

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 10, 2011

TO: T. J. Dwyer, Technical Director
FROM: M. T. Sautman and D. L. Burnfield, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending November 10, 2011

Transuranic Waste: One of the hazards of handling TRU waste is dropping a waste container from a forklift. SRNS declared positive Unreviewed Safety Questions for both F- and H-Canyons because the assumed damage ratios and airborne release fractions in the consequence calculations may not be valid for the maximum lift heights of the existing forklifts.

Emergency Preparedness (EP): The EP organization held the first briefing for site area and facility emergency coordinators, the fire department, the SRS emergency duty officer (EDO), and security personnel on the expected impacts of a design basis earthquake to SRS and provided some guidance on emergency classification, triage, and protective actions. Afterwards, a short tabletop seismic drill was conducted focusing on the initial response actions at each facility. One of the goals of the drill was to have the emergency coordinators identify their most critical facility issues so that they do not overwhelm the EDO with information and requests.

Nuclear Safety: SRNS issued their plan for resolving dispersion modeling issues. During the next phase, SRNS will determine the meteorological data collection needs, determine the method for normalizing SRS meteorological data, develop SRS-specific deposition velocities for particulates and tritium oxide, choose which dispersion coefficients to use, and determine how they will address surface roughness in dispersion calculations. Once agreement is reached with DOE (and hopefully incorporated into DOE standards), SRNS would redo facility consequence calculations to determine if modifications to their control sets are warranted.

Tritium: Glovebox windows cracked during recent maintenance. Each of the windows is two-ply “safety glass” that is bonded together. The windows serve as defense-in-depth since the primary containment boundary is the piping systems and the glove box maintains an inert atmosphere monitored by oxygen monitors. This week tritium engineering personnel discussed the status of their actions to determine why the windows cracked and methods for preventing the cracking in the future. Their studies determined that windows cracked during the removal, storage, and potentially the installation of the windows. The corrective actions include:

- Maintenance personnel developed a new tool for the removal of the windows that helps prevent cracking;
- Engineering is developing a new storage rack that precluded inadvertent breaking of the windows during storage.

Those windows that were noted to be cracked before installation were replaced. However, five of the installed windows have cracks in one of the panes of glass. The windows appeared to have crack-starters at the high stress points associated with the bolted metallic frames surrounding the window. The oxygen monitors indicate that no in-leakage is occurring in these windows. Engineering has been monitoring similar cracks in other tritium windows for several years with no growth observed and will monitor these cracks as well.

Defense Waste Processing Facility: A worker transporting material into the high contamination area of the railroad well discovered a small amount of contamination on his modesty clothing. When the worker monitored using the personal contamination monitor, it indicated approximately 1400 dpm β/γ / 100cm² contamination on his thigh. This was later confirmed using a count rate meter. When they checked the computer log for the personal contamination monitor, it indicated that the contamination was α contamination. It is not clear at this time why they found this inconsistency. SRR personnel will do what they can to resolve this inconsistency.

Saltstone: Grout processing continues to be impacted by slow flowrates in the drain water return system.