

**U.S. NUCLEAR REGULATORY COMMISSION
TECHNICAL EVALUATION REPORT
STAFF VERIFICATION OF THE 2022 SURETY ESTIMATE
RIO ALGOM MINING LLC, AMBROSIA LAKE FACILITY
SOURCE MATERIAL LICENSE SUA-1473**

DATE: April 18, 2023

DOCKET NO.: 040-08905

LICENSE NO.: SUA-1473

LICENSEE: Rio Algom Mining, LLC

SITE: Ambrosia Lake Facility

TECHNICAL REVIEWERS: Steve McCarthy, Thomas Lancaster

PROJECT MANAGER: Thomas Lancaster

SUMMARY AND CONCLUSIONS

On June 24, 2022, Rio Algom Mining, LLC (RAML) submitted its 2022 annual surety estimate update and a license amendment request to license condition (LC) 22 to update the approved financial assurance amount for the Ambrosia Lake Facility Materials License SUA-1473 (Agencywide Documents Access and Management System Accession No. ML22181A346). The 2022 annual surety estimate of \$20,839,171, exceeds the amount available via the financial instrument in the LC by \$339,171. This reflects an increase of \$906,347 from the 2021 annual surety estimate of \$19,932,824. The cost increase is mainly due to inflation for ongoing licensed activities, operations, and maintenance tasks.

The NRC staff reviewed the submission against Title 10 of the *Code of Federal Regulations* (10 CFR) 40, Appendix A, Criterion 9 and 10, and determined that the decommissioning and reclamation activities are adequately described and reasonable cost estimates for each activity were provided.

BACKGROUND

The subject uranium mill tailings site is in the Ambrosia Lake uranium district of New Mexico. It is located approximately 25 miles north of Grants, New Mexico. The tailings impoundment contains 33 million tons of uranium ore and covers an area of approximately 370 acres.

The site status changed from standby to reclamation in August 2003 to reflect the licensee's intent to begin full demolition and reclamation of the site leading to termination of the specific license. The mill was demolished and disposed of in the tailings impoundment in late 2003. The demolition was completed in accordance with a mill demolition plan approved by the NRC in October 2003. The NRC staff issued a license amendment for alternate concentration limits for the site in February 2006 (ML060590024). Consequently, all groundwater corrective actions have been discontinued.

TECHNICAL EVALUATION

The contents of the cost estimate were evaluated according to 10 CFR Part 40, Appendix A, Criteria 9 and 10 and Appendix C to NUREG-1620, Rev. 1, "Outline Recommended by the U.S. Nuclear Regulatory Commission Staff for Preparing Site-Specific Facility Reclamation and Stabilization Cost Estimates for Review (ML22181A346)." The surety estimate:

- Includes an adequate contingency factor of 15 percent;
- Assumes completion of all activities by a third party and includes contractor profits and overhead; and
- Includes a long-term surveillance and monitoring fee.

Section (f) of 10 CFR Part 40, Appendix A, Criterion 9 requires that the surety estimate be adjusted to recognize increases and decreases in the cost estimate resulting from eleven factors, as described below.

(1) Inflation

Table 3, in RAML's 2022 financial assurance update, indicates: "All costs inflation-adjusted from 2021 estimate."

(2) Changes in engineering plans

Table 3, in RAML's 2022 financial assurance update, indicates: "No change since 2021 financial assurance calculation."

(3) Activities performed

The surety estimates states that: "No change since 2021 financial assurance calculation."

(4) Spills, leakage, or migration of radioactive material producing additional contamination in onsite subsurface material that must be remediated to meet applicable remediation criteria

Table 3, in RAML's 2022 financial assurance update, indicates: "No change since 2019 financial assurance calculation."

(5) Waste inventory increasing above the amount previously estimated

Table 3, in RAML's 2022 financial assurance update, indicates: "No change since 2019 financial assurance calculation."

(6) Waste disposal costs increasing above the amount previously estimated

Table 3, in RAML's 2022 financial assurance update, indicates: "No change since 2019 financial assurance calculation."

(7) Facility modifications

Table 3, in RAML's 2022 financial assurance update, indicates: "No change since 2019 financial assurance calculation."

(8) Changes in authorized possession limits

Table 3, in RAML's 2022 financial assurance update, indicates: "No change since 2019 financial assurance calculation."

(9) Actual remediation costs that exceed the previous cost estimate

Table 3, in RAML's 2022 financial assurance update, indicates: "No change since 2021 financial assurance calculation."

(10) Onsite disposal

Table 3, in RAML's 2022 financial assurance update, indicates: "No change since 2021 financial assurance calculation."

(11) Any other conditions affecting costs

Table 3, in RAML's 2022 financial assurance update, indicates: "No change since 2021 financial assurance calculation."

The 2022 surety update met the license requirement for a surety update to be submitted by June 30 annually. The costs are estimated based upon third party costs to reclaim, remediate, and decommission facilities and lands affected by past project operations. All unit costs, labor, and equipment overhead, as well as contractor profit, were reasonably included. NRC staff concluded labor rates to be reasonable based on information found at https://www.bls.gov/regions/mid-atlantic/data/consumerpriceindexhistorical_us_table.htm. Also, the licensee added 15 percent for contingencies and long-term surveillance fees, which is consistent with the 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 (NUREG 1620 Appendix C, [ML032250190](#)).

Pursuant to NUREG -1757, "Consolidated Decommissioning Guidance," volume 3 rev. 1, "Financial Assurance, Recordkeeping, and Timeliness" (ML12048A683), RAML updated their final financial assurance mechanism (Irrevocable letter of Credit) and value dated June 16, 2022 (ML22181A346). The updated Irrevocable Letter of credit reflects an increase from \$20,500,000.00 to \$21,000,000 to provide adequate funding for their 2022 annual surety estimate increase amount of \$20,839,171.

ENVIRONMENTAL EVALUATION – CATEGORICAL EXCLUSION

The NRC staff have determined that the nature of changes to the license noted in this Technical Evaluation Report would lead to a categorical exclusion per the provisions in 10 CFR Part 51.22(c)(10)). The amendment changes a surety, insurance and/or indemnity required under 10 CFR Part 40. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

Conclusion:

RAML's 2022 surety update submittal request of \$20,839,171 reflects an increase of \$906,347 from the 2021 annual surety estimate of \$19,932,824. RAML updated their final financial assurance mechanism (Irrevocable Letter of Credit) and value from \$20,500,000.00 to \$21,000,000 to provide adequate funding for their 2022 annual surety estimate increase amount to \$20,839,171. The NRC staff finds RAML's 2022 updated surety estimate of \$20,839,171 to be acceptable. Materials License SUA-1473 will be amended to reflect the value of RAML's Irrevocable Letter of Credit of \$21,000.

License Amendment No. 64, Environmental, Safety And Health Program Modification and Replacement Of Wells 36 06 Kd and 05 04 All, Ambrosia Lake Facility, Rio Algom Mining LLC, New Mexico, Materials License SUA 1473 DATE June 1, 2023

DISTRIBUTION:

ADAMS Accession No.: ML23068A460; ML23090A164

* via email

OFFICE	NMSS/DUWP /URMDB	R-IV/DNMS/MLDB*	NMSS/DUWP/RDB	NMSS/DUWP /URMDB
NAME	TLancaster <i>TL</i>	MPoston-Brown <i>MP</i>	RFedors <i>RF</i>	TLancaster <i>TL</i>
DATE	Mar 10, 2023	Mar 10, 2023	Mar 10, 2023	Mar 10, 2023
OFFICE	NMSS/DUWP /URMDB	NMSS/DUWP /URMDB	OGC/NLO	NMSS/DUWP /URMDB
NAME	RVon <i>RV</i>	TLancaster <i>TL</i>	CKreuzberger <i>CK</i>	RVon <i>RV</i>
DATE	Mar 16, 2023	May 30, 2023	May 30, 2023	Jun 1, 2023

OFFICIAL RECORD COPY