DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 31, 2007

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: M.T. Sautman, SRS Site Representative
SUBJECT: SRS Report for Week Ending August 31, 2007

F Tank Farm: Last Saturday, a worker exiting a Radiation Buffer Area (RBA) was found to have contamination on his hand and shorts. In addition, the digital camera used to inspect welds in the annulus of Tank 8, a tank with no leak sites, was highly contaminated. Although it was initially thought that Tank 8 might be leaking, the likely source of contamination changed when the top of a different worker's shoe was found contaminated Saturday night. This worker was part of a crew that used the same camera to inspect Tank 5's annulus, which has known leak sites, Friday night. This worker had alarmed a personnel contamination monitor (PCM) when exiting Friday night, but later reportedly passed a hand frisk (bottom of shoe only) and a different PCM twice. Because this contaminated shoe was brought home between Friday and Saturday night, a contamination survey was later conducted of the worker's residence. No contamination was detected. Contamination was also found on a cart used to store the camera overnight in H Tank Farm. It is suspected that the camera was contaminated when it was handled without protection and transported to and from H Tank Farms although several previous surveys initially did not detect any contamination. The inspection using one of the Tank 5 risers, later found to be contaminated, was performed inside a posted RBA in street clothes and gloves although the Radiation Work Permit (RWP) required the area be posted as a Contamination Area and the use of anti-contamination clothing. Furthermore, the surveys to unconditionally release the camera were not documented, the Radiation Control Organization was not informed that the worker had initially alarmed the PCM, and the wrong RWP task was used. After this event, the contractor suspended all operations by Inspection and Monitoring (I&M) staff. I&M work was later allowed to resume under the supervision of a Senior Supervisory Watch. An investigation and root cause analysis are underway.

Tritium: The Site Rep observed shift turnovers, evolutions in two tritium facilities, and a briefing on senior management expectations to day shift managers. Observations about documenting procedure data, control room operator level of knowledge, and personnel protective equipment doffing were provided to operations management. At the follow-up critique (see last week's report), the Site Rep emphasized the need to explicitly state when a second person verification is desired and to clarify exactly what the expectations are for procedure steps involving supervisor approvals to proceed. Repeat backs during 1-on-1 turnovers may also reduce confusion about equipment status. Senior Supervisory Watches (SSW) across tritium facilities gave 29 out of 31 shifts observed a failing grade so far. SSW's have observed turnover issues very similar to those contributing to the recent event. The Tritium Extraction Facility (TEF) has been stuck in manual reduced ventilation mode. The initial attempt to resume normal operations resulted in two fans faulting and a delayed shutdown of supply fans. This caused TEF to go positive temporarily. Later, preheat system coils unexpectedly activated causing lighting conduit in the ventilation supply house to melt and the glass of two nearby doors to crack.

Maintenance: The Site Rep attended the pilot Technical Writing for Work Planners course. This course along with the writer's guide and template under development should address many of the issues previously identified with maintenance work instructions. (July 13 & 27 reports).