

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 10, 2000

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** C. H. Keilers / R. T. Davis  
**SUBJECT:** SRS Report for Week Ending March 10, 2000

**Tank 8 Waste Removal:** Staff members L. Zull and D. Ralston were on-site this week reviewing preparations and the safety basis for tank 8 waste removal. Beginning in April, WSRC plans to slurry and transfer sludge from tank 8 to tank 40. The DOE readiness assessment is on-going. The combined sludge (i.e., sludge batch 2) will feed DWPF beginning in 2001.

During this week's review, the staff and site representatives observed that the primary safety class control is administrative and relies on equipment that has not been designed and maintained as safety equipment (e.g., slurry pump speed control and indication, tank level indication). The primary hazard for the waste removal activity is the potential for hydrogen deflagration due to release of trapped hydrogen gas during slurry pump operation. The safety class control to prevent significant hydrogen release is procedural control of slurry pump operation. Based on conservative analyses, WSRC believes that they can ensure the tank vapor space remains less than 25% of the composite lower flammability limit. Safety significant backup controls include hydrogen monitoring and tank ventilation. The staff and site representatives are pursuing the question of the adequacy of the controls (3.a)

**Recommendation 94-1:** While decisions haven't been made yet, DOE appears poised to shift SRS priorities within a flat, out-year budget and increase emphasis on Recommendation 94-1 activities. This would allow improving on the schedule reported last week (e.g., all SRS plutonium converted to metal by FY-11). Hanford material is still assumed to remain in safe storage at Hanford.

The effect on SRS depends on how well the transition in priorities is managed, since this increases the programmatic risks for other SRS activities. In some cases, this may subject other SRS projects to the same types of disruption that plagued the 94-1 projects during the last year (e.g., APSF, AmCm, HEU). For example, the HLW organization is ramping up for tank waste removal and DWPF feed preparation, but one possibility mentioned is to defer DWPF sludge batch 3 or 4 preparations for a year or more. This would not impact glass log production immediately but increases the likelihood of an extended feed break later, since it takes several years to prepare a feed batch. Keeping feed preparation well ahead of DWPF minimizes that program's risk in the years ahead. On the other hand, the currently installed melter has operated longer than expected. If a melter replacement outage fortuitously coincides with a feed break, then deferring feed preparation might have minimal impact on DOE long-term objectives. These are difficult decisions. (3.a)

**Canyon Utilization:** DOE has delayed issuing the spent nuclear fuel Final Environmental Impact Statement by another week (i.e., until 3/17/00). Further delays may impact F-Canyon starting EBR-II/Mark-42 dissolutions in April. F-Canyon dissolvers have been under-utilized since August 1999 when DOE redirected the disposition of Rocky Flats sand, slag, and crucible. (3.a)

**HEU Blend-down Program:** Preliminary design will be delayed, possibly as much as 3 months, because of a late-identified policy issue (site rep weekly 2/11/00). It should start by July. DOE-SR and WSRC are taking action to minimize impact and increase confidence in the conceptual design.