

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 4, 1997

TO: G. W. Cunningham, Technical Director
FROM: P.F. Gubanc & D.G. Ogg, Hanford Site Representatives
SUBJECT: Activity Report for Week Ending April 4, 1997

Staff members Arcaro, Barton, Daniels, Jellett and Stokes were on-site this week to review a variety of topics including tank farm systems engineering, leakage and vadose zone monitoring, waste characterization and disposal system design. Outside Expert Dave Boyd was also on-site assisting the Site Representatives' reviews of tank farm labeling and N-Basin work control.

A. Bechtel Hanford, Inc. (BHI) Conduct of Operations: Updating last week's report, BHI terminated employment of the electrician who signed for zero energy checks in a work package even though the checks had not been performed immediately prior to work (an energized 240V line was cut). Additionally, BHI started a review of all work packages and procedures at N Basin that require a lock-out to ensure that appropriate isolation conditions are clearly identified. While we consider the disciplinary action appropriate, we have also tried to impress upon both BHI and DOE-RL senior management the need for a critical review of the management systems currently in place that allowed this and other recent dangerous practices to occur.

This week, Dave Boyd conducted tours and made observations of shift turnovers, pre-job briefings and work in progress at the N Basins. He observed that housekeeping and cleanliness throughout the basin area were unsatisfactory and that poor work planning is contributing to inefficiency and tempts the workers to take shortcuts. On different jobs, Mr. Boyd observed the following:

1. Work was stopped while a worker exited the area, doffed his protective clothing, processed a tag-out, donned new protective clothing, then returned to the job site.
2. Workers attempting to use a new tool on swing shift were unable to make it work. The tool designer was not available and the workers means of communicating to the designer involved leaving a note for him, to which he could reply the next day on day shift.
3. A ball valve was required to be locked in the shut position and tagged. A locking device for the valve had not been identified prior to the job and had to be fashioned from material on hand at the work site.

These observations have been passed on to BHI supervision at the N Basin. We are continuing to pursue with BHI and DOE-RL improvements in BHI conduct of operations.

B. Plutonium Finishing Plant (PFP) Work Curtailment: In December 1996, DOE-RL and Babcock and Wilcox Hanford Company (BWHC) management imposed a hold on all fissile material handling at PFP. Since then, BWHC has worked to implement corrective actions for poor conduct of operations and poor criticality control practices. Activities involving the handling of plutonium will commence following the satisfactory completion of contractor and DOE-RL readiness assessments. Currently, these assessment activities are scheduled to take place during the next two weeks.

On April 1st, Mr. Ogg toured the PFP with the DOE-RL facility representative who pointed out areas of the facility where water leaks from the ventilation system have caused concrete cracking and spalling in the second level floor. This condition was originally identified by the contractor in November 1995, but was only recently investigated more fully as a result of questioning by the facility representative. BWHC conducted an inspection of the reinforcing bar in the affected areas and found no significant corrosion. However, DOE-RL continues to

investigate this condition.

C. Canister Storage Building (CSB) Design and Construction: On March 27th, DOE-RL and Duke Engineering Services Hanford, Inc. (DESH) senior management conducted a conference call with the Board's staff to discuss questions regarding the capability of the CSB to withstand a maximum snow loading and a combination of snow loading and seismic loading. As a result of that discussion, DESH committed to completing additional design analyses that would show the CSB structure will support a maximum snow load in excess of 40 lbs/sq ft and a combination of the design basis earthquake and snow loading in excess of 10 lbs/sq ft. The results of these analyses are to be available during a video conference between the Board's staff and project personnel scheduled for April 9th.

On April 3rd, DOE-RL issued its Safety Evaluation Report (SER) for Rev. 5 of the CSB Safety Analysis Report that supports design of the CSB superstructure. On April 4th, following a review of outstanding items from the SER, DOE-RL granted approval to commence construction of the CSB superstructure. Construction is expected to begin April 17th.

D. Technical Safety Requirement (TSR) Surveillance Deficiencies at K Basins: Recent occurrences have caused DOE-RL to question the adequacy of DESH management of the K Basins safety basis. In a letter dated April 1, 1997, DOE-RL cites TSR violations, improper documentation of TSR surveillances, and a lack of improvement in setting high standards for operations. In response, Fluor Daniel Hanford (FDH) issued a letter, dated April 2, 1997, that suspended all TSR-related operations at K Basins. The letter includes a corrective action plan to address concerns raised by DOE-RL, and commits to requesting permission from DOE-RL to resume operations. We believe that DOE-RL and FDH are taking appropriate actions to address these safety related issues and will continue to follow their resolution.

cc:

Board Members