

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 30, 2001

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers / R. T. Davis
SUBJECT: SRS Report for Week Ending March 30, 2001

Accident Analysis Methodology: For several months now, WSRC has been pursuing a statistical methodology for consequence analyses that appears to be a major deviation from the approved DOE-STD-3009 approach. This effort is continuing in spite of recognized challenges.

Recommendation 2001-1: On Tuesday, WSRC completed a transfer of approximately 40,000 gallons of waste from Tank 6 to Tank 8 in F-Tank Farm. This transfer lowers the level in Tank 6 beneath the upper 3 known leak sites. Crawler inspections of the leak sites this week indicate that the upper leak sites continued to release material into the annulus prior to the transfer. Also, one of the leak sites that is currently 82" below the waste level continues to release a limited amount of liquid into the annulus. WSRC expects these sites to completely dry and form salt nodules. Video inspections of the annulus pan have not indicated a detectable increase in waste material. In addition, the waste in the pan continues to dry, although liquid remains.

Recommendation 94-1: In two weeks, WSRC intends to provide DOE a conceptual design for FB-Line furnace upgrades and an outer can welder for plutonium stabilization and packaging. Funding is still unidentified. DOE-SR has asked that the submittal include cost, scope, installation sequence, relative risk benefits (e.g. furnace upgrades verses welder), and impact on other priority work. Some of the technical questions being asked involve throughput, material flowpath, personnel radiation exposure, storage availability, security, and the moisture measurement technique.

Tritium Facilities: On Wednesday, a small fire started on the roof of the 232-H tritium facility during roof repairs. The fire was quickly identified and extinguished by the fire watch on duty. The fire initiated when heated roofing material was attached to metal flashing that covered a wooden nailing strip. A similar event occurred in November 1995 during roof repairs at this same facility, and workers noted that events like this were not uncommon. Corrective actions identified during this recent event include requiring a fire watch walkdown to identify combustibles and replacing wooden material with metal when appropriate. The site representatives believe that DOE-SR and WSRC should reevaluate this activity to ensure controls are adequate to prevent initiation of similar fires at this and other nuclear facilities.

Separations: H-Canyon successfully completed a readiness assessment (RA) this week for dissolving Sterling Forest Oxide spent nuclear fuel. Lessons learned should be applicable to other facilities that have recently experienced RA problems. Early this week, FB-Line inadvertently transferred cold chemicals to a process vessel while conducting a test of precipitator interlocks. One shift restored valves to the pre-test configuration without documenting this in the test procedure and informing the next shift. While there were no adverse impacts, this event and the recent F-Canyon inadvertent transfer have led DOE to review transfer practices in the canyons and B-Lines. On Thursday, F-Canyon had a contamination event in MPPF (2nd level) involving 4 workers who were passing air through a disconnected instrument air line to find out which wall nozzle was connected to a particular transmitter. At least 2 individuals received Americium intakes, based on positive chest counts. This was a non-routine job being treated as routine (e.g., informal pre-job brief without all involved personnel). Prompt radiological response by the facility limited the impacts.