

Public Participation Summary
RADIOACTIVE MATERIALS LICENSE (RML) NO. UT1900481
AMENDMENT 4
Rio Algom Mining L.L.C.
P.O. Box 218
Grants, NM 87020
Lisbon Operations
San Juan County, Utah

January, 2012

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ATTACHMENTS

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Introduction

The purpose of this document is to summarize public comments received by the Utah Division of Radiation Control (DRC) regarding the Rio Algom Mining, LLC (hereafter Rio Algom) former uranium mill facility in the Lisbon Valley, San Juan County, Utah. One set of written comments were received from the public during the comment period that ended on Friday, January 20, 2012 (see Attachment 1). Each of these comments are listed below in italics, followed by a DRC response.

Comments from Ms. Sarah Fields on October 8, 2011

RE: Comments on Amendment 4 to Radioactive Material License UT19000481, Condition 56 for the Rio Algom Mining L.L.C. Lisbon Valley Uranium Mill Facility

Dear Mr. Lundberg:

Below please find the comments on Amendment 4 to Radioactive Material License UT19000481, Condition 56 for the Rio Algom Mining L.L.C. Lisbon Valley Uranium Mill Facility. These comments are submitted by the Uranium Watch and Living Rivers, Moab, Utah.

1. BACKGROUND

According to the Division of Radiation Control (DRC) notice, "The amended License Condition 56 shall require the licensee to submit a work plan and schedule by December 16, 2011, for Executive Secretary review and approval." The purpose of this work plan and schedule is to collect additional field data in the area of the former uranium mill property and provide an analysis of the existing data to be used for subsequent technical evaluation of the Licensee's Application for Alternate Concentration Limits and Long Term Ground Water Monitoring Plan (Approved by the U.S. Nuclear Regulatory Commission, May 11, 2004, License No. SUA-1119, Amendment 66).

2. COMMENTS

2.1. Timeliness. *The DRC should have proposed License Amendment 4 at a much earlier date, and prior to the date by which Rio Algom Mining LLC (Rio Algom) was required to submit the Work Plan and Schedule. As it was, by the time the DRC issued the notice of an opportunity to comment on the work plan and schedule and made the public aware that there were problems with the uranium concentrations at the Mill, Rio Algom had already developed and submitted the Supplemental Site Assessment to Address Out-of-Compliance Status at Trend Wells RL-1 and EF-8, Lisbon Valley Facility, Rio Algom Mining LLC, dated December 13, 2011. According to the DRC's Statement of Basis for Amendment 4, Rio Algom and the DRC discussed confirmatory actions to be undertaken in response to increasing*

uranium concentrations in early 2011 and on October 13, 2011, agreed that a Work Plan and Schedule for the additional field work would be submitted to DRC by December 16, 2011. The DRC waited over 2 months to initiate a public comment period and make the draft license amendment and Statement of Basis available.

DRC Response: Substantive Comment.

The DRC agrees, the public comment period should have begun in a more timely manner. However, DRC staff were unavailable at the time as they were working on other activities for other Licensees, consequently the Rio Algom documents for the License Amendment were delayed.

2.2. Availability of Documents.

2.2.1. The Statement of Basis for Amendment 4 is based on and references several documents related to the establishment of Alternate Concentration Limits for the groundwater at the Lisbon Valley facility. At the time of issuance of the notice there was not even a webpage established for the Lisbon Valley Mill at the DRC website. The DRC should have posted the documents referenced in the Statement of Basis on the DRC website. This would have included the relevant Nuclear Regulatory Commission Documents; February 7, 2011, letter from the DRC to Rio Algom and other relevant correspondence; June 1, 2011, Action Plan; August 10, 2011, technical Memorandum; and the 2010 1st Semi-Annual Groundwater Stability Report and subsequent Semi-Annual Groundwater Stability Reports. An interested member of the public should not have to rely on a Utah Government Records Access and Management (GRAMA) request to obtain documents relevant to a notice of opportunity to comment on a DRC licensing action.

DRC Response: Substantive Comment.

The Statement of Basis and License Amendment 4 were posted on the DRC homepage during the Public Comment Period. The DRC admits that historically there has not been a webpage specifically for Rio Algom; however, as of December 27, 2011 a specific webpage has been created for all the Uranium Mills located in Utah. Denison Mines' (USA) White Mesa Uranium Mill webpage went live on November 22, 2011 and Rio Algom's and Uranium One's webpages went live on December 27, 2011. All documents associated with licensing actions will be placed on the Rio Algom webpage.

The DRC is currently undergoing an initiative to make documents more readily available to the public on the DRC's website. It is currently unknown when this might happen. In the interim, interested parties can request information that is not currently available on the DRC's website through the existing GRAMA records request processes in Utah Code Annotated Title 63G, Chapter 2 or inspect the files at the DRC.

2.2.2. The Supplemental Site Assessment outlines a number of actions and submittals that will be completed over the next year. The DRC must make any future plans, reports, summaries, data, models, analyses, and other documents pertinent to the Groundwater

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Compliance status at the Lisbon Valley Facility available on the DRC website in a timely manner.

DRC Response: Substantive Comment.

The Supplemental Site Assessment is currently under review by the DRC. All corresponding documents regarding the Supplemental Site Assessment will be placed on the new Rio Algom webpage when they become available in a timely manner.

2.2.3. There are a number of proposals, expansions, and ongoing regulatory issues related to uranium mining and milling and a nuclear reactor project in southeast Utah. These involve opportunities for the public to comment and the obligation of citizens to become informed and address the failures of regulatory agencies to properly administer and enforce state and federal regulation. It is a lot to cover. The DRC (and other Department of Environmental Quality (DEQ) divisions) purposely makes this public participation process much more difficult by failing to routinely post relevant licensing documents on their website. When the DRC puts up a notice of an opportunity to comment on a licensing decision, a member of the public should not have to pay to play; that is, pay for pertinent records, which can only be accessed via a GRAMA request or a long trip to Salt Lake City. Clearly, the DRC is not really interested in having informed public comment and public participation in their regulatory and licensing decisions. I look back to Radiation Control Board meetings several years ago when I was told that the DEQ was in the process of setting up an electronic document control system so that licensing and permitting documents could be routinely be made publicly available. If the Utah Division of Oil, Gas & Mining can make permitting records associated with mining operations routinely available, why can't the DRC?

DRC Response: Non-Substantive Comment.

Please see the DRC response for Comment 2.2.1 above on page 3.

2.3. Action Plan.

2.3.1. According to the December 2011 Supplemental Site Assessment, the Action Plan contemplated by the DRC in February 2011 would address certain performance objectives (POs). The POs relate to the existing Alternate Concentration Limits (ACLs) approved by the NRC in 2004 (just prior to Utah's assumption of primacy for the site) and the Long-Term Long Term Groundwater Monitor Plan (LTGMP). At this time, it appears that the purpose of these additional site investigations is to provide a basis for tweaking the existing ACLs and adjusting the LTGMP. The DRC must clarify the scope of the purpose of the continuing investigations into the groundwater dynamics at the Lisbon Valley site. The DRC must also consider expanding the scope of such POs.

DRC Response: Substantive Comment.

The February 7, 2011 Confirmatory Action Letter from the DRC to Rio Algom, included three performance objectives, as follows:

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1. *Justify whether the current RL-1 data set is or is not sufficient to depict the U concentration trend;*
2. *Conclude with definitive evidence whether the Lisbon Valley Facility is operating within or outside of the analyzed condition of the Nuclear Regulatory Commission (NRC) approved “Application for Alternate Concentration Limits” (Approved May 11, 2004), and LTGMP, and;*
3. *Determine whether the ACL model should be revisited/revise to account for more recent data.*

Per ongoing discussion amongst DRC Representatives, Rio Algom Representatives, and the newly contracted Rio Algom Consultant (Montgomery and Associates), the scope and intention of these performance objectives are being developed and expanded through discussion and document reviews. Ultimately, the specifics will be included in an action plan, prepared by Rio Algom, for the investigation, which has been reviewed and approved by the Executive Secretary. The Supplemental Site Assessment is currently under DRC review. The assessment is being developed to identify where data gaps existed during the original modeling, and will include a comprehensive approach to filling those data gaps through review of existing documents and data, and generation of new data through field work. This includes a review of the existing ground water monitoring network, renewed efforts to characterize the local hydrogeology/geology, and revised groundwater modeling utilizing this updated site characterization. Conclusions regarding the types of corrective actions needed regarding the ACL evaluation and action plan (e.g. Additional Monitoring Requirements, Active Remediation, ACL Revisions, etc.) will be determined after the results of the evaluation have been generated and reviewed.

2.3.2. The December 2011 Supplemental Site Assessment calls into question some of the assumptions and data that may have been used to justify the establishment of ACLs and to set the ACL limits in 2004.1 It calls into question some of the determinations made by the NRC and the State of Utah when the ACLs were approved. These assumptions and determinations include:

- *Cessation of active groundwater remediation (pump and treat);*
- *Allowing groundwater contamination at the site to migrate and naturally degrade over time and distance;*
- *Location of Point(s) of Compliance;*
- *Assumption that groundwater contaminant levels would degrade to acceptable levels prior to migrating to the point of exposure (POE), i.e., property boundary;*
- *Human dose from all viable pathways will not exceed the criteria in subpart E of 10 CFR part 20 (25 mrem/year);*
- *The ACL approach is the only economical alternative that will be protective of human health and the environment;*
- *Only uranium will migrate past the property boundary above background levels for the above stated constituents during the 1,000 year compliance period;*

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- *Establishment of a 1,000 year compliance period;*
- *Assumption that that of the hazardous constituents in the groundwater contaminant plume (arsenic, selenium, molybdenum, and uranium) only uranium will migrate past the long-term care boundary;*
- *Cost benefit ratios associated with active remedial alternatives;*
- *The uranium plume will intersect the boundary in approximately 500 to 1000 years but will be at levels consistent with the class of use and will not present a significant risk to human health or the environment; and*
- *It is technically impracticable and economically unfeasible to remediate the groundwater to background.*

The DRC and the public must revisit these assumptions and determinations associated with the cessation of an active Groundwater Corrective Action Plan, the establishment of the ACLs, and the Long-Term Long Term Groundwater Monitor Plan.

DRC Response: Substantive Comment.

The commenter is mistaken. The DRC was not involved initially in approving the ACLs for the Rio Algom former uranium mill property. Regulatory requirements for groundwater monitoring at the site are discussed in Utah Radioactive Material License No. UT19000481. The License includes concentration limits based on prior approvals of the ACLs by the U.S. Nuclear Regulatory Commission (NRC). These are described in a May 11, 2004 License Amendment 66 (Source Materials License SUA-1119). The state of Utah obtained primacy from the NRC to administer the Uranium Mill program in Utah in August 2004, and as part of this transfer of authority, the DRC included the conditions previously approved by the NRC in the License.

After the State of Utah gained authority to administer the Uranium Mill program, the DRC voiced concerns regarding the approved ACL concentrations. Therefore, the groundwater monitoring compliance requirements and limits were subsequently revised and included in an amendment of the License on March 6, 2006 (Amendment 2). All changes to the concentration limits were based on ground water concentration breakthrough curves generated in a groundwater transport model and included in the Long-Term Groundwater Monitoring Plan. DRC essentially changed the concentration limits from concentrations predicted by *maximum breakthrough concentration curves*, to concentrations predicted by *best estimate breakthrough curves*. This resulted in significantly lower concentration limits in the License for all monitoring wells, as well as specifying concentration limits for three monitoring well classes (background, compliance and trend).

However, the DRC will consider your comments during its review of the Supplemental Site Assessment.

2.4. Data. *According to the December 2011 Supplemental Site Assessment, after 2004 the amount of groundwater monitoring data collected at the site decreased, so that some*

relevant data was not available when the increased uranium became apparent. Therefore, the DRC must assure that, in the future, Rio Algom continues to monitor the groundwater at a level that will provide ongoing relevant data over time.

DRC Response: Substantive Comment.

Since 2004, there has been less sampling data available at the site because a number of monitoring wells were abandoned after pumping at the site stopped. Therefore, this useful data was lost. These wells were abandoned before the State of Utah obtained primacy from the NRC to administer the Uranium Mill program in Utah in August 2004. As part of the Supplemental Site Assessment, Rio Algom will be required to install a number of new monitoring wells which will give us more relevant data points to review.

2.5. Evaporation ponds.

2.5.1. The Supplemental Site Assessment discusses the need to assess groundwater near the tailings, but does not specifically discuss the need to characterize groundwater that may be impacted by the evaporation ponds that existed during and after the Mill operations. The map of the 2010 Groundwater Level Contours in Burro Canyon Aquifer (Figure 4, page 22) shows two evaporation ponds on the tailings impoundment and some unidentified ponds to the east of the southern portion of the tailings impoundment that are both on and off the site. There is no information regarding the current status of the evaporation ponds and other ponds. That information should be provided in the Site Assessment.

DRC Response: Substantive Comment.

The evaporation ponds located on the tailing impoundments and the previously “unidentified ponds” to the east of the southern portion of the tailings impoundment no longer exist at the facility. Bisco Lake and the other “unidentified ponds” were drained in 1990 and the evaporation ponds located on the tailing impoundments were removed after groundwater pumping at the facility ended.

However, the DRC will consider your comments during its review of the Supplemental Site Assessment.

2.5.2. In 2000 the NRC published at Federal Register Notice of a request to amend the Mill's license for the milestone for the completion of the final radon barrier for the area under the evaporation ponds. The requested milestone and milestone currently in License Condition 55 A.(3) is December 31, 2014. If Rio Algom has not been able to place a final radon barrier on the area under the evaporation ponds, it is because that area is still be in the process of drying out. Therefore, the area is a potential source of continuing ground water contamination. This situation should be discussed in any site assessment.

DRC Response: Substantive Comment.

Milling activities at the facility ceased in January 1989 and the site is in closure mode. Reclamation was completed in 2000 at the site and the final Mill Decommissioning Report

was approved by NRC in May 2001. The final report also included soil decommissioning and verification for the site.

2.6. License Condition 55A(3). *License Condition 55 A.(3) states that the milestone for the placement of the final radon barrier for areas not covered by the evaporation ponds at the Mill is December 31, 1996. However, the 2000 NRC Federal Register Notice noticed a license amendment request that proposed to modify LC 55 A.(3) to change the completion date for placement of the final radon barrier on the pile to December 31, 2000, for the area not covered by the evaporation pond.3 It is likely that that new milestone was approved by the NRC and incorporated into License Condition 55 A.(3). Be that as it may, it is now 2012, so that the final radon barrier for the area not covered by the evaporation pond should have been completed. If it has been completed, that fact should be reflected in the License.*

DRC Response: Substantive Comment.

As stated in the response to Comment 2.5.2, Reclamation was completed at the site in 2000 and the final Mill Decommissioning Report was approved by NRC in May 2001.

DRC agrees there may be opportunities for improvement to the wording found in License Condition 55. License Condition 55 may be updated as part of the Rio Algom License Renewal Application which will be submitted later this year.

2.7. License Condition 55 B.(1). *License Condition 55 B.(1) establishes an enforceable milestone for the placement of erosion protection: "Placement of erosion protection as part of reclamation to comply with UAC R313- 24 (10 CFR Part 40 Criterion 6 of Appendix A, incorporated by reference). Target completion date is December 31, 2015." The Supplemental Site Assessment should evaluate the potential impacts to groundwater due to the placement, or lack of placement, of the erosion protection at the former Mill site.*

DRC Response: Substantive Comment.

Comment Noted. The DRC will consider your comments during its review of the Supplemental Site Assessment.

2.8. Groundwater Corrective Action.

2.8.1. *According to the 2004 Federal Register Notice regarding the establishment of ACLs, Rio Algom ceased the active groundwater remediation (pump and treat). Therefore, the DRC and Rio Algom must revisit the conclusion that an active groundwater remediation is not feasible or practical.*

DRC Response: Substantive Comment.

Please see the DRC response for Comment 2.3.1 above on pages 3 and 4.

2.8.2. *License Condition 55 B.(2) states: "Projected completion of ground-water corrective actions to meet performance objectives specified in the ground-water corrective action plan,*

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*as amended by subsequent submittals. Target completion date is December 31, 2015.
COMPLETE"*

The DRC must determine whether the information provided in the most recent groundwater sampling events and the information that will be gathered in the Supplemental Site Assessment activities warrant a reevaluation of performance objectives of the groundwater corrective actions, whether past performance objectives are currently being met. It may be necessary to amend the license to establish 1) new performance objectives, 2) the means to meet those objectives, and 3) new groundwater corrective action target date(s).

DRC Response: Substantive Comment.

Please see the DRC response for Comment 2.3.1 above on pages 3 and 4.

Additional DRC License Changes Since Close of Public Comment Period

After the public comment period, the DRC made one additional change to the License, which is discussed below. A red-line strikeout version of the Final Permit is included as Attachment 2 to show the most recent change.

License 4 - Expiration Date

The License expiration date has been changed to February 1, 2013. The Licensee will be required to submit a License Renewal Application in accordance with Utah Administrative Code R313-22-36.

Public Comments

January 19, 2012: Sarah Fields, representing Uranium Watch and Living Rivers, Written comments (Received via email January 19, 2012)

References

Lewis Water Consultants, Inc., Prepared for Rio Algom, February 23, 2001, “Application for Alternate Concentration Limits, RAMC Lisbon Facility, La Sal, Utah.”

Utah Division of Radiation Control, November 23, 2004, “Draft 11e.(2) Byproduct Material License #UT1000481 - RIO ALGOM: PROJECT DOCUMENT REVIEW RECORD,” unpublished regulatory document 9 pp.

Utah Division of Radiation Control, November 2011, “Statement of Basis for Rio Algom License Amendment 4 for the former uranium mill.” unpublished regulatory document, 4 pp, 1 Appendix.