



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001

October 18, 2023

Mr. Brad Bingham, Closure Manager  
Grants Reclamation Project  
Homestake Mining Company of California  
P.O. Box 98/Highway 605  
Grants, NM 87020

**SUBJECT:** HOMESTAKE MINING COMPANY OF CALIFORNIA, GRANTS RECLAMATION PROJECT, U.S. NUCLEAR REGULATORY COMMISSION ACCEPTANCE REVIEW, REQUEST FOR AMENDMENT TO LICENSE NO. SUA-1471 FOR THE LARGE TAILING PILE EVAPOTRANSPIRATION COVER DESIGN, DOCKET 040-08903.

Dear Mr. Bingham,

By letter dated July 28, 2023, the Homestake Mining Company of California (HMC or the licensee) submitted to the U.S. Nuclear Regulatory Commission (NRC) a license amendment request (LAR) for review and approval (Agencywide Documents Access and Management System (ADAMS) Accession No. package ML23222A171). The revised LAR proposes a change to the currently approved cover design on the top of the Large Tailings Pile (LTP). Specifically, HMC is seeking approval to modify the cover to an evapotranspirative (ET) cover design. The licensee's submittal includes a design report and has proposed changes to license conditions 36A(3), 36B(1) and 37A.

The NRC staff has completed its acceptance review of the information provided by the licensee and has determined that it contains adequate information for the NRC staff to begin a detailed technical review. The anticipated schedule for major milestones for the review is as follows:

Milestone	Date
NRC staff request for additional information (RAI)	April 16, 2024
HMC RAI responses	June 14, 2024
NRC acceptance of RAI responses	July 15, 2024
Safety Evaluation Report publication and License Amendment Decision	April 16, 2025

The NRC staff expects to provide the licensee with RAI as scheduled. However, during its acceptance review, the NRC staff have identified several items and topics that have the potential to be included in the RAI package. This is not intended as a comprehensive list as other items or topics may be identified as the NRC staff proceeds with its review. Alternatively, the NRC staff's review may further its understanding of these issues and no further information may be needed.

- HMC has performed additional characterization of the borrow areas, with a focus on understanding dispersivity and agronomic properties. Dispersivity and agronomic tests should be identified in the Quality Assurance/Quality Control program to ensure dispersive soils are not used on the LTP. This approach could help address the relatively limited soil characterization information to the east of evaporation pond 3, near test pits 24 and 25.
- Additional analysis may be necessary of potential of biointrusion impacts to the radon barrier resulting from the presence of vegetation or animals.
- Appendix J of the design report discusses cover success criteria. The rationale behind selection of the success criteria is not clear.
- Additional discussion may be necessary of the pluvial event in the region from 1905-1917 and how a similar event may affect the ET cover.
- Thorough sensitivity analyses concerning climate variability (wetter climate) and extreme climate events were not provided.
- Additional analysis may be necessary of the risk significance of net infiltration through the cover and how much is allowable without influencing site groundwater conditions.
- A description of the ET cover performance objectives and how the cover will be monitored in the short-term prior to license termination were not provided.
- The NRC staff is focused on the calculations to demonstrate that the ET cover will provide sufficient resistance from erosion due to surface water flow. Peak flow velocities are typically drivers of erosion. The particle size distribution for the gravel soil admixture is also a critical aspect of erosion resistance.
- The NRC staff is focused on the transition between the ET cover on the top slope and the existing rock cover on the side slope. The design report includes a detail showing this transition. HMC's plans for constructing this transition is of interest to the NRC staff.
- In the design report, HMC only evaluated soil cover loss resulting from water erosion. The NRC staff is interested in understanding how soil loss from water erosion controls the design instead of wind erosion.

The NRC staff's effort for this review will be captured under EPID L-2022-LLA-0042 - Homestake GRP- Request for Amendment for the LTP Evapotranspiration Cover Design.

In accordance with Title 10 *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions regarding this matter, please contact me at 301-415-7777, or via e-mail at [Ron.Linton@nrc.gov](mailto:Ron.Linton@nrc.gov).

Sincerely,



Signed by Linton, Ron  
on 10/18/23

Ron C. Linton, Project Manager  
Uranium Recovery and Materials  
Decommissioning Branch  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 040-08903  
License No.: SUA-1471

cc: Homestake ListServ  
S. Appaji (EPA) (via ListServ)  
A. Maurer (NMED) (via ListServ)  
N. Olin (DOE) (via ListServ)  
G. Swanson (NMOSE) (via ListServ)

Homestake Mining Company Grants Reclamation Project. NRC Acceptance Review, Re Request for Amendment to License No. SUA 1471 for the Large Tailings Pile Evapotranspiration Cover Design DATE October 18, 2023

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**ADAMS Accession No.: ML23283A044; Ltr ML23283A044**

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