

October 23, 2012

Mr. Jon F. Winter  
Manager, Wyoming Environmental  
and Regulatory Affairs  
Uranium One  
907 North Poplar Street  
Suite 260  
Casper, WY 82601

SUBJECT: TECHNICAL EVALUATION REPORT, REVIEW OF RESTORATION REPORT FOR MINE UNITS 2 THROUGH 6 OF THE CHRISTENSEN RANCH SATELLITE FACILITY, URANIUM ONE WILLOW CREEK *IN SITU* RECOVERY PROJECT, JOHNSON AND CAMPBELL COUNTIES, WYOMING (TAC NO. J00563)

Dear Mr. Winter:

By letter dated April 8, 2008, Cogema Mining, Inc., (Cogema) submitted to the U.S. Nuclear Regulatory Commission (NRC) the Wellfield Restoration Report, Christensen Ranch Project, dated March 5, 2008. The report summarized the groundwater restoration results for Mine Units (MU) 2 through 6 at Cogema's Christensen Ranch Project. On December 30, 2009, Cogema responded to NRC's request for additional information with additional information related to mine unit restoration. Subsequent to the report's submittal, the licensee for the Willow Creek Project changed to Uranium One USA, Inc. (Uranium One). The Christensen Ranch Project is a satellite of the Willow Creek Project.

The NRC staff has reviewed the report and is not approving the restoration in Mine Units (MU) 2 through 6 as requested by Cogema. The staff basis for this determination is documented in the enclosed Technical Evaluation Report. The following information or demonstration of restoration is required before restoration can be approved:

MU-2 North

- (1) Demonstrate that the statistically significant increasing (SSI) trends for uranium and radium-226 at well 2T92-2 are reversed and stable.
- (2) Provide a confirmatory analysis of the groundwater quality at well 2MW108 subsequent to the corrective actions for the 2011 excursion that demonstrates impacts to the aquifer following the 2011 excursion event meet regulatory requirements (groundwater protection criteria).

MU-2 South

- (1) Demonstrate that the impacts to the overlying and production aquifers between MU2 South and MU3 meet regulatory requirements.
- (2) Demonstrate that the SSI trend noted in the uranium concentrations at well 2AF34-1 is reversed and stable.

MU-3 without Expansion

- (1) Confirm that the well 3D12-2 used in the restoration, but not in the baseline, was needed to replace a well that has been abandoned.
- (2) Demonstrate that the elevated conductivity noted in the 2009 sampling event does not result in levels of all constituents of concern in wells 3T37-2 and 3T27-2 above the applicable standards.
- (3) Demonstrate that the SSI trend noted in the uranium concentrations at well 3V58-2 is reversed and stable.

MU-3 with Expansion (Module 4A)

- (1) Provide a statistical evaluation of the restoration data including rationale for outliers and stability analyses.
- (2) Demonstrate that the SSI trend in uranium and radium-226 in wells 3W75-1 and 3Z87-1 is reversed and stable.

MU-4

- (1) Demonstrate that the restoration effort results in parameter levels approaching asymptotic trends using best practicable technology (BPT).
- (2) Provide confirmatory analyses on the uranium concentrations at monitoring well 4MW-15 that demonstrate the levels are within regulatory requirements (groundwater protection criteria).
- (3) Adequately characterize the impacts to the aquifer in the vicinity of 4MW-1 and that those impacts are within regulatory requirements (groundwater protection criteria).
- (4) Demonstrate stability of contaminant concentrations by showing no SSI trends during the stability monitoring period once the restoration goals are achieved.

MU-5

- (1) Demonstrate that the restoration effort is consistent with BPT and results in levels that exhibit an asymptotic trend especially for module 5-5.
- (2) Characterize the impacts to the aquifer in the vicinity of perimeter well 5MW-66 and that the impacts meet the regulatory requirements (groundwater protection criteria).
- (3) Complete restoration at Module 5-2 that is now in production.

MU-6

- (1) Provide the staff with data used to define baseline.
- (2) Demonstrate that the restoration effort is consistent with BPT and results in levels that exhibit an asymptotic trend.

The NRC staff requests that within 3 months of receipt of this letter, Uranium One develop a restoration plan for MU-2 through 6 and submit it to the NRC for review.

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

In accordance with 10 CFR 2.390 of the "NRC Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter 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 Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

**/RA/**

Ron C. Linton, Project Manager  
Uranium Recovery Licensing Branch  
Decommissioning and Uranium Recovery  
Licensing Directorate  
Division of Waste Management  
and Environmental Protection  
Office of Federal State Materials  
and Environmental Management Programs

Docket No.: 04008502  
License No.: SUA-1341

Enclosure: Technical Evaluation Report

cc: Mark Rogaczewski (WDEQ)

J. Winter

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