

SAFETY EVALUATION REPORT

DATE: July 14, 2021

DOCKET: 040-08903

LICENSEE: Homestake Mining Company of California

SITE: Grants Reclamation Project

PROJECT MANAGER: Ron Linton

TECHNICAL REVIEWERS: Ron Linton, Marti Poston

SUBJECT: Request to Amend Materials License No. SUA-1471 Regarding a Proposed Performance-Based License Condition Incorporating a Safety and Environmental Review Panel and Modification to License Conditions 16 and 42

Request to Amend Materials License No. SUA-1471 Regarding Modification to License Condition 10

BACKGROUND

Homestake Mining Company of California (HMC, the licensee) holds U.S. Nuclear Regulatory Commission (NRC) License No. SUA-1471 for its Grants Reclamation Project (GRP), a former conventional uranium mill near Grants, New Mexico. Homestake has been a licensee since the late 1950s. The GRP ceased active uranium recovery operations in 1990. The GRP is currently designated as a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) National Priority List (NPL) site and has a groundwater discharge permit from the state of New Mexico. Upon decommissioning and termination of HMC's license, the GRP will likely be transferred for long-term stewardship to the U.S. Department of Energy.

By letter dated August 12, 2020,¹ HMC submitted a request to amend its Materials License SUA-1471.² HMC requested that License Condition (LC) 16 and LC 42 be amended to allow performance-based licensing into its licensing basis by allowing the use of a Safety and Environmental Review Panel (SERP). HMC is requesting that LC 16 and LC 42 be amended by adding language allowing the use of a SERP.

¹ Agencywide Documents Access and Management System (ADAMS) Accession No. ML20225A280.

² ADAMS Accession No. ML20147A108.

Also, by letter dated August 12, 2020,³ HMC submitted a request to amend its Materials License to reduce the training and qualification requirements for radiation safety technicians. This license amendment was withdrawn by the licensee on April 22, 2021.⁴ However, in the withdrawal letter, HMC requested that the NRC correct a licensing error specific to workplace monitoring that was identified in HMC's January 21, 2021, response to an NRC Request for Supplemental Information.⁵

This report documents the results of the NRC staff's review of these requests.

REGULATORY REQUIREMENTS

10 CFR 40.32, "General requirements of issuance of specific licenses," outlines several requirements for the approval of an application for a specific license. The NRC staff reviewed the August 12, 2020, amendment request as related to the SERP program and the January 21, 2021, request related to correcting the licensing error to determine if HMC:

- demonstrated that it meets the requirements of 10 CFR 40.32(b), i.e., that HMC is qualified by reason of training and experience to use the source material for the purpose requested in such manner ensure protection of health and minimize danger to life and property;
- demonstrated that it meets the requirements of 10 CFR 40.32(c), i.e., that HMC proposed equipment, facilities, and procedures are adequate to protect health and minimize danger to life or property.

DISCUSSION

HMC amendment request regarding a performance-based license condition

By letter dated March 28, 2017,⁶ the NRC issued Confirmatory Order No. EA-16-114 (CO) to HMC regarding violations that took place at the GRP. The CO was issued as a result of Alternative Dispute Resolution mediation between HMC and the NRC. Section V of the CO includes 16 Conditions that modified license SUA-1471 and required licensee implementation. Condition 3 of the CO required that the licensee complete an assessment of all HMC activities to determine whether all activities are authorized and are being conducted in compliance with NRC requirements. Condition 4 of the CO required the licensee to engage an independent third-party consultant to review and evaluate HMC's assessments described in Condition 3 of the CO. Condition 4 also required HMC to submit a copy of the assessment described in Condition 3 to an independent third-party consultant within 120 days of NRC approval of the independent third-party consultant. In accordance with Condition 4(b) and 4(c) of the CO, HMC was required to submit its final assessment report to the NRC for NRC audit. HMC submitted its final assessment report titled, Regulatory Compliance Self-Assessment (self-assessment)

³ ADAMS Accession No. ML20225A272.

⁴ ADAMS Accession No. ML21112A260.

⁵ ADAMS Accession No. ML21021A378.

⁶ ADAMS Package Accession No. ML17060A752.

and the consultant's review report, by letter dated August 31, 2018,⁷ and e-mail dated April 15, 2019.⁸ As described in Condition 4(d), the NRC staff completed its audit of the self-assessment in a letter dated March 19, 2020.⁹ The NRC staff provided eight recommendations in the audit to HMC. Recommendation 6 of the audit stated:

HMC should reevaluate the proposed corrective action to License Condition 16 and reexamine how to incorporate performance-based licensing into its licensing basis. HMC should take its actual performance into account when addressing any revision to this license condition. If HMC intends to use a performance-based approach, HMC should submit a license amendment requesting a change to License Condition 16 to a performance-based license condition that incorporates a SERP, and, as needed, revise SOP [Standard Operational Procedure] 10.

HMC submitted its August 12, 2020, license amendment request related to the use of a SERP in response to NRC's recommendation 6. The HMC request proposes that license conditions 16 (LC 16) and 42 (LC 42) to NRC Materials License SUA-1741 be revised with the following provisions:

16. Before engaging in any change in facility operations, systems, equipment, infrastructure or procedures not previously assessed by the NRC or authorized under current license conditions of materials license SUA-1471, including any related tests or experiments not described in the current license conditions, the licensee shall convene a Safety and Environmental Review Panel (SERP) to determine whether the proposed change, test or experiment would impact the operational design or performance specifications previously reviewed and approved by NRC by means of a Safety Evaluation Report (SER), Technical Evaluation Report (TER), and Environmental Impact Statement (EIS) or Environmental Assessment (EA).

The SERP shall evaluate the proposed change, test or experiment based on the criteria defined in Attachment 1 of HMC's August 12, 2020, amendment request. If, based on these criteria, the SERP concludes that the proposed change, test or experiment would not compromise the operational performance, health and safety or environmental protection requirements afforded by the current license conditions, the licensee may implement the proposed change, test or experiment without a license amendment. Otherwise, the licensee shall obtain prior approval from the NRC in the form of a license amendment.

[Applicable Amendment: TBD]

42. An annual report will be submitted to the NRC that includes (1) a description of any changes, tests, or experiments approved by a SERP, including a summary

⁷ ADAMS Package Accession No. ML18248A265.

⁸ ADAMS Package Accession No. ML19109A205.

⁹ ADAMS Accession No. ML19120A145.

of the safety and environmental evaluation; (2) the ALARA audit report, (3) land use survey, (4) monitoring data, (5) corrective action program report, and (6) the effluent and environmental monitoring reports.

Attachment 1 of HMC August 12, 2020, submission contains the Criteria and Requirements for SERP Evaluations. NRC requested clarification of some statements in Attachment 1 via a request for additional information (RAI) dated November 12, 2020.¹⁰ HMC responded to the RAI on January 11, 2021.¹¹ NRC requested additional clarification of one of the HMC RAI responses in correspondence dated May 10, 2021.¹² HMC responded to the clarification request on May 19, 2021.¹³

NRC evaluation

The NRC staff reviewed the licensee's request for a license amendment to approve the use of a SERP using the NRC guidance found in NUREG-2126, Standard Review Plan for Conventional Uranium Mill and Heap Leach Facilities, Draft Report for Comment.¹⁴ The NRC staff also reviewed the licensee's request for license amendment to approve the use of a SERP using the NRC guidance found in NUREG-1569, Standard Review Plan for In Situ Leach Uranium Extraction License Applications.¹⁵ While the guidance in NUREG-1569 is for In Situ Leach facilities, the guidance was used to inform this review for the use of a SERP at a conventional mill in the decommissioning phase. The guidance relating to reviewing SERPs in both NUREG-2126 and NUREG-1569 is found in the Operations Chapter and is very similar in each.

As outlined in NUREG-2126, a SERP will evaluate all proposed changes to operations and the SERP will record the decision of whether the change requires a license amendment. The SERP records will also include written health and safety evaluations the SERP makes that provide the basis for determining whether changes, tests, or experiments were implemented. The SERP will review all proposed changes and will refer to the NRC those changes that the SERP determines will require a license amendment.

The NRC staff reviewed the licensee's proposed SERP membership. One member of the SERP will have expertise in management and will be responsible for implementing managerial and financial changes. One member will have expertise in operations and/or construction and will have responsibility for implementing any operational changes. One member will be the radiation safety officer, or equivalent, with the responsibility for assuring that changes conform to radiation safety and environmental requirements. The licensee has stated that additional members may be included in the SERP, as appropriate, to address specific technical issues such as health physics, groundwater hydrology, surface-water hydrology, and specific earth sciences or other technical disciplines. Temporary additional members may include consultants.

¹⁰ ADAMS Accession No. ML20304A367.

¹¹ ADAMS Accession No. ML21015A588.

¹² ADAMS Accession No. ML21141A022.

¹³ ADAMS Accession No. ML21141A023.

¹⁴ ADAMS Accession No. ML14325A634.

¹⁵ ADAMS Accession No. ML032250177.

In the NRC staff's RAI dated November 12, 2020, to the licensee, the NRC staff requested clarification of the qualifications for the radiation safety officer (RSO), or equivalent, participating in the SERP and a description of the process when additional members will participate in the SERP. In the licensee's January 11, 2021, RAI response, the licensee indicated that the RSO, or equivalent, would be in accordance with the requirements stated in the Homestake GRP Radiation Protection Program Manual (RPPM) dated June 2019, and the individual would meet the requirements for the RSO or at a minimum the requirements of the Alternate RSO. The NRC staff compared the requirements as stated in the referenced RPPM to the guidance of Regulatory Guide (RG) 8.31, tied to the license as LCs 21 and 32, and determined that the qualifications listed in the referenced RPPM were not consistent with the guidance in RG 8.31 and that the proposed RPPM training and qualifications were less than those required by RG 8.31 and the corresponding license conditions. Specifically, the RPPM decreases the specialized training requirements for the RSO and creates a new position, Alternate RSO, that does not have an equivalent in RG 8.31 and whose qualifications are less stringent than what the RPPM proposes for the RSO. As a result of these inconsistencies between the RPPM and the license conditions, NRC staff contacted the licensee and received confirmation that the licensee will follow the training and qualification requirements of the license conditions and RG 8.31.¹⁶ Based on this confirmation of compliance with the license conditions for the RSO or RSO equivalent as part of the SERP, NRC staff determined the response associated with SERP membership of the RSO or equivalent to be acceptable.

The licensee indicated that additional members will be added to the SERP if the Site Closure Manager or any two members of the minimum three person panel identifies that additional technical expertise is reasonable and appropriate to address the potential environmental, radiation safety, historical, or cultural resource or technical scope and impacts of the proposed action. The revision to Attachment 1 placed the responsibility for identifying the appropriate additional SERP members on the Site Closure Manager. NRC staff reviewed the process for determining the need for additional members and determined it to be acceptable. Specifically, the NRC staff finds that the licensee has established a SERP that will consist of at least three individuals with specific qualifications in management, operations, and radiation safety as outlined in NUREG-2126. Consistent with the guidance in NUREG-2126, the licensee has provided an adequate description of when additional members will be used.

In the NRC staff's RAI dated November 12, 2020, to the licensee, the NRC staff requested the licensee provide a statement that HMC will verify that changes, tests, or experiments may be implemented without obtaining a license amendment pursuant to 10 CFR 40.44, so long as the change, test, or experiment does not amend an existing license condition. On January 11, 2021, HMC provided a statement in Attachment 1 that HMC will verify that changes, tests, or experiments may be implemented without obtaining a license amendment pursuant to 10 CFR 40.44, so long as the change, test, or experiment does not amend a license condition. The NRC staff finds that the licensee has committed to not amending the NRC license without obtaining a license amendment.

¹⁶ ADAMS Package Accession No. ML21141A016.

The licensee's proposed LC 16 states:

Before engaging in any change in facility operations, systems, equipment, infrastructure or procedures not previously assessed by the NRC or authorized under current license conditions of materials license SUA-1471, including any related tests or experiments not described in the current license conditions, the licensee shall convene a Safety and Environmental Review Panel (SERP) to determine whether the proposed change, test or experiment would impact the operational design or performance specifications previously reviewed and approved by NRC by means of a Safety Evaluation Report (SER), Technical Evaluation Report (TER), and Environmental Impact Statement (EIS) or Environmental Assessment (EA).

The NRC staff finds that based on LC 16 language, the applicant will verify that these changes, tests, or experiments may be implemented without obtaining a license amendment pursuant to 10 CFR 40.44, so long as the change, test, or experiment does not result in a departure from the method of evaluation described in the license application (as updated) used in establishing the final SER or technical evaluation reports or other analyses and evaluations for license amendments as stated in NUREG-2126.

The licensee's proposed LC 16 further states:

The SERP shall evaluate the proposed change, test or experiment based on the criteria defined in Attachment 1 of HMC's August 12, 2020, amendment request. If, based on these criteria, the SERP concludes that the proposed change, test or experiment would not compromise the operational performance, health and safety or environmental protection requirements afforded by the current license conditions, the licensee may implement the proposed change, test or experiment without a license amendment. Otherwise, the licensee shall obtain prior approval from the NRC in the form of a license amendment.

The NRC staff finds that based on LC 16 language and consistent with the guidance in NUREG-2126, the applicant stated that the SERP will review all proposed changes and will refer to the NRC those changes that the SERP determines will require a license amendment.

The licensee stated in Attachment 1, that the licensee shall maintain records of any changes made pursuant to this license condition until license termination. These records shall include written safety and environmental evaluations made by the SERP that provide the basis for determining changes are compliant with the above criteria. The licensee shall furnish, in an annual report to the NRC, a description of such changes, test, or experiments, including a summary of the safety and environmental evaluation.

The NRC finds the licensee SERP records will include evaluations of all proposed changes to operations and the SERP decision of whether the change requires a license amendment. SERP records will also include written health and safety evaluations the SERP makes that provide the basis for determining whether changes, tests, or experiments were implemented in accordance with the basis described in Section 4.1.3 of NUREG-2126. The applicant stated that all SERP reports shall be sufficiently comprehensive to allow staff to thoroughly evaluate

the change, test, or experiment. The licensee committed to providing SERP determinations in an annual report to the NRC which is consistent with the guidance in NUREG-2126. The NRC staff notes that the proposed changes to LC 42 also commit the licensee to providing SERP evaluations in an annual report.

Evaluation of past SERP evaluations

HMC had been conducting SERP evaluations under its interpretation of the current LC 16 of Material License SUA-1471 that states:

Before engaging in any activity not previously assessed by the NRC, the licensee shall prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not previously assessed or that is greater than that previously assessed, the licensee shall provide a written evaluation of such activities and obtain prior approval of the NRC in the form of a license amendment.

The NRC staff determined in its review of HMC self-assessment dated March 19, 2020, that a clear licensing basis did not exist for utilization of a SERP. NRC stated in recommendation 6:

HMC should reevaluate the proposed corrective action to License Condition 16 and reexamine how to incorporate performance-based licensing into its licensing basis. HMC should take its actual performance into account when addressing any revision to this license condition. If HMC intends to use a performance-based approach, HMC should submit a license amendment requesting a change to License Condition 16 to a performance-based license condition that incorporates a SERP, and, as needed, revise SOP 10.

As requested by NRC in the RAI dated November 12, 2020, the licensee provided a summary of the past SERP evaluations conducted under LC 16 after January 1, 2016, in the response to the RAI. The NRC staff reviewed the information provided and previous regional inspection reports and determined that regional NRC staff had reviewed all the SERP evaluations conducted since 2016 and identified no issues with the evaluations conducted. Furthermore, in NRC Inspection Report 040-08903/2019-001¹⁷ the regional staff issued a violation for HMC's failure to conduct a SERP evaluation regarding a decision to add an algaecide to the reverse osmosis system. As part of the process to close this violation, NRC staff reviewed SOP-10, "Procedures for Conducting a Safety and Environmental Review Panel", Revision 7.¹⁸ NRC staff found the SOP to be acceptable for detailing the SERP pre-screening process and SERP process. While NRC questioned the licensee's previous use of SERP's based on LC 16, the NRC staff did not find any concerns with the SERP's performance other than the failure to have a clear licensing basis for such a program.

HMC amendment request regarding modification to license condition 10

¹⁷ ADAMS Accession No. ML19129A405.

¹⁸ ADAMS Accession No. ML20241A110.

In its letter dated August 12, 2020, HMC submitted a request to amend its Materials License to reduce the training and qualification requirements for radiation safety technicians. This license amendment was withdrawn by the licensee on April 22, 2021. However, in the withdrawal letter, HMC requested that the NRC correct a licensing error specific to workplace monitoring that was identified in HMC's response to an NRC RAI. Specifically, HMC requested that NRC amend LC 10 to replace the 1993 referenced document with the 1995 referenced document [per LC 35(A) of Amendment 21] such that only the correct, 1995 version of Table 3 applies in LC 10. HMC had been approved to modify the workplace monitoring program described in Table 3 "Homestake Occupational Monitoring Program" to reflect the sites' transition from an operating mill to a facility undergoing decommissioning in license amendment 21.

HMC provided an updated Table 3 in a license amendment request date January 9, 1995.¹⁹ The NRC approved changes to Table 3 that were tied to LC 35 A as part of amendment 21 dated May 5, 1995.²⁰ However, while LC 35 A referenced the January 9, 1995, Table 3, as a part of amendment 21, the reference to a September 2, 1993, Table 3, in LC 10 from was not updated in amendment 21. This oversight added two separate references to Table 3 in LC 10 and LC 35 A that were in conflict. This conflict was not corrected. Subsequently, license amendment 31 made changes to the groundwater program and removed Table 3 from LC 35 A when license condition 35 A was revised.²¹ The NRC TER accompanying amendment 31 does not contemplate removing the January 9, 1995, Table 3 reference from LC 35 A. Therefore, the removal of the Table 3 reference from LC 35 A appears to be an error. The error could have been remedied by updating the January 9, 1995, Table 3 reference in LC 10. This error is being corrected in this license amendment 57 by adding the January 9, 1995, Table 3, reference in LC 10.

CONCLUSION

Based upon the review conducted by the NRC staff and as discussed above, the NRC staff determined the SERP membership, evaluation criteria, record keeping, and use of SOP-10 to be adequately described. The NRC staff concludes that the HMC proposed program utilizing a SERP meets the requirements of 10 CFR 40.32(b) and (c) as they relate to the acceptability of management programs and audits to ensure protection of health and minimize danger to life and property.

NRC Materials License SUA-1471, Amendment 57, LC 16 shall be revised to read:

16. Before engaging in any change in facility operations, systems, equipment, infrastructure or procedures not previously assessed by the NRC or authorized under current license conditions of materials license SUA-1471, including any related tests or experiments not described in the current license conditions, the licensee shall convene a Safety and Environmental Review Panel (SERP) to determine whether the proposed change, test or experiment would impact the

¹⁹ ADAMS Accession No. ML080030053.

²⁰ ADAMS Accession No. ML080030063.

²¹ ADAMS Accession No. ML080030065.

operational design or performance specifications previously reviewed and approved by NRC by means of a Safety Evaluation Report (SER), Technical Evaluation Report (TER), Environmental Impact Statement (EIS) or Environmental Assessment (EA).

The SERP shall evaluate the proposed change, test or experiment based on the criteria defined in Attachment 1 of HMC's August 12, 2020, amendment request (NRC ADAMS Accession No. ML20225A280), and amended by letters dated January 11, 2021 (NRC ADAMS Accession No. ML21015A588), and May 19, 2021 (NRC ADAMS Accession No. ML21141A023) If, based on these criteria, the SERP concludes that the proposed change, test or experiment would not compromise the operational performance, health and safety or environmental protection requirements afforded by the current license conditions, the licensee may implement the proposed change, test or experiment without a license amendment. Otherwise, the licensee shall obtain prior approval from the NRC in the form of a license amendment.

[Applicable Amendment: 57]

NRC Materials License SUA-1471, Amendment 57, LC 42 shall be revised to read:

42. An annual report will be submitted to the NRC that includes (1) a description of any changes, tests, or experiments approved by a SERP, including a summary of the safety and environmental evaluation; (2) the ALARA audit report, (3) land use survey, (4) monitoring data, (5) corrective action program report, and (6) the effluent and environmental monitoring reports.

[Applicable Amendment: 34, 57]

Based upon the review conducted by the NRC staff and as discussed above, the reference to Table 3 of the licensees January 9, 1995, submittal will be added to LC 10.

NRC Materials License SUA-1471, Amendment 57, LC 10 shall be revised to read:

10. This license authorizes only the possession of residual uranium and byproduct materials in the form of uranium waste tailings and other byproduct waste generated by the licensee's past milling operations in accordance with Tables 1 and 3 and the procedures submitted by letter dated September 2, 1993, as modified by letters dated January 9, 1995 (NRC ADAMS Accession No. ML080030053), and March 7, 1996.

Anywhere the word "will" is used, it shall denote a requirement.

[Applicable Amendments, 2,6,12,16, 24, 57]

The NRC staff provided the license amendment language to the licensee in an e-mail dated May 28, 2021, and the licensee agreed with the proposed changes in an e-mail dated June 8, 2021.²²

²² ADAMS Accession No. ML21159A204.

ENVIRONMENTAL REVIEW AND CONSULTATIONS

In accordance with 10 CFR 51.22(b), the NRC staff has determined that an EA or an EIS is not required for modifying LC 16, which is organizational and procedural in nature. In accordance with 10 CFR 51.22(b), the NRC staff has determined that an EA or an EIS is not required for modifying LC 10 and LC 42, which are administrative in nature. Specifically, the actions modifying LC 10, 16 and 42 are categorically excluded under 10 CFR 51.22(c)(11) from the requirement to prepare an EA or EIS, based on the following NRC staff findings:

- the modification of LC 10, 16 and 42 will not result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite;
- there will be no significant increase in individual or cumulative occupational radiation exposure as a result of the deletion or modification of LC 10, 16 and 42;
- the modification of LC 10, 16 and 42 will not result in a significant construction impact; and
- there is no significant increase in the potential for or consequences from radiological accidents as a result of the modification of LC 10, 16 and 42.

The NRC staff has determined that consultation under Section 7 of the Endangered Species Act not required because the proposed action is administrative in nature and will not affect listed species or critical habitat. Likewise, the NRC staff has determined that the proposed action is not a type of activity that has potential to cause effects on historic properties because it is an administrative action. Therefore, no further consultation is required under Section 106 of the National Historic Preservation Act.