section 6.2: *Applicant's Proposed Operational Monitoring Programs*.

SECTION 4.3-CONTAMINATED EQUIPMENT

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. The Licensee describes in the RML renewal application that the only contaminated equipment will be from drilling and sampling of monitoring wells. The Licensee will decontaminate the equipment according to decontamination procedures found in Appendix A and C of the Phase 2 Work Plan. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-32(5) Filing Application for Specific Licenses
R313-24-4 Clarifications or Exceptions
10 CFR 40.65(a)(1) Effluent Monitoring Reporting Requirements
10 CFR 40 Appendix A Criterion 7 and 8

REFERENCES:

Utah Department of Environmental Quality, Division of Radiation Control, Form DRC-01 *Application for Radioactive Material License*, Section 11: *Waste Management*.

U.S. Nuclear Regulatory Commission NUREG 1569: *Standard Review Plan for In Situ Leach Uranium Extraction License Applications*, Section 4.3: *Contaminated Equipment*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills*, Section 3.4: *Waste Management System*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: *Preparation of Environmental Reports for Uranium Mills*, Section 6.2: *Applicant's Proposed Operational Monitoring Programs.*

SECTION 5.0-OPERATIONS

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. Work activities at the site are for specific projects that do not have personnel present at the Mill site on a continuous basis. The requirements of this section are discussed in the subsections 5.1 through 5.7.14 below.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses
10 CFR 40 Appendix A Criterion 2

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 5.0: *Operations*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Sections C5: *Operations*.

SECTION 5.1-CORPORATE ORGANIZATION AND ADMINISTRATIVE PROCEDURES

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments because of this the mill site does not have a full time staff present. In the RML renewal application the Licensee provided an organizational chart. In addition as organizational changes have occurred since the RML application was submitted, the Licensee has informed the DWMRC of those changes in writing. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-32 Filing Application for Specific Licenses.
R313-22-33(1)(a) General Requirements for the Issuance of Specific Licenses.
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills.

Rio Algom Mining LLC, (2014), *Rio Algom Mining LLC Lisbon Facility Radioactive Materials License No. UT 1900481 Change in Site Management*, Grants New Mexico

SECTION 5.1.1-STANDARD OPERATING PROCEDURES

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. In the RML renewal application the Licensee referenced the SOPs associated with the groundwater investigation and monitoring. The Licensee also stated that other SOPs are no longer needed. A new License Condition 15 requires all SOPs replaced with work plans and any modifications must be approved prior to work beginning. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program

REFERENCES:

Radioactive Material License UT1900481, License Condition 15

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 2.2 *Operating Procedures.*

SECTION 5.2-MANAGEMENT CONTROL PROGRAM

In the RML renewal application, the Licensee references the Site-specific Health and Safety and Environmental program. This program identifies the hazards associated with the care and maintenance activities at the Lisbon mill site. On July 28, 2016, the Licensee also submitted a Site-Specific Health and Safety Plan for the Hydrogeological Supplemental Site Assessment work being done at the Mill site. Division reviewed this plan and found it to be sufficient for the work being performed at the mill site.

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-32 Filing Application for Specific Licenses.
R313-22-33(1)(a) General Requirements for the Issuance of Specific Licenses.
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills.*

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 1.1 *Licensee Management.*

SECTION 5.3-MANAGEMENT AUDIT, INSPECTION AND RECORDKEEPING PROGRAM

The requirements of this section and the associated interrogatories are discussed in the subsections 5.3.1 and 5.3.1.1 below.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills.*

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 2.3 *Surveillance: Audits and Inspections.*

SECTION 5.3.1-MANAGEMENT AUDIT, INSPECTION AND INTERNAL INSPECTION PROGRAM

The Licensee states that they continue to implement a Health, Safety. Environmental and Community Management System, which examines all radiation safety issues and the risks associated with them. This management system includes:

1. Identification of actions to reduce or eliminate the exposure of workers and the public;
2. Creating awareness to radiation safety and ALARA principles; and
3. Prepare hazard identification and assessment processes.

The Licensee states individual exposure and health monitoring is no longer necessary for this site. This was determined from historical monitoring data. The only relevant and applicable activities at the Mill site are the quarterly site inspections, routine groundwater sampling and the groundwater investigation. The Licensee also submitted to the DWMRC a report in September of 2015 titled "Radiological Dose Modeling for Post-cleanup Conditions at the Former Lisbon Uranium Mill Site". In this report the Licensee states *"This dose assessment pertains only to areas where unrestricted land uses can reasonably be expected in the future, locations where soil cleanup and post-remediation verification sampling was conducted as described in the Completion Report."* DWMRC staff reviewed this report and determined that it adequately demonstrates that areas outside the tailings impoundments will meet regulatory dose requirements. Therefore activities such as the quarterly site inspections and groundwater investigation conducted outside the tailing impoundments should meet regulatory dose requirements. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills.*

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 2.3 *Surveillance: Audits and Inspections.*

SECTION 5.3.1.1-DAILY, WEEKLY AND MONTHLY INSPECTIONS

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments; because of this, the mill site does not have a full time staff onsite. Therefore daily, weekly and monthly inspections are not necessary. The Licensee will conduct quarterly inspections where they check and repair perimeter fencing and check and replace postings. The Licensee then reports these quarterly inspections to the DWMRC. This was added to License Condition 10. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 8a

REFERENCES:

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 2.3 *Surveillance: Audits and Inspections.*

SECTION 5.3.2-RECORDKEEPING AND RECORD RETENTION

The requirements of this section and the associated interrogatories are discussed in the subsections 5.3.2.1 and 5.3.2.9 below.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-1101 Records- General Provision
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses
10 CFR 40.61 Records

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills.

SECTION 5.3.2.1-RECORDS OF RADIATION PROTECTION PROGRAM

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments; because of this, the mill site does not have a full time staff onsite. All records associated with the Lisbon Valley facility are kept off site. Therefore, the DWMRC will contact the project manager of the site and request that records be sent to the Division for review as needed. The Licensee stated that they will maintain records in accordance with R313-15-1102. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-1102 Records of Radiation Protection Program

REFERENCES:

Radioactive Material License UT2300478, License Condition 12.6

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills.

SECTION 5.3.2.2-RECORDS OF SURVEYS

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments; because of this, the mill site does not have a full time staff onsite. All records associated with the Lisbon Valley facility are kept off site. Therefore, the DWMRC will contact the project manager to request records be sent to the Division as needed. The Licensee stated that they will maintain records in accordance with R313-15-1103. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-1103 Records of Surveys

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills.

SECTION 5.3.2.3-RECORDS OF TEST FOR LEAKAGE OR CONTAMINATION OF SEALED SOURCES

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. The Licensee states in the RML renewal application that there are no sealed sources at the Mill site. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-1104 Records of Tests for Leakage or Contamination of Sealed Sources

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills.*

SECTION 5.3.2.4-RECORDS OF PRIOR OCCUPATIONAL DOSE

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments; because of this, the mill site does not have a full time staff onsite. All records associated with the Lisbon Valley facility are kept off site. Therefore, the DWMRC will contact the project manager of the site to request records be sent to the Division as needed. The Licensee stated that they will maintain records in accordance with R313-15-1105. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-1105 Records of Prior Occupational Dose

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills.*

SECTION 5.3.2.5-RECORDS OF PLANNED SPECIAL EXPOSURES

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. The Licensee does not anticipate the need for a planned special exposure. If the need for a planned special exposure does arise then the Licensee is required to comply the records requirements found in R313-15-1106. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-1106 Records of Planned Special Exposures
R313-15-206 Planned Special Exposures

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills.*

SECTION 5.3.2.6-RECORDS OF INDIVIDUAL MONITORING RESULTS

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments; because of this, the mill site does not have a full time staff onsite. All records associated with the Lisbon Valley facility are kept off site. Therefore, the DWMRC will contact the project manager of the site to request records to be sent to the Division as needed. The Licensee stated that they will maintain records in accordance with R313-15-1107. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-1107 Records of Individual Monitoring Results

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5*: Standard Format and Content of License Applications for Uranium Mills.*

SECTION 5.3.2.7-RECORDS OF DOSE TO INDIVIDUAL MEMBERS OF THE PUBLIC

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments; because of this, the mill site does not have a full time staff onsite. All records associated with the Lisbon Valley facility are kept off site. Therefore, the DWMRC will contact the project manager of the site to request records be sent to the Division as needed. The Licensee stated that they will maintain records in accordance with R313-15-1108. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-1108 Records of Dose to Individual Members of the Public

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills.*

SECTION 5.3.2.8-RECORDS OF WASTE DISPOSAL

The Licensee states that the only waste disposal activities are associated with the groundwater investigation. The Licensee stated that they will maintain records in accordance with R313-15-1109 and that they are included in the groundwater investigation reports. The Director has required that all purge water from the groundwater monitoring activities are containerized and disposed of properly. These requirements are included in the approved Groundwater Monitoring Plan, Version 2, Section 3.6 which states that a Licensee representative will sign and retain copies of all transport and disposal manifests for the purged groundwater. These records may be requested by the Director as needed to verify proper disposal. Additionally, DWMRC representatives conduct an annual inspection of RAML groundwater monitoring procedures to verify that all purge water is properly containerized for disposal.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-1109 Records of Waste Disposal

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills.

SECTION 5.3.2.9-FORMS OF RECORDS

The Licensee stated that they will maintain records in accordance with R313-15-1111. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-1111 Form of Records

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills.*

SECTION 5.4-QUALIFICATIONS FOR PERSONNEL

In the RML renewal application, the Licensee provided a brief description of each individual's education and work experience who are working with the Mill site. In addition, as changes have occurred since the RML application was submitted, the Licensee has informed the DWMRC of those changes in writing and included a brief description of their qualifications. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-22-32 Filing Application for Specific Licenses.
R313-22-33(1)(a) General Requirements for the Issuance of Specific Licenses.
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills.

SECTION 5.4.1-RADIATION SAFETY OFFICER (RSO) QUALIFICATIONS

In the RML renewal application, the Licensee provided a brief description of the Mill's RSO's education and work experience who are working with the Mill site. In addition, as changes have occurred since the RML application was submitted, the Licensee has informed the DWMRC of those changes in writing and included a brief description of their qualifications. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

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:

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 1.2 *Radiation Safety Officer* and Section 2.4. *Technical Qualifications of Health Physics Staff.*

Utah Department of Environmental Quality, Division of Radiation Control, Form DRC-01 APPLICATION FOR RADIOACTIVE MATERIAL LICENSE, Section 7 *INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE.*

SECTION 5.4.2-RADIATION SAFETY STAFF

The Licensee states that the RSO is a contractor and that additional radiation safety staff are employed through the contractor. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

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:

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 1.2 *Radiation Safety Officer* and Section 2.4. *Technical Qualifications of Health Physics Staff.*

Utah Department of Environmental Quality, Division of Radiation Control, Form DRC-01 APPLICATION FOR RADIOACTIVE MATERIAL LICENSE, Section 7 *INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE.*

SECTION 5.5-RADIATION SAFETY TRAINING

The Licensee provided a copy of their power point presentation used for radiation induction training given to the contractors who perform work that may expose them to licensed material at the Mill. DWMRC staff compared this power point presentation to the outline found in NRC Regulatory Guide 8.31 Section 2.5 *Radiation Safety Training*. DWMRC staff concluded that the radiation protection training provided to contractors working at the Mill site met the basic training requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Programs
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses

REFERENCES:

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.*

SECTION 5.6-SECURITY (ADMINISTRATION PROCEDURES AND PHYSICAL BARRIERS)

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments, because of this, the mill site does not have a full time staff present. The perimeter fence is a five strand barbed wire fence with a main access gate that is locked. License Condition 10 requires the Licensee to conduct quarterly inspections where they check and repair perimeter fencing and check and replace postings. License Condition 10.B. requires the Licensee to submit these quarterly inspection reports to the DWMRC for approval. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-801 Security and Control of Licensed or Registered Sources of Radiation.
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 5.4 *Security*.

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 3.2 *Access Control.*

SECTION 5.6.1-ACCESS CONTROL

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments; because of this, the mill site does not have a full time staff onsite. The perimeter fence is a five strand barbed wire fence with a main access gate that is locked. License Condition 10 requires the Licensee to conduct quarterly inspections where they check and repair perimeter fencing and check and replace postings. License Condition 10.B. requires the Licensee to submit these quarterly inspection reports to the DWMRC in a letter for approval. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-801 Security and Control of Licensed or Registered Sources of Radiation.
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 5.4 *Security*.

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 3.2 *Access Control.*

SECTION 5.6.2-SIGNS AND POSTING

The Licensee states that the Mill site is appropriately posted as an inactive uranium mill site. During inspection of the Lisbon Valley mill facility, DWMRC inspectors have observed the required postings. License Condition 10 requires the Licensee to comply with the posting requirements specified in 10 C.F.R. § 20.1902, as incorporated by reference in R313-15-902(5) Utah Admin. Code.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-901 Caution Signs.
R313-15-902 Posting Requirements.
R313-15-903 Exceptions to Posting Requirements.

REFERENCES:

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 3.2 *Access Control.*

SECTION 5.7-RADIATION CONTROL AND MONITORING

Licensee Condition 15 was added to the license to replace Mill standard operations procedures and to require the Licensee to prepare and implement project specific assessment work plans (Radiation Work Permits) as approved by the Director. These work plans are required to include radiological control and monitoring for the activities being conducted.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Manual
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 7

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 5.5 *Radiation Safety*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 6: *Effluent and Environmental Measurements and Monitoring Programs*.

Utah Department of Environmental Quality, Division of Radiation Control, Form DRC-01 APPLICATION FOR RADIOACTIVE MATERIAL LICENSE, Section 10, RADIATION SAFETY PROGRAM.

SECTION 5.7.1-ALARA PROGRAM

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments because of this the mill site does not have a full time staff onsite. Thus, the ALARA report requirement has been removed from the RML as it is no longer needed.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101(2) Radiation Protection Program
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 7

REFERENCES:

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 5.7.2-RADIATION SAFETY PROGRAM

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments, because of this, the mill site does not have a full time staff onsite. The Licensee states that they implemented a health physics program during drilling activities associated with the groundwater investigation. They also stated that the data gathered shows that this type of monitoring is not needed and are requesting that a health physics program not be required at the Mill facility.

The Licensee also submitted to the DWMRC a report in September of 2015 titled "Radiological Dose Modeling for Post-cleanup Conditions at the Former Lisbon Uranium Mill Site". In this report the Licensee states "*This dose assessment pertains only to areas where unrestricted land uses can reasonably be expected in the future, locations where soil cleanup and post-remediation verification sampling was conducted as described in the Completion Report."* DWMRC staff reviewed this report and determined that it adequately demonstrates that areas outside the tailings impoundments will meet regulatory dose requirements. Therefore, activities such as the quarterly site inspections and groundwater investigation conducted outside the tailing impoundments should meet regulatory dose requirements. However, any work performed within the tailings impoundment must demonstrate regulatory compliance with all applicable radiation safety requirements. DWMRC staff concludes that compliance with regulatory dose requirements will be demonstrated through the written site assessment work plans required by License Condition 15.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 7

REFERENCES:

Utah Department of Environmental Quality, Division of Radiation Control, Form DRC-01 APPLICATION FOR RADIOACTIVE MATERIAL LICENSE, Section 10, RADIATION SAFETY PROGRAM.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 5.5 *Radiation Safety*.

SECTION 5.7.3-RADIATION WORK PERMITS

The Licensee stated that they used Radiation Work Permits during the drilling activities associated with the groundwater investigation. However, the Uranium mill at this facility has been dismantled and placed into the tailings impoundments; because of this, the mill site does not have a full time staff onsite. The RWP requirement has been added to License Condition 15 of the RML and specifies that RWP are only required for activities that involve potential worker exposure to licensed material. Site investigation plans will cover this requirement as necessary.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program

REFERENCES:

Radioactive Material License UT2300478, License Condition 38

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 2.2 *Operating Procedures.*

SECTION 5.7.4-RESPIRATORY PROTECTION PROGRAM

The Licensee states that air monitoring data from the drilling activities associated with the groundwater investigation demonstrates that respiratory protection is no longer needed at the Lisbon facility.

The Licensee also submitted to the DWMRC a report in September of 2015 titled "Radiological Dose Modeling for Post-cleanup Conditions at the Former Lisbon Uranium Mill Site". In this report the Licensee states *"This dose assessment pertains only to areas where unrestricted land uses can reasonably be expected in the future, locations where soil cleanup and post-remediation verification sampling was conducted as described in the Completion Report."* DWMRC staff reviewed this report and determined that it adequately demonstrates that areas outside the tailings impoundments will meet regulatory dose requirements. Therefore, activities such as the quarterly site inspections and groundwater investigation conducted outside the tailing impoundments should meet regulatory dose requirements. However, any work performed within the tailings impoundment must demonstrate regulatory compliance with all applicable radiation safety requirements. DWMRC staff concludes that compliance with the regulatory dose requirements will be demonstrated with the written site assessment work plans required by License Condition 15.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-703 Use of Individual Respiratory Protection Equipment
R313-15-704 Further Restrictions on the Use of Respiratory Protection Equipment

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 8.15: Acceptable Programs for Respiratory Protection, Revision 1, October 1999.

Utah Department of Environmental Quality, Division of Radiation Control, Form DRC-01 APPLICATION FOR RADIOACTIVE MATERIAL LICENSE, Section 10 *Radiation Safety Program.*

SECTION 5.7.5-RADIOLOGICAL SURVEYS

The Licensee stated that all radiological survey equipment was calibrated within the last 12 months.

The Licensee also submitted to the DWMRC a report in September of 2015 titled "Radiological Dose Modeling for Post-cleanup Conditions at the Former Lisbon Uranium Mill Site". In this report the Licensee *states "This dose assessment pertains only to areas where unrestricted land uses can reasonably be expected in the future, locations where soil cleanup and post-remediation verification sampling was conducted as described in the Completion Report."* DWMRC staff reviewed this report and determined that it adequately demonstrates that areas outside the tailings impoundments will meet regulatory dose requirements. Therefore, activities such as the quarterly site inspections and groundwater investigation conducted outside the tailing impoundments should meet regulatory dose requirements. However, any work performed within the tailings impoundment must demonstrate regulatory compliance with all applicable radiation safety requirements. DWMRC staff concludes that compliance with regulatory dose requirements will be demonstrated with the written site assessment work plans required by License Condition 15.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-15-501 Surveys and Monitoring- General
R313-19-100 Transportation
49 CFR 173.443 Contamination Control

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 8.30: Health Physics Surveys in Uranium Recovery facilities.

U.S. Nuclear Regulatory Commission Regulatory Guide 1.86: Termination of Operating Licenses for Nuclear Reactors, Table 1 *Acceptable Surface Contamination Levels*.

SECTION 5.7.6-EFFLUENT CONTROL TECHNIQUES

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. The Licensee describes in the RML renewal application that the only particulate emissions that occur at the site is fugitive dust emissions during drilling of monitoring wells. The Licensee controls this fugitive dust with water. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 7

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills.

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 5.7.7-EXTERNAL RADIATION EXPOSURE MONITORING PROGRAM

The Licensee states that thermoluminescent dosimeters (TLD) were issued to personnel working at the Mill facility during the groundwater investigation. These TLDs were analyzed by an accredited laboratory and the results were nondetect.

The Licensee also submitted to the DWMRC a report in September of 2015 titled "*Radiological Dose Modeling for Post-cleanup Conditions at the Former Lisbon Uranium Mill Site*". In this report the Licensee states "*This dose assessment pertains only to areas where unrestricted land uses can reasonably be expected in the future, locations where soil cleanup and post-remediation verification sampling was conducted as described in the Completion Report."* DWMRC staff reviewed this report and determined that it adequately demonstrates that areas outside the tailings impoundments will meet regulatory dose requirements. Therefore, activities such as the quarterly site inspections and groundwater investigation conducted outside the tailing impoundments should meet regulatory dose requirements. However, any work performed within the tailings impoundment must demonstrate regulatory compliance with all applicable radiation safety requirements. DWMRC staff concludes that compliance with regulatory dose requirements will be demonstrated with the written site assessment work plans required by License Condition 15.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-201 Occupational Dose Limits for Adults.
R313-15-202 Compliance with Requirements for Summation of External and Internal Doses.
R313-15-203 Determination of External Dose from Airborne Radioactive Material.
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 7

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 5.5: *Radiation Safety*.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.30: Health Physics Surveys in Uranium Recovery facilities, Section 2.4 *Surveys for External Radiation*.

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 5.7.2: *External Radiation Exposure Monitoring Program*.

SECTION 5.7.7.1-DOSIMETRY

The Licensee states that the personnel working at the Mill site were instructed on the proper use of TLD badges. The DWMRC staff reviewed the training material provided in the application and was able to confirm that the TLDs are to be placed between the neck and the waist. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-15-501 Surveys and Monitoring-General
R313-15-502 Conditions Requiring Individual Monitoring of External and Internal Occupational Dose
R313-15-503 Location of Individual Monitoring Devices

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 5.5: *Radiation Safety*.

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 5.7.2: *External Radiation Exposure Monitoring Program.*

SECTION 5.7.8-AIRBORNE RADIATION MONITORING PROGRAM

The Licensee submitted to the DWMRC a report in September of 2015 titled "Radiological Dose Modeling for Post-cleanup Conditions at the Former Lisbon Uranium Mill Site". In this report the Licensee states *"This dose assessment pertains only to areas where unrestricted land uses can reasonably be expected in the future, locations where soil cleanup and post-remediation verification sampling was conducted as described in the Completion Report."* DWMRC staff reviewed this report and determined that it adequately demonstrates that areas outside the tailings impoundments will meet regulatory dose requirements. Therefore, activities such as the quarterly site inspections and groundwater investigation conducted outside the tailing impoundments should meet regulatory dose requirements. However, any work performed within the tailings impoundment needs to demonstrate regulatory compliance with all applicable radiation safety requirements. DWMRC staff concludes that compliance with regulatory dose requirements will be demonstrated with the written site assessment work plans required by License Condition 15.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-201 Occupational Dose Limits for Adults.
R313-15-202 Compliance with Requirements for Summation of External and Internal Doses.
R313-15-203 Determination of External Dose from Airborne Radioactive Material.
R313-15-204 Determination of Internal Exposure
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 7

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 8.25: Air Sampling in the Workplace.

SECTION 5.7.9-EXPOSURE CALCULATIONS

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. The new License Condition 15 will replace standard operating procedures with site assessment work plans (i.e. groundwater investigation). For activities where workers may be exposed to licensed material, these work plans will be required to include radiation work permits where the appropriate radiological calculations will be identified and assessed.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-201 Occupational Dose Limits for Adults
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 7

REFERENCES:

None required

SECTION 5.7.9.1-EXTERNAL AND INTERNAL DOSE

The new License Condition 15 will replace standard operating procedures with site assessment work plans (i.e. groundwater investigation). For activities where workers may be exposed to licensed material, these work plans will be required to include radiation work permits where the appropriate radiological calculations will be identified and assessed. One of these radiological calculations will show expected external and internal dose.

APPLICABLE RULE(S) OR REGULATION(S):

R313-1-202 Compliance with Requirements for Summation of External and Internal Doses.

REFERENCES:

ICRP, "Dose Coefficients for Intakes of Radionuclides by Workers." ICRP68. Ann. ICRP 24, 1994

SECTION 5.7.9.2-PRIOR OCCUPATIONAL DOSE

The new License Condition 15 will replace standard operating procedures with site assessment work plans (i.e. groundwater investigation). For activities where workers may be exposed to licensed materials, these work plans will be required to include radiation work permits where the appropriate radiological calculations will be identified and assessed. One of these radiological calculations will show how the prior occupational dose of the personnel working at the Mill site was obtained and calculated.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-205 Determination of Prior Occupational Exposure.

REFERENCES:

None required

SECTION 5.7.9.3-PLANNED SPECIAL EXPOSURES

The new License Condition 15 will replace standard operating procedures with site assessment work plans (i.e. groundwater investigation). For activities where workers may be exposed to licensed materials, these work plans will be required to include radiation work permits where the appropriate radiological calculations will be identified and assessed. Due to the current radiological conditions at the Mill site it is very unlikely that a planned special exposure event will occur. However, if a planned special exposure event were to take place at the Mill site then the exposure calculation for that event must be documented.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-2 Definitions
R313-15-206 Planned Special Exposures

REFERENCES:

None Required

SECTION 5.7.9.4-OCCUPATIONAL DOSE FOR MINORS

Licensee Condition 15 was added to the license and will replace Mill standard operations procedures with project specific assessment work plans. For activities where workers may be exposed to licensed materials, these work plans will include radiation work permits where radiological calculation will be identified and assessed. It is unlikely that minors (i.e. under the age of 18) will be working at the Mill site. However, if a minor does work at the site, the radiation calculations will be the occupational dose for the individual during the site activities.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-207 Occupational Dose Limits for Minors

REFERENCES:

None required

SECTION 5.7.9.5-DOSE TO AN EMBRYO/FETUS

The new License Condition 15 will replace standard operating procedures with site assessment work plans (i.e. groundwater investigation). For activities where workers may be exposed to licensed materials, these work plans will be required to include radiation work permits where the appropriate radiological calculations will be identified and assessed. One of these radiological calculations will show expected dose to an embryo/fetus for any pregnant worker at the Mill site.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-208 Dose to an Embryo/fetus

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 8.13: Instruction Concerning Prenatal Radiation Exposure.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.36: Radiation Dose to the Embryo/Fetus.

SECTION 5.7.9.6-DOSE LIMITS TO THE INDIVIDUAL OF THE PUBLIC

The Licensee submitted to the DWMRC a report in September of 2015 titled "Radiological Dose Modeling for Post-cleanup Conditions at the Former Lisbon Uranium Mill Site". In this report the Licensee states *"This dose assessment pertains only to areas where unrestricted land uses can reasonably be expected in the future, locations where soil cleanup and post-remediation verification sampling was conducted as described in the Completion Report."* The Licensee chose to use a resident rancher scenario. This scenario assumed a 40 acre ranch adjacent to the UTI with a dwelling, two small gardens, a domestic well and a stock pond. The dwelling was placed in the center of the 40 acres. The livestock range land included the entire contaminated area and a little bit beyond (approximately 300 acres). The Licensee used guidance from Appendix H of NUREG-1620 and/or RESRAD user manuals for other parameter selections as applicable to a rancher scenario in a semi-arid climate.

DWMRC staff reviewed this report and determined that it adequately demonstrates that areas outside the tailings impoundments will meet regulatory dose requirements. Therefore, this site meets dose limits to individuals of the public. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-15-301 Dose Limits to the Individual of the Public

REFERENCES:

Environmental Restoration Group, Inc. (2015) *Radiological Dose Modeling for Post-cleanup; Conditions at the Former Lisbon Uranium Mill Site; Lisbon Valley, San Juan County, Utah*, prepared for Rio Algom Mining LLC, Albuquerque, New Mexico. (DRC-2015-006556)

U.S. Nuclear Regulatory Commission Regulatory Guide 8.30: Health Physics Surveys in Uranium Recovery Facilities.

SECTION 5.7.9.7-COMPLIANCE TO DOSE LIMITS OF THE PUBLIC

The Licensee submitted to the DWMRC a report in September of 2015 titled "Radiological Dose Modeling for Post-cleanup Conditions at the Former Lisbon Uranium Mill Site". In this report the Licensee states *"This dose assessment pertains only to areas where unrestricted land uses can reasonably be expected in the future, locations where soil cleanup and post-remediation verification sampling was conducted as described in the Completion Report."* The Licensee chose to use a resident rancher scenario. This scenario assumed a 40 acre ranch adjacent to UTI with a dwelling, two small gardens, a domestic well and a stock pond. The dwelling was placed in the center of the 40 acres. The livestock range land included the entire contaminated area and a little bit beyond (approximately 300 acres). The Licensee used guidance from Appendix H of NUREG-1620 and/or RESRAD user manuals for other parameter selections as applicable to a rancher scenario in a semi-arid climate.

DWMRC staff reviewed this report and determined that it adequately demonstrates that areas outside the tailings impoundments will meet regulatory dose requirements. Therefore, this site meets dose limits to individuals of the public. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-302 Compliance with Dose Limits for Individual Members of the Public.

REFERENCES:

Environmental Restoration Group, Inc. (2015) *Radiological Dose Modeling for Post-cleanup; Conditions at the Former Lisbon Uranium Mill Site; Lisbon Valley, San Juan County, Utah*, prepared for Rio Algom Mining LLC, Albuquerque, New Mexico. (DRC-2015-006556)

U.S. Nuclear Regulatory Commission Regulatory Guide 8.30: Health Physics Surveys in Uranium Recovery Facilities.

SECTION 5.7.10-BIOASSAY PROGRAM (i.e. URINALYSIS, BODY COUNTS AND ETC.)

The Licensee states that bioassay samples (urinalysis) were collected from personnel working at the Mill facility during the groundwater investigation. These bioassay samples were analyzed and the results were non-detect.

The Licensee submitted to the DWMRC a report in September of 2015 titled "Radiological Dose Modeling for Post-cleanup Conditions at the Former Lisbon Uranium Mill Site". In this report the Licensee states *"This dose assessment pertains only to areas where unrestricted land uses can reasonably be expected in the future, locations where soil cleanup and post-remediation verification sampling was conducted as described in the Completion Report."* DWMRC staff reviewed this report and determined that it adequately demonstrates that areas outside the tailings impoundments will meet regulatory dose requirements. Therefore, activities such as the quarterly site inspections and groundwater investigation conducted outside the tailing impoundments should meet regulatory dose requirements. However, any work performed within the tailings impoundment must demonstrate regulatory compliance with all applicable radiation safety requirements. DWMRC staff concludes that compliance with regulatory dose requirements will be demonstrated with the written site assessment work plans as required by License Condition 15.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-15-201 Occupational Dose Limits for Adults
R313-15-202 Compliance with Requirements for Summation of External and Internal Doses
R313-15-204 Determination of Internal Exposure
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 7

REFERENCES:

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 2.8 *Bioassay Procedures.*

U.S. Nuclear Regulatory Commission Regulatory Guide 8.22: Bioassay at Uranium Mills.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.9: Acceptable Concepts, Models, Equations, and Assumptions for a Bioassay Program.

SECTION 5.7.11-CONTAMINATION CONTROL PROGRAM

Work conducted within the tailings impoundment must demonstrate regulatory compliance with all applicable radiation safety requirements. DWMRC staff concludes that regulatory compliance will be demonstrated with the written site assessment work plans as required by License Condition 15.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-301 Dose Limits for Individual Members of the Public
R313-15-406 Minimization of Contamination
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 7

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 5.5: *Radiation Safety*.

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 5.7.12-AIRBORNE EFFLUENT AND ENVIRONMENTAL MONITORING PROGRAM

Work conducted within the tailings impoundment must demonstrate regulatory compliance with all applicable radiation safety requirements. DWMRC staff concludes that regulatory compliance will be demonstrated with the written site assessment work plans as required by License Condition 15.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-15-301 Dose Limits for Individual Members of the Public
R313-24-4 Clarifications or Exceptions
10 CFR 40 Appendix A Criterion 8

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 5.5: *Radiation Safety*.

U.S. Nuclear Regulatory Commission Regulatory Guide 4.14: Radiological Effluent and Environmental Monitoring at Uranium Mills.

SECTION 5.7.13-GROUNDWATER AND SURFACE-WATER MONITORING PROGRAM

Groundwater monitoring at the Mill site is conducted in accordance with License requirements. License requirements regarding groundwater compliance action levels (ACL's and TAL's) were determined according to a 2001 Application for Alternate Concentration Limits, which was submitted to and approved by the NRC. The Application for ACL's included a Long Term Groundwater Monitoring Plan (LTGMP), establishing well specific ACL's and TAL's. License Condition 29 has been modified to require compliance with the currently approved Licensee Groundwater Monitoring Plan (Current approved version 2 dated July 31, 2015). This inclusion expands upon the previous condition, and includes specific requirements for groundwater collection and groundwater data quality assurance and quality control.

The Licensee is currently conducting a hydrogeological investigation at the Lisbon Facility in response to out of compliance status for several groundwater monitoring wells. This investigation will continue until enough data has been collected to conceptualize groundwater flow and contaminant transport at the site, conduct revised numerical groundwater modeling (based on improved conceptual modeling), and establish new ACLs and TALs for Director review and approval. License Condition 30 requires the Licensee to submit a draft final report regarding the groundwater investigation to the Director. Licensee actions regarding specific activities to be conducted for the hydrogeological investigation and groundwater modeling are approved by the Director via separate Stipulation and Consent Agreements for each phase of the investigation.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(a)(b) Environmental Analysis
R313-24-4 Clarifications or Exceptions
R317-6 Administrative Rules for Ground Water Quality Protection
10 CFR 40.31(h) Application for Specific Licenses
10 CFR 40 Appendix A Criterion 1, 4e, 5B & 7

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: *Standard Format and Content of License Applications for Uranium Mills,* Section 2.4, *Geology and Seismology,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: *Preparation of Environmental Reports for Uranium Mills,* Chapter 6 Section 6.1.1, *Surface Water* and Section 6.1.2 *Ground Water,* 1982.

U.S. Nuclear Regulatory Commission Regulatory Guide 4.14: *Radiological Effluent and Environmental Monitoring at Uranium Mills*, Rev 1, 1980

U.S. Nuclear Regulatory Commission NUREG 1620: *Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, Revision 1*, Section 1.0 *Geology and Seismology,* 2003.

SECTION 5.7.14-QUALITY ASSURANCE

The new License Condition 15 will replace standard operating procedures with site assessment work plans (i.e. groundwater investigation). These work plans will be required to address the quality assurance requirements for each specific work plan.

APPLICABLE RULE(S) OR REGULATION(S):

R313-15-101 Radiation Protection Program
R313-24-4 Clarifications or Exceptions
10 CFR 40.31(h) Application for Specific Licenses

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 5.5: *Quality Assurance*.

U.S. Nuclear Regulatory Commission Regulatory Guide 4.15: Quality Assurance for Radiological Monitoring Programs (Normal Operations)—Effluent Streams and the Environment.

U.S. Nuclear Regulatory Commission Regulatory Guide 8.30: Health Physics Surveys in Uranium Recovery facilities, Section 10.0 *Quality Assurance Program*.

SECTION 6.0-GROUNDWATER QUALITY RESTORATION, SURFACE RECLAMATION, PLANT DECOMMISSIONING (aka RECLAMATION/DECOMMISSIONING PLAN)

The requirements of this section are discussed in the subsections 6.1 through 6.6.1 below.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(d) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Criterions 1 and 9

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Preparation of Environmental Reports for Uranium Mills, Section 5.5 *Radiation Safety,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 9 *Decommissioning and Reclamation,* 1982.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, 2003.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 6.0 Ground-water Quality Restoration, Surface Reclamation, and Facility Decommissioning, 2003.

SECTION 6.1-PLANS AND SCHEDULES FOR GROUNDWATER INVESTIGATION

Groundwater monitoring at the Mill site was conducted in accordance with the 2004 Long Term Groundwater Monitoring Plan (LTGMP) (Komex, 2004). The LTGMP was prepared in association with the 2001 Application for Alternate Concentration Limits (ACLs), which was submitted to and approved by the NRC. In 2010, sampling results identified that uranium concentrations in monitoring well RL-1 exceeded the licensed Target Action Levels (TALs). Sampling results from 2011 also identified monitoring well EF-8 for exceeding the TAL for uranium.

In 2012 and 2013, two separate phases of a groundwater investigation plan were prepared, approved and implemented. The investigations have resulted in the installation and sampling of numerous new groundwater monitoring wells at the facility. Results from those first two phases have been reviewed by the DWMRC. A third phase was approved by the Director per a May 9, 2016 Stipulation and Consent Agreement. In addition, a new Groundwater Monitoring Plan has been developed and was approved by the DWRC in August of 2015. License Condition 29 has been modified in the RML to require compliance with the currently approved Groundwater Monitoring Plan. The groundwater investigation will continue until enough data has been collected to conceptualize groundwater flow and contaminant transport at the site, conduct numerical groundwater modeling, and establish new ACLs and TALs. License Condition30 requires the Licensee to submit a final report on the groundwater investigation for Director's approval.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(a and d) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40.31 (h) Application for Specific Licenses
10 CFR 40 Appendix A Criterion 1, 4e & 7

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Preparation of Environmental Reports for Uranium Mills, Section 2.4 *Geology and Seismology,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 2 Section 2.5 *Geology and Soils* and Section 2.6 *Seismology,* 1982.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, Revision 1, Section 1.0 *Geology and Seismology,* 2003.

SECTION 6.2-PLANS AND SCHEDULES FOR RECLAIMING DISTURBED LANDS

On November 26, 2013 as part of the RML renewal application, the Licensee submitted the Final Construction Completion Report. In the Final Construction Completion Report it describes how the Uranium mill at this facility has been dismantled and placed into the tailings impoundments. This work included reclaiming the disturbed lands. All other disturbed lands are associated with the ongoing groundwater investigation and reclamation of those areas will be conducted according to the approved drilling permits for well installation. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(d) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Criterions 1 and 9

REFERENCES:

Guernsey, Lisbon Construction Completion Report: Prepared for Rio Algom Mining LLC, 2013.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Preparation of Environmental Reports for Uranium Mills, Section 5.5 *Radiation Safety,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 9 *Decommissioning and Reclamation,* 1982.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, 2003.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 6.0 Ground-water Quality Restoration, Surface Reclamation, and Facility Decommissioning, 2003.

SECTION 6.3-PROCEDURES FOR REMOVING AND DISPOSING OF STRUCTURES AND EQUIPMENT

On November 26, 2013 as part of the RML renewal application, the Licensee submitted the Final Construction Report. In the Final Construction Completion Report, it describes how the Uranium mill at this facility has been dismantled and placed into the tailings impoundments. This report is currently under review by DWMRC Staff and there are outstanding issues that must be addressed. Therefore, License Condition 22E was added to require the Licensee to resolve any outstanding issues with the Final Construction Completion Report within a date specified by the Director.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(d) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Criterions 1 and 9

REFERENCES:

Guernsey, Lisbon Construction Completion Report: Prepared for Rio Algom Mining LLC, 2013.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Preparation of Environmental Reports for Uranium Mills, Section 5.5 *Radiation Safety,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 9 *Decommissioning and Reclamation,* 1982.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, 2003.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 6.0 Ground-water Quality Restoration, Surface Reclamation, and Facility Decommissioning, 2003.

SECTION 6.4-COVER DESIGN, PLACEMENT AND PERFORMANCE

On November 26, 2013 as part of the RML renewal application, the Licensee submitted the Final Construction Completion Report. DWMRC staff reviewed this report and sent the Licensee a Request for Information (RFI) on November 26, 2014. The Licensee responded to the RFI on March 3, 2015, however the Licensee's response did not resolve all of the DWMRC staff concerns with the cover design and construction. These concerns are not immediate health and safety issues. Rather the concerns are about long term performance of the UTI and LTI. Therefore, License Condition 22E was added to RML UT1900481 in which the Licensee will be required to submit an updated Closure Completion Report to resolve the DWMRC staff concerns about the cover design and construction of the UTI and LTI.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(d) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Criterions 1 and 9

REFERENCES:

Guernsey, Lisbon Construction Completion Report: Prepared for Rio Algom Mining LLC, 2013.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Preparation of Environmental Reports for Uranium Mills, Section 5.5 *Radiation Safety,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 9 *Decommissioning and Reclamation,* 1982.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, 2003.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 6.0 Ground-water Quality Restoration, Surface Reclamation, and Facility Decommissioning, 2003.

SECTION 6.5-PROCEDURES FOR CONDUCTING POST-RECLAMATION AND DECOMMISSIONING RADIOLOGICAL SURVEYS

Radiological surveys that were conducted as part of post reclamation and decommissioning activities were documented as part of the *Lisbon Construction Completion Report*. The data that was collected was analyzed using RESRAD offsite and that analysis was documented in the *Radiological Dose Modeling for Post-cleanup Conditions at the Former Uranium Mill site, Lisbon Valley, San Juan County, Utah* report. DWMRC staff concluded no additional information was required.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(d) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Criterions 1 and 9

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Preparation of Environmental Reports for Uranium Mills, Section 5.5 *Radiation Safety,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 9 *Decommissioning and Reclamation,* 1982.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, 2003.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 6.0 Ground-water Quality Restoration, Surface Reclamation, and Facility Decommissioning, 2003.

SECTION 6.6-FINANCIAL ASSESSMENT FOR GROUNDWATER RESTORATION, DECOMMISSIONING, RECLAMATION, WASTE DISPOSAL AND MONITORING

In the RML renewal application, the Licensee states that a surety estimate is provided to the DWMRC on an annual basis. The Licensee also states that the surety also includes the cost for the groundwater investigation, groundwater monitoring and routine care and maintenance activities. DWMRC staff reviews and approves the annual surety estimates as required by License Condition 20. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review. The current surety estimate accounted adequately for the anticipated remaining remediation activities, analyses and reporting.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(d) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Criterions 1 and 9
R317-6 Ground Water Protection Rules

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Preparation of Environmental Reports for Uranium Mills, Section 5.5 *Radiation Safety,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 9 *Decommissioning and Reclamation,* 1982.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, 2003.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 6.0 Ground-water Quality Restoration, Surface Reclamation, and Facility Decommissioning, 2003.

SECTION 6.6.1-SURETY

In the RML renewal application, the Licensee states that a surety estimate is provided to the DWMRC on an annual basis. The Licensee also states that the surety also includes the cost for the groundwater investigation, groundwater monitoring and routine care and maintenance activities. DWMRC staff reviews and approves the annual surety estimates as required by License Condition 20. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review. The current surety estimate accounted adequately for the anticipated remaining remediation activities, analyses and reporting.

APPLICALBE RULE(S) OR REGULATION(S):

R313-24-3(1)(d) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Criterions 1 and 9

REFERENCES:

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Preparation of Environmental Reports for Uranium Mills, Section 5.5 *Radiation Safety,* 1977.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 9 *Decommissioning and Reclamation,* 1982.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1620: Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, 2003.

U.S. Nuclear Regulatory Commission Regulatory NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 6.0 Ground-water Quality Restoration, Surface Reclamation, and Facility Decommissioning, 2003.

SECTION 7.0-ENVIRONMENTAL EFFECTS

The requirements of this section are discussed in the subsections 7.1 through 7.7 below.

APPLICALBE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.0: *Environmental Effects*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 5: *Environmental Effects of Mills and Mine Operation*.

SECTION 7.1-SITE PREPERATION AND CONSTRUCTION

The Licensee stated *"The Site is inactive and does not have full time staff present and has been reclaimed in accordance with the License. RAML does not plan to conduct active mining-related operations at the Site in the future. Any future development at the site would be limited and associated with ongoing groundwater investigations and monitoring, such as installation of a new monitoring well."* DWMRC staff concluded that the effects of the activities currently conducted at the Mill site will be minimal and have concluded no further information is required.

APPLICALBE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.1: *Site Preparation and Construction*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 5: *Environmental Effects of Mills and Mine Operation*.

SECTION 7.2-EFFECTS OF OPERATION.

The Licensee stated "*Current operations at the site are limited to inspections and ongoing groundwater investigation and monitoring programs related to the License. Periodic access to the site by contractors and RAML personnel will be infrequent and short duration. The environmental effects of these operations are minimal. All waste material is managed and disposed of in a licensed disposal facility. Dust control is conducted as needed during drilling operations."* DWMRC staff concluded that the effects of the activities currently conducted at the Mill site will be minimal and have concluded no further information is required.

APPLICALBE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.2: *Effects of Operation*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 5: *Environmental Effects of Mills and Mine Operation*.

SECTION 7.3-RADIOLOGICAL EFFECTS-EXPOSURE PATHWAYS

In their renewal application, the Licensee stated *"The only potential exposure pathway for radiological effects occurs for uranium-impacted groundwater as discussed in **Section 7.3.1**. As described in **Section 5.7.8**, an air monitoring program was implemented during monitoring well drilling operations to assess personal exposure. No exposure was measured on the external devices during drilling operations."* DWMRC staff concluded that considering the Mill is dismantled, the only potential radiological effects are what was described in the Licensee statement above. Based on the currently site conditions there would be only minimal exposure coming from the tailings impoundments; therefore, no further information is required.

APPLICALBE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.3: *Radiological Effects*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 5: *Environmental Effects of Mills and Mine Operation*.

SECTION 7.3.1-EXPOSURES FROM WATER PATHWAYS (SURFACE AND GROUNDWATER)

In their renewal application, the Licensee stated *"A potential exposure pathway exists for dissolved uranium in groundwater. However, this exposure pathway is not complete because groundwater in vicinity of the Site is not used for human consumption and no known interactions between groundwater and surface water occur near the Site. Impacts of surface water from contaminated soils are minimized as a result of reclamation activities."* DWMRC staff concluded that since the mill has been dismantled and final cover has been placed according to requirements by the NRC and the DWMRC, that the only existing radiological health impacts are limited to prohibiting trespass into posted areas, prohibiting drilling activities in and around the delineated groundwater contamination plume, and containerizing and disposing of all collected wastes at authorized disposal facilities. License requirements include institutional and operation controls for all of these activities, including establishment of a Long Term Surveillance Boundary, establishing ownership protections within that boundary. Therefore, no further information is required.

APPLICALBE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.3.1.1: *Exposures from Water Pathways*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 6: *Accidents*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 11: *Environmental Effects of Accidents*.

SECTION 7.3.2-EXPOSURES FROM AIR PATHWAYS

The Licensee stated in the renewal application *"Air monitoring results and dose rate measurements from the drilling operations verify that no individual of the public or personnel working at the Site would receive a dose exceeding the limits specified in Section R313-15-301 of the Utah Administrative Code."* In addition to the above statement, radon emissions rate were measured when the radon barrier on the tailings impoundments was completed as documented in section 5.5.2 of the *Lisbon Construction Completion Report.* The measurements indicate that the radon emission rate is below 20 picocuries per square meter per second as required in 10 CFR 40 Appendix A, Criterion 6(1). DWMRC concluded that there would be limited exposure to humans from air pathways. Thus, no further information will be required.

APPLICALBE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis

REFERENCES:

C.H. Guernsey & Company, (2013), Final Construction Completion Report Lisbon Mine, Utah, prepared for Rio Algom Mining LLC, Oklahoma City, Oklahoma. (DRC-2013-003617)

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.3.1.2: *Exposures from Air Pathways*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 5: *Environmental Effects of Mills and Mine Operation*.

SECTION 7.3.3-EXPOSURES FROM EXTERNAL RADIATION

The Licensee stated in the renewal application *"No exposures to external radiation are expected at the Site. All results of a monitoring program implemented during monitoring well drilling operations showed no exposure to external radiation."* In addition to the renewal application, the Licensee submitted a *Radiological Dose Modeling for Post-cleanup Conditions at the Former Uranium Mill site, Lisbon Valley, San Juan County, Utah*. This document demonstrates that the exposure from external radiation is low. DWMRC concluded that there would be limited exposure to humans from external radiation. Thus, no further information will be required.

APPLICALBE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis

REFERENCES:

Environmental Restoration Group, Inc. (2015), *Radiological Dose Modeling for Post-cleanup Conditions at the Former Uranium Mill site, Lisbon Valley, San Juan County, Utah*, prepared for Rio Algom Mining LLC, Albuquerque New Mexico. (DRC-2015-006556)

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.3.1.3: *Exposures from External Radiation*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 5: *Environmental Effects of Mills and Mine Operation*.

SECTION 7.3.4-TOTAL HUMAN EXPOSURE

The Licensee stated in the renewal application *"Total radiological exposures to humans are considered minimal to nonexistent. The only potential pathway for radiological exposure to humans would be through groundwater; however this pathway is not complete as described above."* Based on the information provided in *Radiological Dose Modeling for Post-cleanup Conditions at the Former Uranium Mill site, Lisbon Valley, San Juan County, Utah* and the *Lisbon Construction Completion Report*, DWMRC concluded that there would be limited exposure to humans from the Lisbon Valley Mill site and no further information will be required.

APPLICALBE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.3.1.4: *Total Human Exposure*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 5: *Environmental Effects of Mills and Mine Operation*.

SECTION 7.3.5-EXPOSURE TO FLORA AND FAUNA

The Licensee stated in the renewal application *"Radiological exposure for flora and fauna is considered minimal to nonexistent. As part of site reclamation described in the Lisbon Construction Completion Report, contaminated soils were removed from the site and the tailings impoundments were reclaimed. The site was revegetated with a non-invasive, BLM-approved seed mixture. Biological surveys were completed as part of ongoing groundwater investigations at the site. Based on these surveys, the groundwater investigation activities were not considered to pose an exposure risk to fauna."* DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICALBE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.3.1.5: *Exposures to Flora and Fauna*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 5: *Environmental Effects of Mills and Mine Operation*.

SECTION 7.4-NON-RADIOLOGICAL EFFECTS

The Licensee stated in the renewal application *"For the same reasons stated above for radiological constituents, effects on human, flora, and fauna from non-radiological constituents is considered minimal to nonexistent. Complete exposure pathways between impacted media and human receptors and the environment do not exist."* DWMRC staff concluded with the mill being dismantled that the only non-radiological effects are what was described by the Licensee above and the minimal exposure coming from the tailings impoundments. Thus, no further information is required.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Criterions 1 and 9

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.4: *Non-Radiological Effects*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4.12.1: *Nonradiological Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 5.3: *Chemical Impacts on Humans*, 1982.

SECTION 7.5-EFFECTS OF ACCIDENTS

The Licensee states in the renewal application *"Effects of accidents at the Site are considered minimal or nonexistent. The mill is decommissioned and the site is inactive, except for activities related to inspections and groundwater investigations and monitoring programs. The primary activities where accidents could occur are well drilling, groundwater monitoring, waste disposal, and vehicular travel for these activities. These activities are periodic and/or episodic; therefore, the likelihood and frequency of accidents are low. During work activities at the Site, traffic management plans are developed and reviewed with all contractors and employees during the site induction. Any accidents at the Site would be localized."* DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-24-3(1)(a) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.5: *Effects of Accidents*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 6: *Accidents*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 7: *Environmental Effects of Accidents*.

SECTION 7.6-ECONOMIC AND SOCIAL EFFECTS OF CONSTRUCTION AND OPERATION

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments. The Licensee states in the renewal application that *"The economic and social effects of the proposed actions are considered minimal to nonexistent."* DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICALBE RULE(S) OR REGULATION(S):

R313-22-33(1)(f) General Requirements for the Issuance of Specific Licenses
R313-24-3(1)(a) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.6: *Economic and Social Effects of Construction and Operation*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 8: *Economic and Social effects of Mill Construction and Operation*.

SECTION 7.6.1-BENEFITS

INTERROGATORY STATEMENT-7.6.1(1):

The Licensee stated: *"The principal benefit of the proposed actions is the increased knowledge of groundwater conditions, including groundwater quality impacts, as a result of groundwater investigations and monitoring activities associated with the proposed actions at the site. Groundwater quality is tracked, which greatly minimizes the potential for impact to public health, welfare, and the environment."* DWMRC staff concluded that the information provided met all of the regulatory requirements for this review

APPLICALBE RULE(S) OR REGULATION(S):

R313-22-33(1)(f) General Requirements for the Issuance of Specific Licenses
R313-24-3(1)(a) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.6.1: *Benefits*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 8.1: *Benefits*.

SECTION 7.6.2-SOCIOECONOMIC COSTS

The License stated: *"The principal internal costs of the proposed actions at the site are costs for RAML to conduct inspections, groundwater investigations, and groundwater monitoring programs. No external costs are expected as a result of the proposed actions. The social costs of the proposed actions are expected to be minimal."* The site currently has restrictions for drilling into the aquifer. This has been established within Long-Term Surveillance and Maintenance boundary area. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICALBE RULE(S) OR REGULATION(S):

R313-22-33(1)(f) General Requirements for the Issuance of Specific Licenses
R313-24-3(1)(a) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.6.2: *Socioeconomic Costs*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 8.2: *Costs*.

SECTION 7.6.3-LONG TERM IMPACTS

The Licensee stated: "*The proposed actions at the site will not cause adverse long term social or economic impacts to the public or to the recreational value of adjacent lands, the value of areas of scenic, historic, or cultural interest, the economical income of nearby populations and local governmental entities. The mill is decommissioned and the site is inactive, except for activities related to inspections and groundwater investigations and monitoring programs. A long term positive benefit results from the monitoring of groundwater quality conditions that greatly minimizes the potential impact of poor-quality groundwater on public health, welfare, and the environment.*" The Long-Term Surveillance and Maintenance boundary is public land administered by the BLM. As such, land and groundwater use will be limited within the boundary. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICALBE RULE(S) OR REGULATION(S):

R313-22-33(1)(f) General Requirements for the Issuance of Specific Licenses
R313-24-3(1)(a) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Criterion 5b

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.6.2: *Socioeconomic Costs*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental Impacts*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 8: *Economic and Social effects of Mill Construction and Operation*.

SECTION 7.7-PUBLIC AND OCCUPATIONAL HEALTH

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments and there are no permanent employees. The Licensee stated*: "Public and occupational health will not be affected by the proposed actions."* DWMRC staff concluded that the effects of the groundwater investigation to public and occupational health are very low. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICALBE RULE(S) OR REGULATION(S):

R313-22-33(1)(d) General Requirements for the Issuance of Specific Licenses
R313-24-3(1)(a) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.0: *Environmental Effects*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.4: *Environmental*

SECTION 8.0-EMERGENCY RESPONSE PLAN

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments and there are no permanent employees. Therefore in the RML License renewal application the Licensee explains that there is no longer a site-specific Emergency Response Plan but project specific emergency management plans are used during groundwater investigation activities. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICALBE RULE(S) OR REGULATION(S):

R313-22-32(8) Filling Application for Specific Licenses.

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 7.5: *Effects of Accidents*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 6: *Accidents*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 7: *Environmental Effects of Accidents*.

SECTION 8.1-NOTIFICATIONS

The Uranium mill at this facility has been dismantled and placed into the tailings impoundments; because of this, the mill site does not have a full time staff onsite. In the RML renewal application the Licensee did provide an organizational chart with emergency contact numbers. In addition, as changes have occurred since the RML application was submitted, the Licensee has informed the DWMRC of those changes in writing. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICABLE RULE(S) OR REGULATION(S):

R313-19-50 Reporting Requirements.
R313-15-1201 Reports of Stolen, Lost, or Missing Licensed or Registered Sources of Radiation.
R313-15-1202 Notification of Incidents.

REFERENCES:

None

SECTION 9.0-ALTERNATIVES TO PROPOSED ACTION

The proposed action is to continue the groundwater investigation at the Mill site and to close the Mill site. There were no other alternatives proposed. DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICALBE RULE(S) OR REGULATION(S):

R313-22-33(1)(f) General Requirements for the Issuance of Specific Licenses
R313-24-3(1)(c) Environmental Analysis
R313-24-4 Clarifications or Exceptions
10 CFR 40 Criterions 3

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 8.0: *Alternatives to Proposed Action*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.2: *Alternatives*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.5: Standard Format and Content of License Applications for Uranium Mills, Section 8: *Evaluation of Alternatives*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 10: *Alternatives to the Proposed Action*.

SECTION 10.0-COST BENEFIT ANALYSIS

The Licensee stated the following: *"A cost benefit analysis is not needed because alternatives to the proposed action do not exist."* DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICALBE RULE(S) OR REGULATION(S):

R313-22-33(1)(f) General Requirements for the Issuance of Specific Licenses
R313-24-3(1)(c) Environmental Analysis

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 9.0: *Cost-Benefit Analysis*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.7: *Cost Benefit Analysis*.

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 11: *Benefit-Cost Analysis*.

SECTION 11.0-ENVIRONMENTAL APPROVALS AND CONSULTATIONS

The Licensee stated the following*: "Storage of tailings at the Site is approved in the License, which was issued by DRC. Submission of a Construction Completion Report, groundwater monitoring and reporting, and the groundwater investigation are required by the License. The groundwater investigation is being conducted in accordance with the SCA with DRC and in collaboration with BLM under NEPA. As required by NEPA, BLM (2013) prepared an EA for the Phase 2 groundwater investigation. The EA will include analyses from a range of BLM resource specialists, including, at a minimum, geologists, biologists, hydrologists, and archaeologists. BLM will consult with the Utah State Historic Preservation Office on matters related to cultural resources. In addition, the EA could be subject to public comment."*
DWMRC staff concluded that the information provided met all of the regulatory requirements for this review.

APPLICALBE RULE(S) OR REGULATION(S):

R313-22-33(1)(f) General Requirements for the Issuance of Specific Licenses

REFERENCES:

U.S. Nuclear Regulatory Commission NUREG 1569: Standard Review Plan for In Situ Leach Uranium Extraction License Applications, Section 10.0: *Environmental Approvals and Consultations*.

U.S. Nuclear Regulatory Commission NUREG 1748: Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, Section 6.1.3: *Applicable Regulatory Requirements, Permits and Required Consultations*..

U.S. Nuclear Regulatory Commission Regulatory Guide 3.8: Preparation of Environmental Reports for Uranium Mills, Chapter 12: *Environmental Approval and Consultations*.

ENVIRONMENTAL ANALYSIS OF THE PROPOSED LICENSING/PERMITTING ACTION

As stated at the beginning of this document, the purpose of completing this RML renewal is to provide a path-forward through appropriate License Conditions to complete the closure of the Lisbon Valley Uranium Mill site and to turn the site over to the U.S. Department of Energy for long term surveillance as per the Atomic Energy Act. DWMRC has reviewed the information that was provided by the Licensee and has made appropriate changes to the RML.

Changes to the RML are administrative in nature. These changes are designed to complete the groundwater investigation and to demonstrate that the tailings cover system will meet the required designed performance standards. Therefore, DWMRC staff has concluded that there are no additional environmental impacts associated with the renewal of the RML.

TECHNICAL EVALUATION OF THE PROPOSED LICENSING/PERMITTING ACTION

The DWMRC staff has reviewed the information proved by the Licensee for the renewal of the RML.

Changes made to the RML are general administrative corrections to reflect the existing conditions at the mill site. The changes have been incorporated into the Draft RML. Based on the provided information, the DWMRC staff recommends approving the renewal of the RML.

SUMMARY OF LICENSE CHANGES

Below is a list of changes being made to the RML as part of the License Renewal. If a license condition was revised, the table describes the changes for each license condition that was changed. Changes to the license includes: the deletion of license conditions, renumbering of license conditions, and the additional of new license conditions.

License Change Summary

License Condition [1]	Change Type [2]	Description of Changes
3	Minor	Changed the Amendment Number to 6 and adding the word "Renewal".
4	Minor	Added the new expiration date. This date will be determined on when the License Renewal Action is completed. The date place is an estimate.
6	Minor	Added Uranium Byproduct Material
7	Minor	Changed the physical form to Uranium Waste Tailings as defined by Nuclear Regulatory Commission
9	Minor	Added the Township and Range to description
10	Minor	Removed
11	Minor	Removed
12	Minor	Removed
13	Minor	Removed
14	Minor	Renumbered to License Condition 10 and added quarterly inspection requirements. Table 1 was added to specify a reporting schedule.
15	Minor	Renumbered to License Condition 11 and changed reference of Executive Secretary to Director of Waste Management and Radiation Control.
16	Minor	Removed
17	Minor	Removed and placed into Reserve
18	Minor	Removed and placed into Reserve
19	Minor	Removed and placed into Reserve
20	Minor	Renumbered to License Condition 12 and changed reference of Executive Secretary to Director of Waste Management and Radiation Control.
21	Minor	Renumbered to License Condition 13 and changed reference of Executive Secretary to Director of Waste Management and Radiation Control.
22	Minor	Removed and requirements combined with new License Condition

1 License conditions not listed in the table are those that remain unchanged from the last License amendment.

2 The Director deems minor changes as those that are insignificant in nature, or result in more protection of human health, safety, and/or the environment. Major changes are those found otherwise, and are only made after exposure of the License to public comment and resolution thereof.

License Condition [1]	Change Type [2]	Description of Changes
		11
23	Minor	Removed
24	Minor	This license condition was renumbered to License Condition 14. The term "Executive Secretary" was replaced it with "Director" and the DWMRC phone number was updated.
25	Minor	Removed
26	Minor	Removed
27	Minor	Renumbered to License Condition 20 and changed reference of Executive Secretary to Director of Waste Management and Radiation Control. Removed some of the Surety language that was no longer necessary.
28	Minor	Renumbered to License Condition 21.
29	Minor	Removed
30	Minor	Removed
31	Minor	Removed
32	Minor	Removed
33	Minor	This license condition was rewritten and renumbered to License Condition 15. Site work plans will replace Standard Operational Procedures.
34	Minor	Removed
35	Minor	Removed
36	Minor	Removed
37	Minor	Removed
38	Minor	Removed and requirements combined with new License Condition 15
39	Minor	Removed
40	Minor	Removed
41	Minor	This condition was edited and moved to new License Condition 16.
42	Minor	Removed
43	Minor	Removed and requirements combined with new License Condition 15
44	Minor	Removed
45	Minor	This condition was removed. Requirements to this condition were completed or obsolete.
46	Minor	Removed
47	Minor	Removed
48	Minor	Removed
49	Minor	Removed
50	Minor	Removed
51	Minor	Removed
52	Minor	This condition was rewritten and renumbered to new License Condition 23. Parts of this condition that were completed or obsolete were removed.

License Condition [(1)]	**Change Type** [(2)]	**Description of Changes**
53	Minor	This condition was rewritten and renumbered to new License Condition 29. Parts of this condition that were completed or obsolete were removed.
54	Minor	This condition was rewritten and renumbered to new License Condition 22E. Parts of this condition that were completed or obsolete were removed.
55	Minor	This condition was removed. Requirements to this condition were completed or obsolete.
56	Minor	This condition was rewritten and renumbered to new License Condition 30. Parts of this condition that were completed or obsolete were removed.

Explanation of Changes:

License Condition 3:
Amendment #6 is the next amendment number and the word "Renewal" was added to document that this license amendment was a renewal.

License Condition 6:
The uranium mill has been dismantled and placed into the tailings impoundments. Adding the phrase "and Uranium Byproduct Material" documents the current conditions of the Lisbon Valley facility.

License Condition 7:
The uranium mill has been dismantled and placed into the tailings impoundments. Replacing the word "Any" to "Uranium Waste Tailings" documents the current conditions of the Lisbon Valley facility.

License Condition 9:
The Section, Township and Range of the Lisbon Valley facility was added to be more specific for the authorized location of the RML.

License Condition 10:
Deleted and removed the requirement because DWMRC staff concluded that the license condition was a repeat of License Condition 6.

License Condition 11:
Deleted and removed the requirement because this license condition refers to documents associated with the last renewal application. Therefore, with this renewal it makes this requirement obsolete.

License Condition 12:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 13:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 14:
In April 2008, DWMRC inspectors visited the Lisbon Valley facility. The inspectors observed the fencing and gates to the mill tailings were inadequate to maintaining control of the facility and restricted area. The observations included no locks on the gates and a downed fence/gate that surrounds the mill tailings area. In addition, the inspectors observed tire tracks going onto the mill tailings impoundment. The DWMRC issued a Notice of Violation for these observations. The corrective that the Licensee took for the NOV was to repair the fences/gates, put new postings around the restricted area and committed to conduct quarterly inspections of the

site to identify and fix fencing and posting problems. This license condition was renumbered to License Condition 10 and the quarterly site inspection commitment was added.

License Condition 15:
This license condition was renumbered to License Condition 11. The term "Executive Secretary" was replaced with "Director of the Utah Division of Waste Management and Radiation Control (Director)" and the requirements in License Condition 22 were added.

License Condition 16:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 17:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML and placed into "Reserve".

License Condition 18:
This condition was deleted by the DRC in Amendment No. 1. Therefore it was removed from the RML and placed into "Reserve".

License Condition 19:
This condition was deleted by the NRC in Amendment No. 57. Therefore it was removed from the RML and placed into "Reserve".

License Condition 20:
This license condition was renumbered to License Condition 12. The term "Executive Secretary" was replaced with "Director."

License Condition 21:
This license condition was renumbered to License Condition 13. The term "Executive Secretary" was replaced with "Director."

License Condition 22:
The license condition was deleted and the requirements were moved to the new License Condition 11.

License Condition 23:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 24:
This license condition was renumbered to License Condition 14. The term "Executive Secretary" was replaced with "Director" and the DWMRC phone number was updated. This was placed into Reserve.

License Condition 25:
This license condition was deleted because the requirement is found in UAC R313-24-3 and therefore was placed into "Reserve".

License Condition 26:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML and placed into "Reserve".

License Condition 27:
The first and third paragraphs were removed because they are no longer applicable due to the Mill being dismantled and placed into the tailings impoundments. The term "Executive Secretary" was replaced with "Director" and the contingency fee was changed from 15 to 25 percent. The license Condition was renumbered to License Condition 20. This License Condition was placed into "Reserve".

License Condition 28:
This license condition was renumbered to License Condition 21. License Condition 28 was placed into "Reserve".

License Condition 29:
This condition was deleted by the NRC in Amendment No. 61. Therefore, it was removed from the RML and placed into "Reserve".

License Condition 30:
This condition was deleted by the NRC in Amendment No. 57. Therefore, it was removed from the RML.

License Condition 31:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 32:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 33:
This condition was rewritten and moved to new License Condition 15. Instead of having a written procedure, the Licensee will be required to submit work plans for activities conducted at the site. These work plans will be required to be approved by the Director prior to work beginning. Radiation Work Permits and function checks for alpha meters will be required to be included in these work plans for activities that may expose workers to licensed materials.

License Condition 34:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 35:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 36:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 37:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 38:
This condition was deleted and the requirement for Radiation Work Permits was added to the new License Condition 15.

License Condition 39:
This condition was deleted. The Mill has been dismantled and placed into the tailings impoundments. There are no full time employees working at the site. Therefore, the need for monthly inspections of all active work areas is no longer needed.

License Condition 40:
This condition was deleted. The Mill has been dismantled and placed into the tailings impoundments. There are no full time employees working at the site. Therefore, the need for an ALARA Audit is no longer needed.

License Condition 41:
This condition was edited and moved to new License Condition 16.

License Condition 42:
This condition was deleted by the NRC in Amendment No. 57. Therefore it was removed from the RML.

License Condition 43:
This condition was deleted and the requirement for function checks for Alpha meters was added to the new License Condition 15.

License Condition 44:
This condition was deleted by the DRC in Amendment No. 1. Therefore it was removed from the RML.

License Condition 45:
This condition was deleted. The Mill has been dismantled and placed into the tailings impoundments. The terms of this license condition have been completed and are no longer needed.

License Condition 46:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 47:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 48:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 49:
This condition was deleted by the NRC in Amendment No. 40. Therefore it was removed from the RML.

License Condition 50:
This condition was deleted by the DRC in Amendment No. 1. Therefore it was removed from the RML.

License Condition 51:
This condition was deleted by the NRC in Amendment No. 57. Therefore it was removed from the RML.

License Condition 52:
This license condition was renumbered to License Condition 22. Parts of this condition that were completed or obsolete were removed. Paragraph D was renumbered to paragraph B and instead of referencing the outdated paragraph C the NRC letter that required the old paragraph C was referenced. Paragraph E of the License Condition was added which requires the Licensee to resolve any issues or concerns that the DWMRC engineering staff have on the cover design for the UTI and LTI.

License Condition 53:
This condition was rewritten and moved to new License Condition 29. Completed and obsolete parts of this license condition were removed. The term "Executive Secretary" was replaced with "Director" throughout the license condition.

License Condition 54:
This condition was deleted. The Mill has been dismantled and placed into the tailings impoundments. The terms of this license condition have been completed and are no longer needed.

License Condition 55:
This condition was rewritten and moved to new License Condition 23. Completed and obsolete parts of this license condition were removed. Paragraph A was rewritten to require a radon flux measurement to be done before final closure is approved.

License Condition 56:
This condition was rewritten and moved to new License Condition 30. Completed and obsolete parts of this license condition were removed. The term "Executive Secretary" was replaced with "Director" throughout the license condition.