

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 23, 2012

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 March 23, 2012

L-Basin: A dime to quarter-sized bubble is released roughly every minute from the underwater oversized cans storing smaller cans of uranium metal fuel. When workers move the grating on top of these oversized cans, it releases more gas (site rep observed ~10 small bubbles or a single baseball-sized bubble). These bubbles strongly imply that corrosion of the uranium metal fuel and/or inner storage cans is ongoing (see 3/2/12 report). SRNS is filming the release of bubbles to better determine which containers are releasing the most gas (likely hydrogen) and how much. DOE has also verbally asked SRNS to start exploring various ways to inspect and handle these items and identify potential disposition paths. With regards to the overall spent fuel inventory, DOE and SRNL have developed a multi-phase plan focused on dry storage. The first phase would demonstrate dry storage of aluminum-clad and non-Al clad fuel.

235-F: SRNS plans to start an Enclosure Integrity Program focusing on glovebox seals and gaskets. DOE is also providing \$2.1M this fiscal year for risk reduction activities including: restoration of in-cell services, isolating cells 6-9 from the highly contaminated cells 1-5, commencing deactivation of cell 9, enhanced characterization of material at risk in cells 6-9, and performing Pu-238 migration studies (post-grouting). DOE plans to provide \$3.5M next fiscal year to continue deactivation, decontamination, and manipulator restoration in cells 6-9; to develop and implement a deactivation safety basis; to characterize cells 1-5; to prepare a deactivation alternative analysis; and negotiate an end-state.

F-Canyon: Workers accidentally set off a safety-significant high differential pressure alarm while remediating a transuranic waste drum. The tightly packed drum contained an entire plastic hut. While the workers searched for additional prohibited items and sharps, the plastic and paper spread out and blocked the vents inside the drum enclosure. Ventilation is required to prevent a flammable atmosphere, but the contents of this drum were not likely to do so. In the truckwell, a radiological protection inspector found an unposted high radiation area near a transuranic box undergoing remediation that had not been identified during previous surveys. No workers had entered this area.

E-Area: Culvert #125 was excavated from pad one as part of the original Accelerated Transuranic Waste Project several years ago. E-Area personnel had wrapped the bottom of the culvert with a plastic containment after they found water in the culvert. They recently removed and repackaged the contents of the culvert, with the exception of one severely degraded wooden box. Last Friday, SRNS personnel found approximately 3 gallons of contaminated water inside the containment. Radiological controls personnel found ~400 dpm α by direct probe. They added a chemical to solidify liquids in the culvert and the container. They plan on moving the culvert to H-Canyon since they cannot safely remove the degraded box from the culvert on Pad 9. Prior to moving the culvert, they will wrap it with an additional containment, add material to solidify any remaining liquids, and place the culvert inside a dike on the flatbed trailer. The site rep participated in a field observation of pad nine and the preparations to move the culvert.

The site rep observed an emergency drill at Cell 11. Although SRNS has previously conducted very similar drills at the same cell, SRNS noted numerous opportunities for improvement with the performance of the drill.

F-Tank Farm: Tank farm personnel are nearing the completion of the safety basis documentation to allow the grouting of tanks 18 and 19. This week the site rep attended a Facility Operations Safety Committee to allow the installation of the sections of flexible hose into the tank, the use of a "pig" to clean the hose, and the first additions of grout through this hose. The chairperson managed the meetings well and the Unreviewed Safety Question Evaluation was approved allowing the process to continue.