

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 27, 1999

TO: G. W. Cunningham, Technical Director

FROM: R. Arcaro, Hanford Site Representative

SUBJ: Activity Report for the Week Ending August 27, 1999

Staff member S. Stokes was on site to provide site representative coverage.

A. Plutonium Finishing Plant: The prototype vertical calciner was repaired this week. The agitator had been hung up on a piece of debris in the calciner bed. Nitric acid runs began this week. Stabilization of plutonium solutions should begin next week.

Mr. Arcaro and Mr. Stokes visited the Plutonium Process Support Laboratory (PPSL) to discuss the efficacy and safety of using the existing muffle furnaces for polycube stabilization. Preliminary testing at the PPSL has involved heating surrogate materials to measure off-gas flammability characteristics and the direct oxidation of a limited amount of polycube material. The PPSL's preliminary findings suggest that the flammable gas concentrations resulting from direct oxidation are below the lower flammability limit and can likely be easily controlled by process parameters such as temperature, heat-up rate, and feed rate. This information will be consolidated with test results from the Pacific Northwest National Lab to formulate a summary report describing the results of this testing effort. (III-A.1)

B. Tank Farms: The pre-fabricated pump pit was installed in Tank 101-SY this week. A cross-site transfer of waste out of Tank 102-SY was initiated to accommodate this fall's transfer out of 101-SY. The transfer pump will be installed in the tank next week.

Recent sampling of Tank AZ-102 has been halted following personnel clothing and skin contamination events. These events have been caused by equipment problems and exacerbated by the high specific activity of AZ-102 waste. The equipment problems include leaks at the isolation valve between the and improper threading of the joint between the last segment of drill string and the cable spray washer. Mr. Arcaro and Mr. Stokes toured the sampling set-up at the AZ farm and discussed the recovery actions to resolve the personnel contamination issues. Lockheed Martin Hanford Company is resolving this issue via work area decontamination, replacement of some key pieces of highly contaminated equipment, fixing or replacing leaking components, and deploying an additional glovebag to isolate workers from the drill string and riser equipment. (III-A.2)

C. Spent Nuclear Fuel Project: Mr. Arcaro discussed with DOE and contractor representatives plans for readiness verification in support of the Phased Start Initiative which will provide early demonstration of the Fuel Retrieval and Integrated Water Treatment Systems. Although plans are not finalized, the contractor and DOE are concerned that performing an Operational Readiness Review (ORR) has the potential to delay the activity. Mr. Arcaro shared the recent communication to DOE from the Board on this subject and reiterated that the Order provides sufficient flexibility to allow an ORR to be tailored to the hazards at hand. (I-A.3)

cc: Board members