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

December 21, 2018

MEMORANDUM TO: Bill von Till, Chief
Uranium Recovery and Materials Decommissioning Branch
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

FROM: Jeffrey Whited, Project Manager
Low-Level Waste and Projects Branch ***/RA/***
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
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SUBJECT: SUMMARY OF MEETING TO DISCUSS THE CURRENT STATUS AND FUTURE ACTIONS AT THE HOMESTAKE URANIUM MILL AND THE MAINTENANCE AND MONITORING ACTIVITIES AT THE BLUEWATER URANIUM MILL

DATE OF MEETING: September 11, 2018

MEETING LOCATION: Cibola County Building, Convention Room
515 West High Street
Grants, New Mexico

PURPOSE:

Representatives from the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Department of Energy (DOE) discussed the current status and future actions at the Homestake Mining Company of California (HMC), Grants Reclamation Project Site former uranium mill (Grants site) and maintenance and monitoring activities at the former Bluewater uranium mill (Bluewater). Representatives from the New Mexico Environment Department (NMED) and the U.S. Environmental Protection Agency (EPA) were also in attendance and participated in a question-and-answer session during the meeting.

ATTENDEES:

A list of attendees is provided in the enclosure to this meeting summary.

MEETING SLIDES:

The presentations used during the meeting can be found in the Agencywide Documents Access and Management System (ADAMS) at Package Accession Number ML18250A319.

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SUMMARY:

The NRC staff opened the meeting noting its purpose to discuss the current status of HMCs remediation activities at the Grants site and the maintenance and monitoring activities being performed by the DOE at the Bluewater site. The staff noted that its role at each site is different, specifically indicating that it regulates HMC under a specific license whereas the DOE is regulated under a general license. DOE staff then provided an introduction, indicating that DOE was going to discuss the work it had done concerning gathering plume data as previously stated. The NRC staff then proceeded to give the presentation previously referenced, starting with its presentation on the Grants site. During the meeting, the NRC staff explained the complex regulatory structure at the Grants site. This is because HMC has a specific NRC license, a Discharge Permit with NMED, and is on the EPA's National Priorities List. The complexity of this arrangement had previously caused some confusion, but each of the agencies have been working together to provide clear communications to each other and HMC.

The NRC staff then provided additional background information on the Grants site followed by ongoing remediation efforts. Remediation efforts include: collection of impacted groundwater from on and off-site wells, reclamation of groundwater through Reverse Osmosis and Zeolite Water Treatment Systems, and then re-injection of the treated water at the edge of the plume. The NRC staff noted that the waste water from these treatment processes goes to either the Evaporation or Collection ponds on the Grants site. The NRC staff then provided a map showing the changes that had been made to the plume in the Alluvial aquifer near the Grants site due to remediation activities that had been conducted by HMC from 1999 to 2017. The NRC noted that this information could be found in the "2017 Annual Monitoring Report/Performance Review," submitted by HMC on March 29, 2018.[1]

The NRC staff then provided a discussion of the Confirmatory Order issued to HMC on March 28, 2017.[2] The Confirmatory Order was the outcome of five Apparent Violations that were issued to HMC by letter dated October 4, 2016.[3] Specifically, the NRC staff provided an update regarding the Confirmatory Order actions being conducted by HMC at the Grants site. Noting that of the 16 Conditions stated in the Confirmatory Order; 7 have been completed by HMC and are with NRC for review and approval, 2 still need to be completed by HMC, 2 conditions are ongoing, meaning that the conditions require HMC to provide regular updates to the NRC, and 5 conditions have been satisfied. A detailed description of the actions can be found in the Confirmatory Order and the current status discussion can be found in the presentation referenced above.

The NRC staff then discussed the current license amendment requests that have been submitted to the NRC by HMC and provided a current status. More details on the license amendment requests can be found in the presentation. Following this, the NRC inspector provided a discussion on the two NRC inspections that take place at the Grants site every year. The NRC staff then provided some future actions that will be taken by HMC and the NRC including completion of the Confirmatory Order Actions and license amendments, submittal of the Groundwater Corrective Action Plan, implementation of corrective actions identified during the root cause analysis and self-assessment, continuation of groundwater reclamation, periodic inspections, and continued stakeholder outreach.

Following this presentation, and then again before the meeting was adjourned, the members of the public in attendance were provided the opportunity to ask questions of the NRC staff concerning HMC actions at the Grants site. These included questions regarding the Zeolite and

[1] ADAMS Package Accession No. ML18102A955.
[2] ADAMS Accession No. ML17061A455.
[3] ADAMS Accession No. ML16251A526.

Reverse Osmosis Water Treatment Systems. One member of the public asked if the Zeolite or Reverse Osmosis systems had ever operated at 'full capacity'. The NRC staff explained that 'full capacity' is a bit of a misnomer because both systems require that certain trains (or sides) of the system be down for maintenance and other necessary work. However, the staff did note that HMC has been working on issues related to efficiency of these systems including seeking input from water treatment system professionals. A question was then asked regarding the final location of the uranium that was reclaimed from the groundwater and the Zeolite crystals used in the Zeolite system. The NRC staff explained that all of these materials will stay on the Grants site in the evaporation ponds. The members of the public then noted that the Alluvial aquifer was not their main groundwater concern. The NRC staff will take this note and discuss other aquifers during future presentations and meetings. There were also questions concerning the effect that the Grants site is having on the San-Andres Glorieta (SAG) aquifer, the primary concern of the public. The NRC staff noted that HMC was looking at impact to the SAG aquifer from a leaking well that has since been plugged.

Following the discussion on the Grants site, the NRC staff gave a short presentation on the NRC's oversight of DOE activities at the Bluewater site. These included the NRC letter dated May 24, 2018,[4] wherein the NRC requested that DOE provide information regarding the uncertainty in the leading edge of the uranium plume in the SAG aquifer around the Bluewater site, the uncertainty in the flow and contaminant transport due to pumping from high-production wells, uncertainty in the potential contamination of SAG drinking water wells that were not previously able to be sampled, and depressions on the north end of the disposal cell. The DOE presentation focused on these topics and the DOE stated it is currently working on its response to the NRC's letter. The NRC staff then discussed the observational site visits it conducts nominally every three years at the Bluewater site. Following this, the DOE gave its presentation on the maintenance and monitoring activities currently ongoing at the Bluewater site.

The DOE presentation began with a discussion on the background of the Bluewater site, including that it was transferred from an NRC licensee to the DOE in 1997 for long-term surveillance and maintenance. The DOE then provided details regarding the site geology and hydrogeology, which can be viewed in the presentation referenced above, and included a detailed discussion on the monitoring well network around the site. The DOE's presentation focused on the uranium plume in the SAG aquifer and a comparison of data obtained in 2013 and 2017. The DOE then discussed recent actions taken including completing a crosswalk of SAG wells and an analysis of the impact of high-volume pumping wells on groundwater flow in the SAG. DOE noted in its presentation that there are no drinking water wells within the SAG or alluvial aquifer plumes around Bluewater, that uranium has not exceeded EPA MCL's in the Milan or Grants public supply wells, that uranium concentrations near the edge of the plume have decreased through dispersion and dilution, and that growth of the plume is not expected. DOE specifically noted that the plume has been essentially stable since the early 1980s. Additionally, DOE noted that the State of New Mexico changed its groundwater standard in 2004 from 5.0 mg/L of uranium to 0.03 mg/L. This is a correction to slide 13 of its presentation wherein DOE stated that the standard was changed in 2005.

The DOE presentation also focused on depressions on the Main Tailings Cell at the Bluewater site. DOE noted that these depressions were noticed during the first DOE inspection of the cell in 1998. These depressions continued to enlarge due to settlement caused by continued consolidation of clay-rich tailings. These depressions have caused ponds to form on the top of the tailings piles during the monsoon season and after major precipitation events.

During its presentation, DOE discussed its groundwater actions moving forward at the Bluewater site. These include continuing to ensure protection of human health and the

[4] ADAMS Accession No. ML18017A708.

environment, compliance with the Long-Term Surveillance Plan, monitoring the Bluewater wells twice annually, analyzing the data from this monitoring, and partnering with NMED to sample private wells. DOE also stated that it would be discussing its plans for the cell depression with the NRC. Finally, the DOE discussed its stakeholder engagement including continuation of stakeholder and multi-agency meetings. The presentation referenced above provides details on the Bluewater and Geospatial Environmental Mapping System (GEMS) websites.

Following this presentation, the members of the public in attendance were provided the opportunity to ask questions of the NRC staff and DOE concerning the Bluewater site. The members of the public asked questions regarding the edge of the plume as shown on the slides in the DOE presentation. DOE noted that the edge of the plume is not precisely known, that the drawing made assumptions based on the data that was obtained because samples could not be collected at all points on the map. Members of the public then asked questions regarding DOE's ability to drill more wells to get a better determination of the uranium plume at the site. DOE noted that it has limits on what it can do given its statutory authority at the site. DOE again noted that the uranium plume has essentially been stable since DOE overtook long-term stewardship of the Bluewater site in 1997. DOE again noted that contamination from Bluewater in the SAG aquifer had not been detected in any drinking water wells.

Members of the public included individuals with the Bluewater Valley Downstream Alliance (BVDA) and the Multi-Cultural Alliance for a Safe Environment (MASE).

Following the questions, the NRC and DOE provided closing remarks and the meeting was adjourned.

Enclosure: As stated

Homestake Mining Company of California – Grants Reclamation Project Site
Docket No.: 040-08903
License No.: SUA-1471

Department of Energy – Former Bluewater Uranium Mill
Docket No.: 040-08902

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MEETING DATE: September 11, 2018

DISTRIBUTION: NMSS r/f DUWP r/f PMNS NRC Attendees
JTappert, DUWP BPham, DUWP

ADAMS Package Accession Number: ML18319A265 ***via email**

OFFICE	DUWP/LLWPB	DUWP/RTAB	DUWP/URMDB	DUWP/URMDB	DUWP/LLWPB
NAME	JWhited	SAchten	RLinton	BVonTill/DTMfor/	JWhited
DATE	12/17/2018	12/19/2018	12/19/2018	12/21/18	12/21/18

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Public Meeting Attendees:
Discussion on Current Status and Future Actions at the HMC Grants Site;
and Maintenance and Monitoring Activities at the Bluewater Site

Name	Affiliation	Name	Affiliation
Candace Head-Dylla	BVDA/MASE	Jonnie Head	BVDA/MASE
M. Mark Head	BVDA/MASE	Christine Lowery	MASE
Milton Head	BVDA/MASE	Susan Gordon	MASE
Beth Head	BVDA/MASE	Robert Winchorst	Cibola County
Barbara Romero	Congressmen Steve Pearce	Tom Carroll	Carroll Strategies
Mark Vazquez		Tom Wohlford	Homestake
Gray Kizishner		JoAnne Martinez	Homestake
Kevin Johnson	Public	Brad Bingham	Homestake
Michaella Goruspe	RAML	George Hoffman	Hydro Engineering Homestake Contractor
Kent Applegate	RAML	Linda Hoffman	Hydro Engineering Homestake Contractor
Art Kleinrath	DOE	Andrea Kock	NRC Headquarters
Bernadette Tsosie	DOE	Bill Von Till	NRC Headquarters
Padraic Benson	DOE	Jeffrey Whited	NRC Headquarters
Dick Johnson	Navarro (DOE Contractor)	George Alexander	NRC Headquarters
Alison Kuhlman	Navarro	Ron Linton	NRC Headquarters
Nicole Gordon	Navarro	Robert Evans	NRC Region IV
Jordan Cario	Agency (DOE Contractor)	Kurt Vollbrecht	NMED
Kevin Shade	US EPA Region 6	Ashlynne Winton	NMED
Mark Purcell	US EPA Region 6	Amber Rheubottom	NMED

Enclosure