

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 20, 1999

TO: G. W. Cunningham, Technical Director

FROM: R. Arcaro, Hanford Site Representative

SUBJ: Activity Report for the Week Ending August 20, 1999

Staff members D. Wille, A. Gwal, and B. Jones were on site to review the Spent Nuclear Fuel Project. D. Winters and S. Stokes were on site to review the Transuranic Waste program. Mr. Stokes remained on site to provide site representative coverage.

A. Plutonium Finishing Plant: Mechanical problems continue to plague the start-up of the prototype vertical calciner. This week the agitator failed to rotate. Foreign material in the calciner binding the agitator is suspected. (III-A.1)

B. SY-101 Surface Level Rise Remediation Project: An attempt was made this week to install the prefabricated pump pit in a 42-inch riser. However, after removing the riser shield plug, a high dome space pressure alarm tripped indicating a tank over-pressure. Per procedure, the job was stopped and the farm evacuated. There were no indications that a gas release had occurred, e.g., hydrogen dome space concentration remained constant. All indications point to an increase in tank pressure as a result of removing the riser shield plug. Recovery actions include calibration of the pressure sensing device to ensure correct operation and modification of the alarm response procedures to include using gas dome space gas monitoring as an indication of increased gas release. Following the recovery actions, the pump pit, piping manifold, and pump will be installed. Recovery actions and installation activities are scheduled during the week of August 23, 1999. (III-A.2)

C. Phase II Integrated Safety Management System (ISMS) Verification at the Office of River Protection (ORP): DOE completed its Phase II ISMS Verification review for the Tank Farms this week. DOE found that ORP has implemented ISMS satisfactorily. The quality of work planning for high-risk jobs such as C-106 sluicing and SY-101 Level Rise Remediation supports this conclusion. (I-A.2)

D. Double Shell Tank Wall Corrosion: Pitting corrosion in the inner wall of Tank AN-105 was confirmed by additional ultrasonic testing (UT). A pit discovered in the 0.5-inch wall had a depth of 0.1 inches. At this rate, the tank could corrode beyond structural limitations in as few as 14 years. The tanks are needed for more than 25 years to support waste processing. A total of 6 of the 28 double shell tanks have been at least partially inspected by UT. Despite the findings to date, funding for additional testing is only expected to cover 2 tanks per year. (III-A.2)

cc: Board Members