DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 19, 2007

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: M.T. Sautman, SRS Site Representative
SUBJECT: SRS Report for Week Ending October 19, 2007

DOE Oversight: A DOE review of 3250+ oversight reports from fiscal year 2007 determined that report quality must be improved for meaningful analysis to be conducted. (See 8/17/07 report). The vast majority of reports documented operational awareness activities, but often included little data that could be used to draw functional area conclusions or identify trends. The exception was maintenance, which will be targeted for closer examination this year. DOE is working to improve their database and provide guidance to facilitate more analysis in the future.
Ventilation Systems: The Tritium Extraction Facility (TEF) completed the requested run-in period of its ventilation system. Later in the week, however, a maintenance worker propped open the door to the supply fan building to remove a lockout even though a posting on the door stated not to prop or hold open the door for ventilation control. The resulting surge in airflow pressurized the facility and tripped an interlock, which put TEF in a reduced ventilation mode. A malfunctioning damper complicated the resumption of normal ventilation. There was also an air flow reversal at F/H Laboratory during a maintenance activity on a stack analyzer.

Operational Awareness: Operations staff did not realize that the way they drained the Flush Water Feed Tank at the Defense Waste Processing Facility would trip an interlock and shut down the melter feed loop pump. Glass pouring continued another 48 minutes before they realized feed had been shut off.

At the Modular Caustic Side Solvent Extraction Unit, a valve was left partially open. Over the next nine hours, ~1000 gallons of scrub acid simulant drained from the scrub feed tank to four connected, temporary scrub feed totes until the level equalized. This ongoing transfer was missed by the first set of operator rounds. It was not until the next set of operator rounds, twenty hours after the transfer began, that the level change was identified and the open valve was shut.
H Canyon: A safety-class segregated cooling water isolation valve is being investigated as a potential suspect/counterfeit item.

HB-Line: An emergency preparedness drill was initiated after a delay. However, the Phase I Control Room drill controller was not informed of this. When another controller set off the fire alarm, control room operators initially treated the alarm as real.

Tank Farms: The current contents of tanks 6 and 11 exceed the Specific Administrative Control limit for hydrogen generation rate on a per gallon basis. The software used for ensuring compliance focused on the receiving tank and the waste transfer line, but ignored the shipping tank. Due to the small waste volumes present and the large tank headspaces, this does not pose a safety risk. However, it did reveal flaws with how the software calculated the generation rate when there were very small waste volumes present, especially if sludge mounds were exposed.