

August 27, 2013

Mr. Billy M. Ray, Site Manager
Billiton
8950 N. Oracle Road, Suite 150
Tucson, AZ 85704

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOLLOWING REVIEW OF THE
RIO ALGOM MINING LLC 2013 SURETY UPDATE FOR ITS AMBROSIA LAKE
FACILITY

Dear Mr. Ray:

On June 28, 2013, Rio Algom Mining LLC (Rio Algom or the licensee) submitted its proposed 2013 annual surety update for the Ambrosia Lake Facility, License SUA-1473 (See ADAMS Accession Number ML13232A098). Under condition 22 of the Source Material License SUA-1473, the licensee is required to submit annual updates to the surety amount by June 30th. The reclamation surety bond estimate provided by Rio Algom is estimated to be \$15,853,181, which is \$1,567,080 more than the 2012 surety estimate of \$14,286,101. According to the 2013 surety update, the licensee retains a financial surety instrument in the amount of \$16,000,000.

The U.S. Nuclear Regulatory Commission (NRC) staff evaluated the contents of the cost estimate according to 10 CFR Part 40, Appendix A, Criteria 9 and 10 and Appendix C to NUREG-1620, Rev. 1, "Outline Recommended by the NRC staff for Preparing Site-Specific Facility Reclamation and Stabilization Cost Estimates for Review." Based on this review, staff requests the licensee provides additional information as follows:

- (1) Provide supporting information to justify cost estimates (10 CFR Part 40, Appendix A, Criterion 9 and Appendix C, NUREG-1620);
- (2) Revise or justify cost estimates based on changes in reclamation plans (10 CFR Part 40, Appendix A, Criterion 9 and Appendix C, NUREG-1620).

These requests for additional information and one other issue are discussed below.

Requests for Additional Information

- (1) Provide supporting information to justify cost estimates (10 CFR Part 40, Appendix A, Criterion 9 and Appendix C, NUREG-1620)**

Appendix C to NUREG-1620 provides a suggested outline for reclamation and stabilization cost estimates and states that for each area specified in the outline:

...estimates should include costs for equipment; materials; labor and overhead; licenses, permits, and miscellaneous site-specific costs; and any other activity or resource that will require expenditure of funds.

Addressing the suggested level of detail and justification to be provided, Appendix C, NUREG-1620 suggests the following:

Unit costs, calculations, references, assumptions, equipment and operator efficiencies, *et cetera*, must be provided.

The licensee should provide supporting information or the basis for selection of the unit cost figures used in estimates.

The 2013 surety update cites "Consultant Estimate" or "Contractor Estimate" as the basis for all of the decommissioning activity cost estimates without providing the underlying details suggested in Appendix C, as cited above (e.g. labor and material costs, assumptions, efficiencies). Further, the update cites lump sum contractor cost estimates without providing details on the unit costs which make up these estimates. Based on the guidance provided in Appendix C to NUREG-1620 on the level of detail to be provided in the surety update, Rio Algom's surety estimate should include additional information or justification in the following areas:

- Well Decommissioning
 - The licensee's surety update only provides a consultant estimate for the lump sum cost of monitor well closure and monitoring. Consistent with the guidance in Part (II)(D) of Appendix C to NUREG-1620 on well decommissioning, staff requests that the licensee provide additional details specific to each well in the surety cost estimate. For example, Appendix C to NUREG-1620 suggests that the licensee specify the number of drill holes to be plugged, depth and size of each drill hole, and material to be used for plugging including acquisition, transportation, and plugging.
- Radiological Survey and Monitoring
 - In the licensee's surety update, it appears that "Section 4" of the lined pond is the only part of the site for which radiological survey and monitoring costs are estimated. The costs associated with the "Section 4 Hot Spot Removal" decommissioning activity include lump sum consultant cost estimates for "Dose Assessment" and "Scanning and Survey." In accordance with Part (III) of Appendix C to NUREG-1620, the licensee should provide additional details on the soil surveys, equipment, and monitoring activities in the surety update. For example, Appendix C to NUREG-1620 suggests that the licensee provide information on gamma survey frequency, location, and techniques, soil samples for radium, and environmental monitoring, among other details.

In addition, 10 CFR Part 40, Appendix A, Criterion 9 requires that the surety cost estimate include additional detail on subsurface radioactive material. The surety update does not include an estimate for the amount of radioactive contamination in onsite subsurface material. Section (b)(2) of Criterion 9 in Appendix A to 10 CFR Part 40 states that each cost estimate must contain an "...estimate of the amount of radioactive contamination in onsite subsurface material." In addition, Section (f) of Criterion 9 states that the surety update should be adjusted annually to reflect "...spills, leakage or migration of radioactive material producing additional contamination in onsite subsurface material that must be remediated to meet applicable remediation criteria." In accordance with these requirements, the licensee should provide an estimate of the amount of radioactive contamination in onsite subsurface material.

Based on the guidance and regulatory requirements cited above, additional information is necessary to ensure that the surety update adequately reflects the cost of reclamation and decommissioning.

(2) Revise or justify cost estimates based on changes in reclamation plans (10 CFR Part 40, Appendix A, Criterion 9 and Appendix C, NUREG-1620)

With regard to changes in site plans, Section (f) of 10 CFR Part 40, Appendix A, Criterion 9 requires the surety update to be adjusted annually to reflect "changes in engineering plans." In addition, Part (VIII)(B)(4) of Appendix C, NUREG-1620 requires that the annual surety update include the following:

Proposed revisions to reclamation plans must be thoroughly documented and cost estimates and the basis for cost estimates must be detailed for NRC review and approval.

On February 12, 2013, Rio Algom submitted an updated construction plan from the contractor carrying out site reclamation activities. The "Design for Construction Mill Site Reclamation, Amendment No.1" document updated the reclamation scope of work and project specifications outlined in an August 2011 plan. The most recent surety update does not explicitly address the revised plans. It is unclear as to whether the 2013 annual surety update reflects any changes in cost resulting from the changes in the scope of reclamation activities. In order to ensure that the surety update accurately reflects the costs associated with decommissioning and reclamation, Rio Algom should revise or justify cost estimates to reflect the documented changes in reclamation plans.

Other Issue

With regard to adjustments for inflation, Part (VIII)(A) of Appendix C, NUREG-1620 suggests that the surety update include the following:

The licensee should submit a revised surety incorporating adjustments to the cost estimates for inflation 90 days before each anniversary of the date on which the first reclamation plan and cost estimate was approved. The adjustment should be made using the inflation rule indicated by the change in the Urban Consumer Price Index published by the U.S. Department of Labor, Bureau of Labor Statistics.

The surety update contains no adjustments for inflation. Based on the CPI-U values for May 2013 and May 2012, adjustments for inflation would result in a decrease in the given unit costs in the surety update. Therefore, staff has not included a recommendation on adjusting the cost estimate for inflation.

However, staff notes the lack of inflation adjustments because adjustments may be necessary in future annual updates. In future surety estimate updates, the issue of inflation should be considered.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Please respond to this request within 30 days of receipt of this letter. If you have any questions, please contact Tom McLaughlin at 301-415-4025, or via email, to Thomas.McLaughlin@nrc.gov.

Sincerely,

/RA/

Michael A. Norato, Ph.D., Chief
Materials Decommissioning Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 40-8905
License No.: SUA-1473

B. Ray

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Materials Decommissioning Branch
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