

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 13, 1998

MEMORANDUM FOR: G. W. Cunningham, Technical Director
FROM: J. Kent Fortenberry / Joe Sanders
SUBJECT: SRS Report for Week Ending March 13, 1998

Operational Readiness of the Replacement High Level Waste Evaporator - Initial startup of the newly constructed Replacement High Level Waste Evaporator (RHLWE) is expected to occur in June of 1999. The RHLWE is a Category 2 facility containing several safety class components (such as conductivity probes, evaporator cell, evaporator vessel, pot pressure interlock, and evaporator rupture disc) which are controlled by new TSRs. This new evaporator operates at about twice the capacity of the old evaporators, including higher pressure. For start-up of this new facility, WSRC has recommended that no ORR is required because the new evaporator can be considered a facility modification to the H-Tank Farm instead of a new facility. The recommendation argues that the new replacement evaporator utilizes technology identical to the existing 2H Evaporator, and that the *mitigated* consequences for accidents associated with the new evaporator are bounded by the authorization basis for the currently operating 2H Evaporator. The Assistant Manager for High Level Waste has concurred with this WSRC recommendation.

In addition, the planned RA is to last almost a full year, apparently simply crediting management activities to prepare for start-up as a demonstration of operational readiness. A DOE validation of the RA is scheduled. Our concerns about demonstrating operational readiness for hot operation of this new facility have been communicated to DOE-SR.

Tritium Reservoir Storage in the 217-H Vault - In the 1995-96 timeframe, Highly Invulnerable Encased Safes (HIVES) were installed in the 217-H vault to safely store a large number of full reservoirs. The HIVES protect reservoirs in the event of building or nearby stack failure induced by an earthquake or tornado. Recent fire protection upgrades to 217-H vault have also reduced the risk of release of tritium from these stored reservoirs.

The expectation was that all reservoirs, other than those considered "in process," would be stored in HIVES. However, for a number of reasons, a large number ($\approx 20\%$) remain stored in the vault within file-type Stanley-Vidmar cabinets, which do not protect the reservoirs in the event of structural collapse. WSRC has indicated that replacing the 8 remaining Stanley-Vidmar cabinets with the physically larger HIVES would violate an OSHA aisleway egress width limit of 42 inches. The cost ($\approx \$14K$ each) of the HIVES was also mentioned as a consideration in not requesting a waiver to the OSHA requirement. Based on current projections, it appears that the Stanley-Vidmar cabinets will continue to be used until at least September 1999. This seems inconsistent with verbal commitments made to the Board. In addition, since the vault is currently at or near capacity, a quantity of reservoirs equal to about 10% the capacity of the 217-H vault is being stored in Building 234-H Room 275. While Room 275 is intended for "in process" reservoirs, it is estimated that over 50% of the reservoirs stored there (also in Stanley-Vidmar cabinets) are there due to lack of space in the 217-H vault. This is even less desirable because Building 234-H is considered to be more susceptible to fire hazards.