

March 18, 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 REPORT ENTITLED "AUGUST 2013 GROUNDWATER AND SURFACE WATER SAMPLING AT THE TUBA CITY, ARIZONA DISPOSAL SITE," DATED NOVEMBER 2013 (WM-70)

Dear Mr. Bush:

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the U.S. Department of Energy (DOE) report entitled "August 2013 Groundwater and Surface Water Sampling at the Tuba City, Arizona, Disposal Site," dated November 2013, (Agency Documents Access and Management System (ADAMS), Accession number ML13354B908). We appreciate the reorganization of the Time-Concentration Graphs so they are aligned with the annual groundwater reports, and the inclusion, in this report, of numerous additional wells not included in previous sampling reports. Based on our review, we have the following comments on the report:

- 1.) We suggest that the title for Table 1 be changed in future reports from, "Table 1. Tuba City Monitoring Wells with Analyte Concentrations that Exceed EPA Standard" to "Table 1. Tuba City Monitoring and Extraction Wells with Analyte Concentrations that Exceed EPA Standard" because the table includes the sampling results from both types of wells.
- 2.) Regarding the Time-Concentration Graphs, it is not clear if all wells from a given horizon or location are represented in the graph, or if only certain, selected wells were chosen. For example, if the graph is entitled, "Horizon A Monitoring Wells," it is not clear if all the monitoring wells from Horizon A are included in that graph, or just a representative group of wells. If a graph does not provide results from all of the wells from a stated horizon or location, a list of the wells not included in the graph would be helpful and prevent misinterpretations. It would also be helpful if the rationale behind why only certain wells are included in the graph is provided (e.g., including all of the wells may overpopulate the graph and defeat the purpose of trying to visualize the data).
- 3.) Due to the higher concentrations plotted in the graphs on pages 335-337 for monitoring wells 691 and 1003, the NRC staff reiterates the comment made after reviewing the "Annual Groundwater Report April 2012 through March 2013, Tuba City, Arizona, Disposal Site," dated August 2013 [Accession number ML13353A182]:

The figures in the report show, and the data in the report's appendices 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 discuss 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 down-gradient 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.

4.) Due to the higher concentrations plotted in the graphs on pages 338-340 for monitoring well 268, the NRC staff reiterates the comment made after reviewing the “Annual Groundwater Report April 2012 through March 2013, Tuba City, Arizona, Disposal Site,” dated August 2013 [Accession number ML13353A182]:

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.”

5.) The uranium concentration for the extraction well 1132 in Horizon layer B has been relatively high in recent years (see page 346). It is not clear from the report if the cause for the increase has been determined, or if DOE intends to attempt to identify the cause for the increase.

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 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
Materials Decommissioning Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
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Office of Federal and State Materials
and Environmental Management Programs

Docket No.: WM-73

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