U.S. Department of Energy
Hanford Site

April 17, 2023

23-AMSQ-001311

The Honorable Joyce L. Connery, Chair
Defense Nuclear Facilities Safety Board
625 Indiana Avenue NW, Suite 700
Washington, DC 20004

Dear Chair Connery:

UPDATES TO THE DEFENSE NUCLEAR FACILITIES SAFETY BOARD REGARDING THE SAFETY STRATEGY FOR HANFORD'S 242-A EVAPORATOR FACILITY

This letter updates the Defense Nuclear Facilities Safety Board (DNFSB) regarding the safety strategy for Hanford's 242-A Evaporator facility. In a letter dated July 19, 2022, the DNFSB requested a briefing from the U.S. Department of Energy (DOE) to describe how the revised safety strategy for operating Hanford's 242-A Evaporator facility will meet DOE's safety requirements and address the DNFSB's concerns. DOE provided that briefing on October 12, 2022, but several concerns remained, mostly centered on the departure from the preferred hierarchy of controls.

Since the briefing, DOE initiated discussions with the Tank Operations Contractor, Washington River Protection Solutions LLC, and identified the following planned improvements for an upcoming amendment to the 242-A Evaporator facility safety basis:

1. Specific Administrative Control (SAC) for Response to Seismic Events: Manual actuation of the vessel dump system in response to a seismic event will be elevated from a Safety Management Program key element to a SAC in the Documented Safety Analysis (DSA) (242-A Evaporator DSA).
2. Safety-Significant Vessel Dump Device: A planned design/operational safety improvement will be implemented to incorporate a safety-significant depressurization of the air supply lines to the dump valve actuators. Depressurizing the air supply lines will open the dump valves regardless of the operation of the dump valve solenoids, which are not rated to function above 200°F. The planned improvement will be described in the 242-A Evaporator DSA and assigned a completion date.

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Richland, Washington 99352

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3. Safety Significant Seismic Detection System: A planned design/operational safety improvement will be implemented for design and installation of a safety significant seismic detection system and automated actuation of the 242-A Evaporator vessel dump system. The planned improvement will be described in the 242-A Evaporator DSA and assigned a completion date.

In addition, a combustible material SAC will be implemented in the 242-A Evaporator condenser room; this is consistent with the briefing provided on October 12, 2022. The combustible material SAC and response to seismic events SAC will be incorporated into the DSA before the next operation of the 242-A Evaporator.

The two planned improvements will be documented in the DSA before the next operation of the 242-A Evaporator. We are developing a schedule for the planned improvements and will share it with the DNFSB Resident Inspectors by June 30, 2023. The schedule will include the design, procurement, and installation of both the planned improvements. DOE will continue to provide progress updates to the Resident Inspectors through routine communications and monthly interface meetings. In addition, DOE will provide a briefing approximately every six months to the DNFSB technical staff to review and discuss progress as we develop and implement the planned improvements.

We appreciate the DNFSB's perspectives and look forward to continuing positive interactions with you and your staff. If you have any questions, please contact me, or your staff may contact Glyn Trenchard, Assistant Manager for Safety and Quality, at (509) 373-4016.

Sincerely,

Brian T. Vance Digitally signed by Brian T. Vance
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Brian T. Vance
Manager

AMSQ:GDT

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