

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 7, 2000

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** C. H. Keilers / R. T. Davis  
**SUBJECT:** SRS Report for Week Ending April 7, 2000

**Recommendation 94-1:** During the last 2 weeks, it appears that DOE has been decreasing contingency in 94-1 planning and increasing emphasis on early shutdown of F-Canyon (i.e., sooner than late FY 04). Also, DOE halted planning this week to restart the FB-Line D-1 dissolver. While challenges exist, operating this dissolver would have provided flexibility and maybe an opportunity to accelerate some 94-1 stabilization activities, particularly if unanticipated problems arise.

Relatedly, DOE has directed WSRC to plan future 94-1 activities on the basis of unconstrained funding. The site reps observe that the APSF project appeared unconstrained by funding for about 2 years until DOE suspended the project in February 1999. A pendulum effect could be occurring. Furthermore, DOE is increasing emphasis on providing aggressive commitment dates in the next implementation plan that may be optimistic. An aggressive but realistic baseline plan appears warranted that commits to stable out-year funding, contains adequate contingency (cost and schedule), and identifies opportunities for acceleration that will be pursued. Plutonium stabilization and packaging (now estimated to start in 2007) is a clear candidate for acceleration. (3.a)

**Canyon Utilization:** One consequence of the increased emphasis on early F-Canyon shutdown is a growing list of radioactive materials with poorly defined disposition pathways. For example, 65 Mark-18 targets are stored underwater in containers in the Receiving Basin for Off-Site Fuel (RBOF). Mark-18 targets contain americium-curium (AmCm) and are 12 feet long. They are too long to ship or handle without cropping. However, cropping in RBOF is risky, since the targets are suspected to be brittle and the active height is uncertain. Because of these risks, the plan had been to process these in F-Canyon similar to the tank 17.1 AmCm solution. Recently, DOE-SR directed WSRC to stop all work on disposition of Mark-18s and to continue storage until firm disposition plans exist. There appear to be few good options. Other materials may be similarly affected. (3.a)

**9975 Shipping Containers:** Last week, one of two 9975 containers that was drop-tested showed a large separation between the outer container (a 35 gal drum) and its lid. This raises the concern that the lid might come off during a major transportation accident. Resolution may impact Rocky Flats plutonium shipments to K-Area Material Storage later this year. Those shipments have already been delayed due to problems with the Rocky Flats packaging system (site rep weekly, 3/3/00)

Specifically, the 30 foot drop test produced a gap about 4 inch long by 9/16 inch wide (maximum) between the lid and container. The test acceptance criteria is a gap less than 3 inches long by 1/8 inch wide. The container was pre-damaged by an inclined 4 foot drop, simulating an earlier handling mishap. The drop tests were being done to resolve regulator comments. Some of those comments were on the closure ring design, since an earlier test with the heavier 9974 container (a 55 gal drum design) had identified that the closure ring could be marginal. This week, SRTC and WSRC began to look at design upgrades, considering two options: (a) a bolted flange closure similar to that used on Y-12 DT-22 shipping containers and (b) a J-clamp clam-shell design. A path forward is still under development and is expected in about 2 weeks. (3.a)