

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 6, 2000

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers / R. T. Davis
SUBJECT: SRS Report for Week Ending October 6, 2000

Staff members Yeniscavich, Hadjian, and Rizzo (outside expert) were on site this week reviewing the Tritium Extraction Facility project. Contardi and Kupferer were on site for training.

K-Area Material Storage (KAMS): Last week, DOE-SR authorized WSRC to pursue increasing the design inventory of KAMS to 4,000 containers by triple-stacking. The pallets are being redesigned, and authorization basis changes and analyses are forthcoming, including toppling analyses. Relatedly, WSRC is working to resolve new questions to support DOE (EM-5) certifying the 9975 container for shipping plutonium metal from Rocky Flats to KAMS. Some of the more challenging questions involve the impact resistance of the Celotex™ packing material and the expected radiation levels under normal shipping conditions, considering impurities. No questions have been received for oxides. Slow identification and resolution of shipping container questions for both metal and oxides continues to jeopardize the Rocky Flats de-inventory schedule.

Plutonium Storage: WSRC recently completed a review of the container surveillance program and concluded that the approximately 1,600 containers of metal, oxides, and residues are acceptable for continued short-term storage. WSRC reported that their database includes numerous visual and swipe inspections, thousands of can weight and lid deflection measurements, and hundreds of radiographs and can filter tests. The program has identified 25 defective containers - based on weight gain, container collapse, or inadequate configuration. These cans have been repackaged. There has been one container failure (September 1999) since the formal program began (1996). WSRC will make recommendations by November 30th on improvements (site rep weekly 9/22/00).

H-Canyon: H-Canyon operations are receiving close management attention because of continuing operational and equipment problems (site rep weeklies 9/22/00, 9/1/00, 8/11/00). The facility has done well at dissolving Mk-22 spent fuel; managing HEU solution tank space; recovering a Mk-22 assembly which fell back into a shipping cask; and responding to a failed automatic transfer switch that supplies power to segregated cooling water radiation monitors (the switch is no longer made).

However, recent occurrences have led WSRC management to enter stand-downs for fissile material transfers, entries into Limiting Conditions for Operation, and equipment calibration. The most recent example occurred Thursday when an operator intended to open a steam control valve for an on-going transfer but inadvertently selected the steam control valve for an evaporator. The resulting pressure increase tripped an interlock and shutdown the evaporator. The interlock operated as designed. The distributed control system interface may have played a role similar to that seen elsewhere at SRS and identified in a Board letter dated February 7, 2000. The event was compounded when a supervisor directed the operator to reset the interlock and continue operating the evaporator.

As a result of these occurrences, H-Canyon management has reviewed events during the past year to determine why previous corrective actions were not completely effective. The facility is now implementing a training program for all personnel, taught by the facility manager, that emphasizes human performance and best practices identified by the Institute of Nuclear Power Operations (INPO). The site reps will continue to follow these efforts.