

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 27, 2001

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** R. T. Davis  
**SUBJECT:** SRS Report for Week Ending July 27, 2001

**HLW Tank 5:** On Friday, WSRC began transferring approximately 270,000 gallons of waste from Tank 5 (F-Tank Farm, Type I tank) to Tank 46 (F-Tank Farm, Type III tank). This transfer will lower the waste level in Tank 5 below all known leak sites (site rep weeklies 7/13/01 and 6/22/01). Following the transfer, WSRC plans to concentrate this waste in the 2F evaporator.

The Justification for Continued Operation (JCO) associated with the unexpected solids accumulation in the 2H evaporator included a control to prevent the transfer of DWPF recycle to the 2F evaporator system. Because Tank 5 contains DWPF recycle waste, additional analysis was required to qualify the waste for the 2F evaporator. WSRC sampled both the Tank 5 and Tank 46 waste and analyzed the silicon and expected generation of sodium aluminosilicate. Analysis indicates that this waste stream will be consistent with historical waste streams that have been successfully processed in the 2F evaporator. The revised JCO to allow this transfer has been approved by DOE-SR.

**Tank Space Management:** In late 2000, WSRC decided to reuse several older style Type I tanks in F-Tank Farm (Tanks 5, 6, and 8) for storage of DWPF recycle waste. This decision was driven by the shutdown of the 2H evaporator and inability to concentrate the DWPF recycle waste stream. Space problems were compounded by 3H evaporator issues (e.g., drop tank cooling coil failures). Leaks identified in the Type I tanks then forced WSRC to find additional space to store this waste and it appeared that lack of storage space would require a DWPF shutdown. However, it now appears that WSRC has identified a near term strategy that should allow DWPF to continue to operate. This strategy is possible because of two recent developments. First, better understanding of the solids formation issue along with positive sample results indicate that additional feed material, including DWPF recycle, can be qualified for the 2F and 3H evaporators. Second, the internal sealant applied to the Tank 30 cooling coils has been very successful. Sufficient cooling is now available to allow greater than expected utility for the 3H evaporator.

**H-Canyon:** In June 2000, WSRC identified a leak path in the H-Canyon exhaust tunnel that could potentially result in an unfiltered ground-level release during a canyon accident (site rep weekly 7/7/00). Most canyon accident scenarios rely on the safety class sand filter and stack to provide consequence mitigation. This condition was identified as an Unreviewed Safety Question and a JCO was developed to address the issue. This JCO is valid for one year and expires next week. The longer-term plan was to modify the duct to eliminate the unfiltered release path.

WSRC recently submitted a revised JCO to address this issue. The revision covers accident scenarios associated with HB-Line Phase II operations and includes an additional compensatory measure to periodically check the leak rate. This JCO does not include an expiration date and modifications to correct this issue will likely not be implemented for several years. The site representative believes that DOE should pursue actions to correct this issue in a timely manner.