



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

April 19, 2021

James Grice
Radiation Program Manager
Hazardous Materials & Waste Management Division
Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Dear Mr. Grice:

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of the proposed termination of Colorado Radioactive Material License No. CO-317-02, issued to the Hecla Mining Company. The license covers the Hecla Mining Company's Durita site, a conventional uranium heap leach facility located in Montrose County, Colorado. The Colorado Department of Public Health and Environment (CDPHE) requested that the NRC make a determination that all applicable standards and requirements have been met for termination of the Durita site license.

The Office of Nuclear Material Safety and Safeguards (NMSS) Procedure SA-900, "Termination of Uranium Mills in Agreement States," identifies the primary factors necessary for a determination that all applicable standards and requirements have been met prior to terminating a license. As summarized below, this review of the final Completion Review Report (CRR) is based on three factors:

1. the NRC staff's evaluation of CDPHE's conclusion that all standards and requirements have been met;
2. the performance of CDPHE's uranium recovery program as evaluated under the Integrated Materials Performance Evaluation Program (IMPEP), which evaluates NRC and Agreement State materials programs; and
3. given unique circumstances at the Durita site, a supplemental technical review of the groundwater system at the Durita site.

The March 2, 2016, CRR submittal by CDPHE (Agencywide Documents Access and Management System (ADAMS) Accession No. [ML17243A414](#)), documents that the CDPHE has performed a review of the Durita site for all applicable standards and requirements. As described in the enclosure, the NRC staff finds that CDPHE's review covered all necessary technical areas and regulatory requirements relating to geotechnical engineering, surface water hydrology and erosion protection, radiation cleanup and control, and groundwater monitoring program. The CDPHE conducted appropriate inspections of site reclamation activities at the Durita site.

For item 2, under the NRC's IMPEP program, CDPHE's overall program has been determined to be adequate to protect public health and safety in all reviews to date. In addition, the CDPHE regulations were found to be compatible with the NRC's program in every review, except in the

case of a 2014 finding regarding legislative issues that have since been resolved (ADAMS Accession No. [ML17065A376](#)). Additionally, every IMPEP review of the CDPHE's uranium recovery program to date has resulted in a satisfactory rating (the highest performance rating possible). These consistent satisfactory ratings provide a basis for the NRC staff's confidence that the CDPHE's licensing reviews, inspections, and CRR conclusions for the Durita site have been conducted appropriately.

For item 3, the NRC staff also conducted an independent review and analysis of the groundwater system at the Durita site, which is documented in the enclosed evaluation report. The NRC staff's report is based on an extensive document review and site observations. The NRC also conducted independent calculations to characterize the Durita site features, groundwater monitoring history, tailings and impoundment features, and the behavior of radionuclides in the groundwater system. The report quantifies the consequences of hypothetical historical and future releases from the Durita site using flow and transport modeling. The results of the modeling were used to support the NRC staff's determination that the Durita site does not and will not adversely affect the water quality of usable groundwater at or beyond the site boundary, and the evaluation concludes that the Durita site does not pose a risk to the public health and safety or environment.

This independent review and analysis was necessary and appropriate for the special circumstances of the Durita site review. As noted in the enclosed evaluation report, monitoring wells were closed many years in advance of the usual timeframe, so recent data from these wells could not be used to support the NRC staff's conclusions. The Durita site, however, has unique features that made a more analytical approach to evaluating long-term site stability possible. Even with the combination of several worst-case assumptions, conservative inputs, and sensitivity analyses for important parameters, the modeling results suggest no issues that would constrain the NRC staff from concluding the site's features will be effective in controlling radiological hazards for 1,000 years. Thus, the NRC staff was able to use bounding assumptions that provided confidence sufficient to support the NRC staff's acceptance of the CRR conclusions. The NRC staff does not anticipate using an approach similar to this for other CRR reviews because these unique circumstances would not be expected to occur again.

For item 1, based on a review of the above information and in accordance with the provisions of Title 10 of the *Code of Federal Regulations*, Section 150.15a(a) and Section 274c of the Atomic Energy Act of 1954, as amended, the NRC staff has determined that all applicable standards and requirements for the protection of public health, safety, and the environment have been met for the termination of the Colorado Radioactive Material License No. CO-317-02. This finding is a necessary step toward the termination of the Durita license. Upon acceptance of the U.S. Department of Energy's Long-Term Surveillance Plan, conveyance of needed property rights, and the setting and payment of the Long-Term Care Fee, the NRC will concur on the CRR and Colorado may proceed to terminate the license for the Durita site.

A copy of our draft evaluation report, entitled "Documentation of NRC Review of the Termination Findings for the Hecla Mining Company's Uranium Milling License Submitted by the Colorado State Department of Public Health and Environment," is enclosed. This report will be updated

and finalized in the future to document the completion of the items noted above that are needed for CRR concurrence.

If you have any questions, please contact me or Stephen Poy of my staff at (301) 415-7135 or Stephen.Poy@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Theresa Clark', written over a horizontal line.

Clark, Theresa signing on behalf
of Williams, Kevin
on 04/19/21

Kevin Williams, Director
Division of Materials Safety, Security, State,
and Tribal Programs
Office of Nuclear Material Safety
and Safeguards

Enclosure:
As stated

SUBJECT: DETERMINATION ON THE HECLA MINING COMPANY DURITA SITE

April 19, 2021

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