

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 8, 2002

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
J. J. McConnell, Deputy Technical Director

FROM: R. T. Davis/ T. D. Burns

SUBJECT: SRS Report for Week Ending November 8, 2002

HLW Activities: A letter outlining the WSRC recommendations for reducing the tank space penalty associated with DWPF recycle material has been provided to DOE-SR. The options to be pursued, in order of preference, are the following— use recycle material in lieu of inhibited water as the dissolution medium for the low-curie salt and actinide removal initiatives, continue to concentrate recycle through the 2H evaporator, and send recycle directly to Saltstone for disposition. The option of using recycle as a sludge washing medium will not receive further consideration due to the logistical complexity of transferring recycle material to the sludge tanks and the fact that only a small amount of recycle would be needed for sludge washing. Implementation of a direct treatment facility (e.g. acid evaporator) was determined not to be a cost-effective option and will receive further consideration only if efforts to establish a direct-disposition pathway via Saltstone prove unsuccessful.

Using recycle material as a dissolution medium in lieu of additional inhibited water is sensible; however, its success in alleviating tank space impacts is completely dependant on the as-yet uncertain viability of the low-curie salt initiative. Similarly, although the 2H evaporator's recent operational availability has been near 80%, it remains subject to tank farm infrastructure vulnerabilities that have significantly limited its operational availability in the past. Direct disposition to Saltstone is a potentially promising contingency option in that it precludes sending recycle material back to the tank farms. Implementation of this contingency option may require additional regulatory support.

Sludge Batch 3: On Wednesday, bulk sludge mixing commenced in Tank 7. Start-up testing of the new Advanced Design Mixer Pump continues to support commencement of bulk sludge mixing in Tank 18 by early December.

FB-Line Packaging and Stabilization: SRTC began the 25 can acceptance test for the outer can welder last week (site rep weekly 11/1/02). Currently, twenty two cans have been welded and inspected with the digital radiography equipment. SRTC identified unacceptable porosity in 2 of the cans inspected. The final few cans should be welded today. WSRC may conclude that the test results are adequate because digital radiography will be used in the facility as a quality assurance measure. Digital radiography inspection of 100% of the cans will allow FB-Line workers to identify porosity and reject unacceptable cans. A decision on the acceptance test adequacy is expected next week. SRTC is also evaluating the cause of the porosity problems. Because both of the suspect cans were the last can welded during a run, there is some speculation that the chill block may be getting too hot as multiple welds are performed.

F-Canyon Deactivation: WSRC continues to flush canyon vessels and piping in accordance with the suspension plan. Purex solvents have been removed from the mixer-settler banks and are currently being stored in F-Canyon. WSRC plans to submit the deactivation project plan for F-Canyon to DOE-SR by the end of November. In the interim, WSRC continues to suspend preventive maintenance activities on a case-by-case basis.