

Jessie H. Roberson, Vice Chairman
Sean Sullivan
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**DEFENSE NUCLEAR FACILITIES
SAFETY BOARD**

Washington, DC 20004-2901



January 21, 2015

Mr. Mark Whitney
Acting Assistant Secretary for
Environmental Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0113

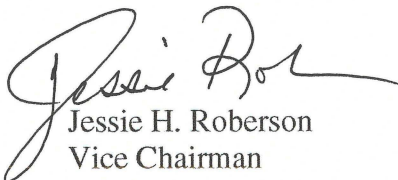
Dear Mr. Whitney:

The Safety Design Strategy (SDS) for the High-Level Waste (HLW) Facility at the Hanford Waste Treatment and Immobilization Plant (WTP) does not define a nuclear safety control strategy for hydrogen explosion hazards following the loss of mixing in process vessels containing non-Newtonian waste. The WTP project previously developed a well-defined control strategy that relied on spargers to periodically agitate the waste to release accumulated hydrogen. However, the spargers have been eliminated from the SDS control strategy due to challenges with meeting the ventilation system requirements.

The WTP contractor plans to rely on evaluations for resolving similar hazards in the Pretreatment (PT) Facility to support and inform the development of a safety control strategy for the HLW Facility. Due to significant differences in the design of the mixing systems and waste properties at these two facilities, evaluations for the PT Facility may not be applicable to the HLW Facility.

Pursuant to 42 U.S.C. § 2286b(d), the Board requests a written report within 90 days of the issuance of this letter documenting DOE's path forward on developing a nuclear safety control strategy for hydrogen explosion hazards in the HLW Facility, including the technical basis for that path forward.

Sincerely,


Jessie H. Roberson
Vice Chairman

c: Dr. Monica Regalbuto
Mr. Joe Olencz