

January 13, 2014

Mr. Richard Bush
Program Manager
U.S. Department of Energy
2597 B 3/4 Road
Grand Junction, CO 81503

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION STAFF REVIEW OF U.S. DEPARTMENT OF ENERGY REPORTS ENTITLED "FEBRUARY 2013 GROUNDWATER AND SURFACE WATER SAMPLING AT THE TUBA CITY, ARIZONA, DISPOSAL SITE" DATED MAY 2013 AND "ANNUAL GROUNDWATER REPORT APRIL 2012 THROUGH MARCH 2013 TUBA CITY, ARIZONA, DISPOSAL SITE" DATED AUGUST 2013 (WM-73)

Dear Mr. Bush:

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the U.S. Department of Energy (DOE) reports entitled "February 2013 Groundwater and Surface Water Sampling at the Tuba City, Arizona, Disposal Site," dated May 2013 and "Annual Groundwater Report April 2012 Through March 2013, Tuba City, Arizona, Disposal Site," dated August 2013.

At this time we do not have any comments or questions on the February 2013 Groundwater and Surface Water Sampling report. However, based on our review of the 2013 annual ground water report, we do have the following comments:

1. The figures in the report show, and the data in the report's appendixes indicate, a possible fracture-dominated hydraulic connection between the disposal cell area and the lower terrace. In addition, Section 3.1.2 and the section on "Lower Terrace Monitoring Wells" on page 22 of the report discusses the potential for a hydraulic connection to the disposal cell by way of a fracture zone. However, the report does not discuss what, if any, actions DOE intends to undertake to further evaluate the potential for the connection and/or if the plume has migrated further downgradient from monitoring wells 691 and 1003. It may be appropriate for DOE to determine if this connection exists, and if it is impacting the groundwater near the site.
2. The last bullet on page 29 in Section 5.0 indicates that naturally occurring geochemical and flow-related factors are likely limiting the progress of aquifer restoration. However, NRC staff was not able to identify where these natural processes were discussed in the report. It would be helpful if the basis for this statement was included in the report.
3. It is not clear why wells 914 and 915 are not included in Figure 16b. In addition, it is not clear why some wells are not included in the figures shown in Appendix C, e.g., monitoring wells 274, 276, 283, 287, 685, 691, 695, 909, and 930.

4. Figure 20 indicates a high water table on the southern edge of the disposal cell centered around monitoring wells 262, 263, 287, 906, and 941, but it is not clear from the discussion in the text why this is occurring. It may be helpful to understanding the hydrology of the site if this is evaluated.
5. Section 5.0, "Year in Review Summary," states "Anomalous recent concentration increases at well 268 (Horizon E) merit examining the integrity of the well casing and screen using a down-hole camera." It is not clear from the report if DOE intends to examine the well integrity.

In accordance with 10 CFR 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 Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions concerning the NRC staff comments, please contact me at 301-415-6749 or by email at Dominick.Orlando@nrc.gov.

Sincerely,

/RA/

Dominick A. Orlando, Senior Project Manager
Special Projects Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: WM-70

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