

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 5, 1999

MEMORANDUM FOR: G. W. Cunningham, Technical Director
J. Kent Fortenberry, Deputy Technical Director
FROM: C. H. Keilers / R. T. Davis
SUBJECT: SRS Report for Week Ending November 5, 1999

DWPF Inadvertent Exhaust Fan Shutdown: On Wednesday, an operator inadvertently shut down a safety class exhaust fan in the Defense Waste Processing Facility (DWPF) while attempting to verify a software change on the Distributed Control System (DCS). A safety class interlock then properly activated to maintain sand filter inlet vacuum. The operator apparently toggled a default on the DCS graphics display instead of the intended software item. Similar DCS interface problems have occurred in the past (site rep reports: 2/14/97, 6/6/97). Corrective actions identified in early 1997 to eliminate default selections do not appear to have been adequately implemented. (3.a)

HLW Salt Processing Alternatives: This week, WSRC formally recommended that the Small Tank TPB Precipitation alternative be pursued for SRS salt solution processing, particularly near-term research and development (R&D) to resolve catalyst activation and foaming issues. However, WSRC observed that an aggressive R&D program for another alternative, CST Non-Elutable Ion Exchange, may be appropriate from a DOE complex-wide perspective since it may benefit both SRS and Hanford. WSRC estimates that an aggressive two year R&D program would be required prior to proceeding with design development for the latter. If this course is taken, WSRC suggested that limited R&D for Small Tank TPB Precipitation would be appropriate as a backup. DOE-SR is reviewing the report and is expected to forward a recommendation to DOE-HQ in December. (3.a)

Recommendation 94-1: On Tuesday, DOE-SR requested that WSRC reevaluate risks and vulnerabilities associated with 94-1 materials. The objective is to develop a new 94-1 baseline that is technically commensurate with the risks. While much attention has been focused on the mismatch between the DOE budget and the 94-1 funding requirements, less attention has been placed on understanding the relative increases in risk to the public, worker, and environment that will occur over the longer term if DOE continues to delay meeting its 94-1 commitments. This action appears to be an attempt to correct this. By December 1, WSRC is expected to have a draft risk baseline. Timing is critical to support the FY 01 budget process. (3.a)

Concrete Spalling in Canyon Ventilation: Light spalling and surface degradation are common in the canyons where concrete is exposed to acid fumes, particularly in the exhaust ventilation systems. However, inspections have identified several locations that require close monitoring and may need repair. First, the inlet plenum to the H Canyon stack, at the transition from metal duct to concrete, has holes in the concrete that allow less than 1 percent of the exhaust to bypass the stack and stack monitoring system. This does not affect structural integrity. Also, it is downstream of the sand filters and is not a release path under normal conditions. The F Canyon stack is similarly affected. Second, acid fumes appear to have etched away the concrete cover for large exposed areas of the roof, walls, and columns inside the new F Canyon sand filter (built in the mid-1970s). Next week, WSRC plans to enter the sand filter and conduct more thorough inspections. (3.a)

Public Interaction: On Thursday, a site representative provided a well-received overview of DNFSB functions and responsibilities to the Southeast Environmental Management Association.