



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

July 28, 2016

Mr. Rich Bush, Site Manager  
U.S. Department of Energy  
Office of Legacy Management  
2597 Legacy Way  
Grand Junction, CO 81503

SUBJECT: NUCLEAR REGULATORY COMMISSION STAFF REVIEW OF THE  
PROPOSED INTERIM TREATMENT SYSTEM EVALUATION FOR THE TUBA  
CITY, ARIZONA, DISPOSAL SITE (DOCKET NUMBER: WM-73)

Dear Mr. Bush:

I am writing in response to the U.S. Department of Energy's (DOE's) letter, dated June 20, 2016, regarding the proposed Interim Treatment System Evaluation for the Tuba City, Arizona, Uranium Mill Tailings Radiation Control Act disposal site (Agencywide Document Access and Management System (ADAMS) Accession Number ML16174A396). The U.S. Nuclear Regulatory Commission (NRC) staff does not have any comments on the proposed evaluation at this time.

However, we would like to point out that on August 27, 2015, the NRC staff provided comments on the annual ground water report for 2013-2014 and on March 28, 2016, the NRC staff provided comments on the draft ground water flow model for the Tuba City site (ADAMS Accession Nos. ML15209A624 and ML14163A663, respectively). Two comments in these documents were related to the installation of additional ground water monitoring wells for areas deemed to be lacking in information and that might help determine if the contaminant plume has moved into the aquifer system beneath some portions of the lower terrace. Below is a discussion of the staff's comments and the areas involved:

a. Figures and data in the two reports cited above indicate a possible fracture-dominated hydraulic connection exists between the disposal cell area and the lower terrace. Neither report discusses what, if any, evaluations the DOE intends to undertake to further evaluate the potential for this connection and/or if the plume has migrated further down gradient from monitoring wells 691 and 1003. Such a feature could appreciably modify the velocity and direction of the plume and change the results of flow and transport model runs between the disposal cell and the Moenkopi wash. The DOE should determine if this connection exists and if it is impacting the ground water near the site. This could be accomplished by installing additional wells down gradient from wells 691 and 1003.

b. The 2014 ground water report discusses a south to southeast flow gradient from the disposal cell to the Moenkopi Wash and illustrated the southeastwardly direction of the flow. However, no ground water monitoring wells are present immediately below the scarp on the lower terrace northeast of monitoring well 695. Thus, there are no monitoring wells in that area available to capture a potential plume moving from the aquifer horizons A and B into the aquifer horizon C. Monitoring wells 258, 261, 914, 915, and 916 are all located on the middle terrace,

R. Bush

- 2 -

above the lower terrace. These wells are monitoring portions of the aquifer that are several feet deeper than the water table and may not be able to detect possible contaminants in aquifer horizons A and B. Installing wells in aquifer horizon C, northeast of the Greasewood Area on the lower terrace could provide information that would be necessary to evaluate the potential for the migration of the plume into aquifer horizon C in this area.

The proposed evaluation may provide information to address these comments.

In accordance with 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, please contact me by telephone at: 301-415-6749 or via email at: [Dominick.Orlando@nrc.gov](mailto:Dominick.Orlando@nrc.gov).

Sincerely,

*/RA/*

Dominick A. Orlando, Senior Project Manager  
Materials Decommissioning Branch  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

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