



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

September 28, 2016

Mr. Kyle Wendtland  
Land Quality Administrator  
Land Quality Division  
Wyoming Department  
of Environmental Quality  
200 West 17<sup>th</sup> Street  
Cheyenne, WY 82001

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION STAFF REVIEW OF TASK  
ORDER 2 REPORT AND REQUEST FOR CONFIRMATORY ORDER  
REVISION (DOCKET NUMBER: 040-04492)

Dear Mr. Wendtland:

On May 9, 1994, the American Nuclear Corporation (ANC) announced that it intended to discontinue operations at its Gas Hills Site and to go out of business. The company forfeited its \$3.2 million reclamation bond to the Wyoming Department of Environmental Quality (WDEQ) in October 1994, and the WDEQ subsequently undertook reclamation activities at the site using these funds. In 1996, the WDEQ accepted and agreed to the terms of a Confirmatory Order (Order) issued by the U.S. Nuclear Regulatory Commission (NRC) for the reclamation of the ANC Gas Hills site. The Order was signed by the NRC and the WDEQ in October 1996 (Agencywide Document Access Management System (ADAMS) Accession No. ML071520354).

In response to a request by the WDEQ, the NRC modified the Order on August 11, 2009 (ML091330303). By letter dated May 29, 2012, the NRC proposed additional modifications to the Order that would result in the temporary suspension of the majority of the Parts until financial issues affecting the WDEQ's remediation could be resolved (ML120670346). The WDEQ agreed to these additional modifications by letter dated July 30, 2012 (ML14122A199). On June 12, 2014, the NRC proposed additional modifications to the Order to determine the extent of the groundwater plume moving off-site and, if feasible, to purchase land to extend the site boundary beyond the plume (ML14106A328). The WDEQ agreed to these modifications by letter dated July 1, 2014 (ML14206A590).

In March 2016 WYDEQ completed an evaluation of the extent of the groundwater plume leaving the site (ML16071A249). This draft report indicates that uranium in the groundwater has migrated approximately one mile downgradient of the current site boundary, while the migration of radium has been limited to within 1500 ft. of the site boundary. Chloride and sulfate have migrated greater than one mile off-site, and sulfate may be entering the groundwater from an adjacent facility. However, the current off-site groundwater contamination does not appear to

pose an immediate health risk because the groundwater is currently not a source of drinking water. In addition, based on discussions with WYDEQ staff, the applicable standard for the Willow Springs South sampling location are those found in the Wyoming Surface Water Quality Standards and the surface water at this location is classified as Class 4B. As indicated in the Wyoming Surface Water Quality Standards and the groundwater evaluation report, the only Class 4B standard for surface water is for Radium-226. The results of the evaluation for Willow Springs South indicates that the surface water is not in excess of the Class 4B standard.

On May 23, 2016, the WDEQ provided the NRC staff with a draft report prepared by Lidstone and Associates entitled "ANC Uranium Mill Tailings Site Report of Engineering Evaluation/Cost Analysis and Prioritization of Reclamation Activities" (ML16148B084). In addition to submitting the report, the WDEQ requested that the NRC revise the Confirmatory Order to redirect the WDEQ's efforts at the site from collecting ground water samples to temporarily stabilizing the site and providing surface diversions. This should minimize any additional groundwater recharge through the tailings and help reduce further migration of contaminants in the groundwater until a permanent solution is found for the site.

On August 17, 2016, WDEQ provided the final groundwater evaluation report and engineering evaluation/cost analysis for the site (ML16235A135, ML16237A010 and ML16237A011). NRC staff reviewed the final reports and determined that the information and conclusions were consistent with the previous groundwater and engineering evaluation/cost analysis reports discussed above.

The NRC staff has reviewed the draft and final groundwater evaluation reports and engineering evaluation/cost analysis reports, and the WDEQ's request to revise the Confirmatory Order. Based on our reviews, we have concluded that Part IV, paragraph 11, of the Order should be modified to read as follows:

Using the funds remaining from the forfeited reclamation bond, the WDEQ shall perform engineering and reclamation activities to temporarily stabilize the tailings ponds and provide surface diversions. The WDEQ shall provide the NRC with the plans for the engineering and reclamation and surface diversion activities before the WDEQ undertakes the activities. The WDEQ shall not undertake these activities until the NRC reviews and approves the plans, in writing. The WDEQ shall sample existing wells and surface water stations with any remaining funds from the forfeited bond after the completion of engineering and reclamation activities as described above. Those parts of the Order that were suspended by the NRC's letter dated June 12, 2014, ML14106A328) shall continue to be suspended.

In order to effectuate these modifications to the Order, the WDEQ should review and document its acceptance of these changes within 60 days of the date of this letter. If the WDEQ is not in agreement with the proposed changes, please contact the NRC immediately.

The NRC staff agrees that interim stabilization of the site is important to ensuring the protection of public health and safety and the environment until all reclamation activities are completed. However, we would also like to actively pursue developing a permanent approach to completing the remediation of the site. In the past our staffs have focused on exploring different potential funding sources for completing remediation of the site. Recently, our staffs have focused on the

development and review of the groundwater evaluation report and engineering evaluation/cost analysis for the site. I would like to suggest that, while the interim site stabilization plans are being developed, we direct our staffs to also focus on investigating approaches to provide for permanent closure of the site, including more fully exploring possible funding mechanisms. I suggest that our staffs resume monthly calls to discuss closure options and that we hold a staff level meeting in the near future to discuss the options. It may be useful to also engage the Department of Energy staff in these discussions. If you believe that this approach would be productive, the NRC point of contact is Dominick Orlando, the Project Manager for the site. He can be reached at 301-415-6749 or by email at [Dominick.Orlando@nrc.gov](mailto:Dominick.Orlando@nrc.gov)

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 2.390 of the NRC's "Agency Rules of Practice and Procedure," 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>.

If you have any questions concerning this letter or the staff's evaluation, please contact Dominick A. Orlando by telephone at: 301-415-6749 or via e-mail at: [Dominick.Orlando@nrc.gov](mailto:Dominick.Orlando@nrc.gov).

Sincerely,

**/RA/**

John Tappert, Director  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 040-04492

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*/RA/*

John Tappert, Director  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 040-04492

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**ADAMS Accession Number: ML16160A074**

**\*by email**

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