

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 27, 2000

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers / R. T. Davis
SUBJECT: SRS Report for Week Ending October 27, 2000

Spent Nuclear Fuel: Since mid-August, Cs-137 activity levels in the 105-K Disassembly Basin have increased roughly four-fold for unknown reasons. The water activity levels are still an order-of-magnitude lower than those that existed before a new filtration system was installed (1996), but the increase warrants an explanation. For several weeks, WSRC has been investigating the increase by focusing on a possible release from the filtration system; however, there are other potential sources (i.e., sediment or fuel defect) that may also need to be pursued. The site reps have been discussing with DOE the need for a systematic investigation of the increase.

K-Area Material Storage (KAMS): WSRC is conducting a readiness assessment (RA) for KAMS Phase II operations. Also, the site reps are continuing to follow KAMS issues described in a Board letter (3/9/00) and DOE response (6/12/00). This week, a site rep observed an RA drill intended to address, in part, the concern that there has been no demonstrated capability to ship a problem container from KAMS to F-Area (containers are not allowed to be opened in KAMS). The drill involved an undamaged 9975 container with simulated contamination, about an inch long, in the crevice between the lid and drum. Since the crevice could not be decontaminated in KAMS, the operators taped over the contamination, double-bagged the drum, strapped the drum between two pallets, strapped down the package to the back of an open trailer, and shipped it to F-Area. WSRC plans to walk through the process of shipping a damaged container to F-Area in 2 weeks.

The WSRC RA team appears to be doing a thorough job, based on their feedback on the drill. Also, the operators demonstrated that they can follow a response plan to address a mildly contaminated container (e.g., 500 dpm alpha). Because of the container design, line management believes that a more significant radiological problem is extremely unlikely, even though KAMS is now anticipated to store up to 4,000 containers of plutonium for possibly longer than a decade. On the negative side, the response plan given to the operators did not appear to meet SRS requirements for a non-routine cross-site transfer. The site reps believe that more needs to be done to pre-plan the response to a suspect container. KAMS is scheduled to be ready to receive plutonium in late December.

High Efficiency Particulate Air (HEPA) Filters: WSRC is poised to revise the SRS HEPA filter procurement specification and delete the requirement for pre-testing at the DOE Filter Test Facility. This would be a departure from the DOE HEPA filter standard (DOE-STD-3020-97). WSRC personnel believe that this testing is redundant with that performed by the HEPA filter supplier, that it has identified few problems during the last 3 years, and that it is not cost effective. WSRC intends to provide formal justification for deleting the requirement by the end of the year.

Tritium Facilities: DOE has a growing backlog of reservoir functional tests that may take three years to eliminate. The tests involve installing a reservoir, actuating the squib valve, and measuring the release into a closed system. During the tests, there are several layers of confinement: the test system (including the reservoir); an evacuated bell jar; and the glovebox with associated stripper recovery system. The setup process has appropriate controls to prevent premature squib actuation and to contain any release. The operators, after sufficient training (a one-year process), appear well qualified. The site reps continue to follow tritium operations and controls.