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# DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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May 11, 1994

The Honorable Thomas M. Grumbly  
Assistant Secretary for Environmental Management  
Department of Energy  
Washington, D.C. 20585

Dear Mr. Grumbly:

A Defense Nuclear Facilities Safety Board (Board) review team visited the Hanford Site on March 28-31, 1994, to review progress toward implementing Board Recommendation 93-5, concerning the safety-related characterization of tank wastes. Our staff reports that the Westinghouse Hanford Company (WHC) has made progress in characterizing the tank wastes. However, the program for characterization merits much closer Department of Energy (DOE) scrutiny to achieve the objectives of the characterization effort. Of particular note, none of the 29 deliverables committed to in the Recommendation 93-5 Implementation Plan that were due between January and March 1994 has been delivered.

Additional attention from DOE headquarters is particularly needed on staff observations as follows:

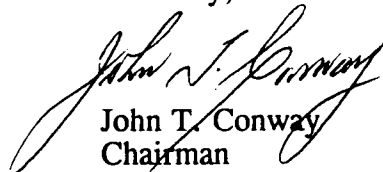
- 1 The WHC technical basis for the characterization program remains ill-defined. Many of the Data Quality Objectives (DQOs) provide little basis for the specified number of samples per tank. WHC currently plans to obtain only two samples per tank, even though the Implementation Plan states that more will be taken if more risers are available. WHC has not been able to justify the statistical model used to calculate sampling requirements for the ferrocyanide tanks.
- 2 DQOs are not being developed with the goal of meeting established tank farms safety limits with high statistical confidence, nor has a basis to reject samples based on inadequate or nonrepresentative recovery been developed.
- 3 The sampling schedule does not appear coordinated with other tank farm programs. The total number of risers available for sampling is not known for many of the tanks. WHC plans to install equipment such as thermocouple trees and liquid observation wells into risers needed for sampling. Additionally, WHC is not using most of the existing sample data to develop spatial variability models and the overall sampling strategy.
- 4 WHC has formally recommended and DOE-RL verbally agreed to use only one off-site laboratory for tank waste analysis. The Implementation Plan states that both the Idaho National Engineering Laboratory and Los Alamos National Laboratory will be used. The Board expects any Implementation Plan change to technically justify why the second off-site lab is not necessary and identify contingencies for a second lab if necessary.

5. DOE-RL does not appear to be providing the technical management and direction required to successfully implement the characterization program.
- DOE-RL was not sure how or when it would review and approve DQOs related to waste tank safety issues. Site manager (i.e., DOE-RL) approval is required by the Environmental Protection Agency's guidance for the DQO process, because the DQOs document fundamental decisions regarding the number of samples required from each tank, the analyses to be performed, and the desired confidence levels for meeting safety limits.
  - DOE-RL has not required WHC to plan to obtain samples from each available riser for the first several tanks, as required by the Implementation Plan.
  - No DOE Facility Representatives (FRs) are dedicated to the tank sampling program. DOE-RL plans to hire three additional FRs and assign them to the tank farms. However, no dates or training and qualification requirements have been established.
  - It is not evident that DOE-RL is actively involved in determining whether an environmental assessment is needed for shipping waste samples to off-site laboratories or in obtaining a permit for Type B shipping containers for off-site samples. Either of these issues could delay using off-site labs to support the waste tank characterization program.

These staff observations are provided for your consideration and appropriate action. The Board has instructed the staff to continue to monitor this program closely and to be available to discuss this situation in more detail with you or your staff if you so desire. A detailed report of our staff's findings is available for your information.

Within 30 days, please brief the Board on how DOE (both the Richland Operations Office and EM-30) will technically manage the tank waste characterization program in order to implement Recommendation 93-5. This includes the DOE review and approval of the key technical documents that are identified as deliverables in the 93-5 Implementation Plan. If you need any further information, please let me know.

Sincerely,



John T. Conway  
Chairman

- c: The Honorable Tara O'Toole, EH-1  
Mr. Mark Whitaker, Acting EH-6  
Mr. John Wagoner, Manager Richland Operations Office