U.S. Department of Energy
Hanford Site

September 29, 2020

20-TF-0093

Ms. Alexandra K. Smith, Program Manager
Nuclear Waste Program
Washington State
Department of Ecology
3100 Port of Benton Blvd.
Richland, Washington 99354

Dear Ms. Smith:

U.S. DEPARTMENT OF ENERGY, OFFICE OF RIVER PROTECTION RESPONSE TO WASHINGTON STATE DEPARTMENT OF ECOLOGY LETTER 20-NWP-099 REGARDING AX-102 TANK SAMPLING AND ANALYSIS PLAN

The U.S. Department of Energy (DOE) acknowledges the receipt of your letter 20-NWP-099 dated June 5, 2020, concerning the 241-AX-102 (AX-102) Tank Sampling and Analysis Plan (TSAP). The DOE and the Tank Operations Contractor, Washington River Protection Solutions LLC (WRPS), held three meetings with your staff to discuss concerns regarding the AX-102 TSAP (RPP-PLAN-63800). WRPS received written comments and suggested language for use in the AX-102 TSAP and the recommendations have been incorporated. The AX-102 TSAP describes the rationale and methods to be employed to obtain suitable samples to determine the radiological, chemical, and physical characteristics of the waste. Many of Washington State Department of Ecology's (Ecology) comments on residual waste forms remaining in AX-102 will be answered after samples are taken, analytical results are available, and the best basis inventory updated. DOE believes all written concerns and verbal comments related to the AX-102 TSAP have been addressed in Revision 3 of AX-102 TSAP (RPP-PLAN-63800) which has been provided to members of your staff.

In order to support decisions on the status of Tank AX-102, the following actions are underway or planned:

- WRPS is developing an engineering report evaluating chemical dissolution of the A/AX residual waste forms and reducing remaining Sr-90 activity.
- Residual waste samples will be obtained in accordance with the AX-102 TSAP.
- Three (3) different processes are planned to determine the configuration the AX-102 tank bottom and the impact of tank bottom anomalies on residual waste volume measurements:
    - A camera/CAD modeling system (CCMS) will be performed to obtain residual waste volume measurements when conditions allow the installation of cameras in the tank.

- A laser-based residual volume measurement system (RVMS) for A/AX farm is being fabricated for deployment at AX-102 to obtain another set of precise waste volume and bottom elevations measurements.

- A measurement device will be inserted to obtain an accurate tank bottom elevation for use as a reference. This reference point will provide an estimate of floor elevation adjacent to the pump, and provide a reference datum for the CCMS and RVMS measurements.

It is DOE's intention to address Ecology's concerns identified in letters 20-NWP-099, dated June 5, 2020, (Ecology Response to letter 20-TF-0012), and 20-NWP-057, dated March 18, 2020, (Tank AX-102 Sampling Objectives for Retrieval Decisions), and resolve them through our planned actions. The DOE plans adhere to the agreements and processes identified in the Hanford Federal Facility Agreement Action Plan Appendix I, and Tank Waste Treatment and Retrieval Consent Decree.

If you have any questions, please contact me on (509) 376-3567.

Sincerely,

Brian A. Harkins

Digitally signed by Brian A. Harkins
Date: 2020.09.29 15:44:57 -07'00'

Brian A. Harkins, Deputy Assistant Manager
Tank Farms Project
Office of River Protection

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