

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 22, 2005

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: J. S. Contardi/M.T. Sautman, SRS Site Representatives
SUBJECT: SRS Report for Week Ending July 22, 2005

Underground Tank Deactivation: The F-Canyon facility includes five underground tanks, which historically stored laboratory sample returns and liquid low-level waste from the production reactors. As part of F-Canyon deactivation, the tanks have been flushed and are awaiting final disposition. Recent samples of the residual sludge in one of tanks indicated significantly more plutonium than previous samples. On July 1, 2005, a New Information report was generated and subsequent investigations have determined that the previous samples were not accurately reported. This week, based on the latest sample results, the contractor has declared a positive unreviewed safety question (USQ) and a Technical Safety Requirement violation (TSR). The USQ relates to the increased frequency and consequences due to a hydrogen deflagration. The TSR violation relates to exceeding the allowable plutonium content. The contractor has implemented compensatory measures which include preventing introduction or removal of material and ensuring the tank's headspace is ventilated.

Defense Waste Processing Facility (DWPF): Due to the lack of high-level waste space and equipment problems, the contractor has decided to shut down DWPF in the next few days. During the shutdown the contractor will replace the high efficiency mist eliminators and perform other maintenance related activities. Ideally, the work performed during the shutdown will shorten or eliminate the planned fall maintenance outage. Next week's outage may afford the contractor the necessary time to recover much needed high-level waste space for the recycle from DWPF. The Site Rep observed control room operations while the 2-H Evaporator restarted this week after being shut down since April. This will also help recover tank space.

The Site Rep observed workers disassemble a motor in the DWPF contact decontamination maintenance cell. One of the area radiation monitors (ARM) inside the cell had been in test mode for at least 8 months, but was still spuriously alarming - in fact it alarmed twice during the observed evolution. When a spurious alarm occurs, it would mask a legitimate alarm from the second ARM or continuous air monitor, both of which share the same horn inside the cell. Furthermore, the ARM was not tagged to identify the deficiency. The Site Rep discussed this issue with the Radiation Control Manager and work started to fix the alarm.

F Tank Farm: As part of the Tank 5 Waste on Wheels project, water will be added to the tank and submersible mixing pumps used to mobilize the tank sludge for 200 hours before the remaining waste is transferred out of the tank. During the mixing period, the diluted waste height will be above 14 of the 15 past leak locations in this old-style Type I tank. Leak detectors and cameras will be used to identify any leaks that occur so that waste can be pumped from the annulus back into the tank, if needed. The staff will be reviewing this strategy in detail.