

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 4, 2008

TO: J. Kent Fortenberry, Technical Director
FROM: M. P. Duncan and M. T. Sautman, SRS Site Representatives
SUBJECT: SRS Weekly Report for Week Ending April 4, 2008

Messrs. Massie, Ogg, and Zull were at SRS to review selected vital safety systems at the tank farms. Potential issues include the F Tank Farm system engineer and DOE safety system oversight programs.

Solid Waste Management Facility: The Documented Safety Analysis Readiness Assessment will likely have findings that address procedure quality and execution, software quality assurance, and implementation of criticality controls. During an emergency preparedness drill, the Incident Command Post (ICP) was located downwind most of the time that the pool fire was simulated to be burning. The Fire Department recognized the wind direction and tried to relocate upwind. However, their lack of familiarity with SWMF and the fact that their facility escort did not have a radio or gate keys, prevented them from relocating the ICP and they returned to the downwind position. Engineers using a weak procedure calculated the incorrect source term. Because there was not a controller available at the simulated fire to accurately describe the scene, firefighters provided the shift manager information that was not consistent with the planned scenario.

F-Canyon: High levels of contamination were found around a duct hole in a transuranic waste remediation line. Although the area was decontaminated, work had to be suspended the next work day when 2 million dpm alpha was detected during pre-job surveys. It appears that when a nearby elevator became stuck open for an hour, it disrupted airflows enough to allow contamination to migrate again. Work was suspended again later in the week when contamination up to 16 million dpm alpha was detected near the remediation line. The cause of this is not clear, but it may have been related to the shutdown of one of the F-Canyon exhaust fans when a bird induced short circuit tripped a pole fuse and a breaker.

L Area: An Area Radiation Monitor, used for detecting a nuclear criticality, first went into alert (>2 mrem/hr) and before Radiological Control Inspectors could confirm the rate, it alarmed (>500 mrem/hr). Although none of the other radiation monitors confirmed an increase in dose rates, workers evacuated the building as if it was a real criticality. Subsequent surveys confirmed that the alarm was due to a malfunctioning monitor although the exact cause is still under investigation. A critique identified the need to better clarify roles, responsibilities, and expected actions during recovery.

K Area: An engineer discovered new information that the current K-Area Complex Documented Safety Analysis is potentially inadequate since it does not analyze internal impacts to the building structure. An initial evaluation determined that two columns in the Assembly area would likely fail upon impact from motorized equipment such as forklifts that are used in the area. Failure of a column would lead to partial collapse of the roof, potentially impacting nuclear material or safety-related equipment that supports plutonium surveillance operations. Compensatory measures are in place to prevent operation of motorized equipment in the vicinity of the columns in question.

Tritium: 238-H was evacuated when the facility lost power after a breaker tripped, believed to be caused by a short circuit on the load side of a disconnect for an exhaust fan. Survey results indicated no spread of contamination within the facility.