

March 29, 1999

Mr. James M. Owendoff
Acting Assistant Secretary for Environmental Management
Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0113

Dear Mr. Owendoff:

The Hanford Spent Nuclear Fuel Project (SNFP) is in the latter stages of design for the facilities needed for safe storage of spent nuclear fuel from the K-Basins. The Defense Nuclear Facilities Safety Board (Board) considers the expeditious, safe design and analysis of these new facilities essential for necessary risk reduction activities at the site.

The Board previously informed the Department of Energy (DOE) of its concerns with the timely resolution of technical issues and the quality of safety documentation on the SNFP. Although the DOE Richland Operations Office and the contractors have continued to make improvements in these areas, a number of concerns remain. An issue report related to some of these concerns, based on a site visit by members of the Board's staff, is enclosed for your consideration.

If you have any questions on this matter, please do not hesitate to call me.

Sincerely,

John T. Conway
Chairman

c: Mr. Mark B. Whitaker, Jr.
Mr. James C. Hall

Enclosure

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Staff Issue Report

March 3, 1999

MEMORANDUM FOR: G. W. Cunningham, Technical Director
J. Kent Fortenberry, Deputy Technical Director

COPIES: Board Members

FROM: D. Wille

SUBJECT: Review of Technical Issues Related to the Spent Nuclear Fuel Project, February 16–18, 1999

This report documents selected issues related to the Spent Nuclear Fuel Project (SNFP), Hanford, reviewed by members of the staff of the Defense Nuclear Facilities Safety Board (Board) D. Wille, A. Gwal, and R. Zavadoski during a site visit conducted February 16–18, 1999.

Cold Vacuum Drying Facility Ventilation System. During a site visit in October 1998, the Board's staff pointed out to the Department of Energy (DOE) and contractor representatives a discrepancy in the classification of ventilation and electrical equipment proposed for the Cold Vacuum Drying (CVD) Facility. The ventilation system was designated as safety significant, but with only a general service fan and no backup power. The Board forwarded the staff's issue report on this matter to DOE on December 1, 1998. DOE responded to the Board's observations by a letter dated February 2, 1999, stating that the exhaust fans would be classified as safety significant and be provided with backup power.

During the staff's visit on February 16–18, 1999, it was found that this issue had not yet been closed by the contractor, who was still trying to justify the classification discrepancy. The DOE Richland Operations Office (DOE-RL) indicated that they were informed of the latest contractor position during the week of February 8, 1999. The contractor plans to provide backup power in the CVD Facility using a diesel generator and transfer switch purchased as safety significant, and available from the Canister Storage Building (CSB) subproject. However, the contractor appears reluctant to designate the installed ventilation fans and the added backup power as safety significant because of the additional cost associated with the qualification of safety-significant items. With construction of the CVD Facility's support equipment scheduled for completion by June 1999, the Board's staff is concerned that failure to resolve this issue will adversely impact safety and reverse a commitment made to the Board in the above mentioned DOE letter.

Cold Vacuum Drying Process Equipment. Completion of the CVD Facility is on the project critical path. Procurement of CVD process equipment is in progress, and delivery is expected in time to support the schedule milestones for operation. However, while this procurement proceeds, DOE-RL has not approved the Phase II (Systems) Safety Analysis Report (SAR), and many open issues of compliance with accepted facility design requirements remain. The contractor believes these issues will be closed with minimal impact to the project. Both the CVD subproject manager and the Chief Engineer are new in their positions, and they are taking steps to ensure that the CVD design meets all the functional and design requirements for the facility. As a result, independent design verification and design reports for the CVD are planned for April and May 1999, respectively. This is about the time anticipated for delivery of the process equipment. The Board's staff recognizes that design reviews are essential, but is concerned that these reviews are occurring late in the procurement and construction of the facility, and if design problems are identified, potential delays are likely.

Canister Storage Building Tour. During a tour of the CSB, the Board's staff questioned the contractor's representatives on the adequacy of the lightning protection for the vault exhaust stack and the capacity of the drive motors for the Multi-Canister Overpack Handling Machine (MHM) gantry crane. Subsequently, the Board's staff was informed that the equipment installed differed from that identified in the recently submitted Final Safety Analysis Report (FSAR). The FSAR states that two lightning rod assemblies are provided at the top of the exhaust stack, but none was installed, and the grounding wire was attached at the bottom of the stack. The FSAR also states that four 7.5 horsepower bridge drive trucks are provided for the MHM, which weighs approximately 450 tons, but only two motors rated at 7.5 horsepower were observed. In view of these discrepancies, the Board's staff questioned the quality of the FSAR for the CSB that was submitted for DOE review on February 11, 1999. There has been a continuing issue between DOE-RL and the contractor concerning submitted project safety documentation that does not always reflect the latest designs. These discrepancies have usually been explained by the fast pace of the project. However, this is an example of the physical installation not being in agreement with the safety documentation, suggesting a lack of effective configuration management.