DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 25, 2003

TO: J. Kent Fortenberry, Technical Director
FROM: Donald Owen, Oak Ridge Site Representative
SUBJ: Activity Report for Week Ending July 25, 2003

A. Conduct of Operations. YSO performs a monthly rating of BWXT in several performance areas, including Conduct of Operations (COOP). In the several months leading up to June, YSO had provided a rating of marginal ("Yellow") for COOP. In their latest monthly assessment, YSO revised the COOP rating to unsatisfactory ("Red"). Among items noted by YSO in their assessment were several instances of failure to follow and/or use procedures, poor system status control, lack of timely, formal review of operational events, use of informal operator aids, inattention to detail, and poor housekeeping (see site rep. reports of May 30th, June 13th and June 27th for discussion of some of these items). In a meeting with YSO management, BWXT management noted near and long-term actions in progress (e.g., safety/COOP briefings, management structure/personnel changes and new performance metrics). (1-C)

B. Y-12 Building 9212 Enriched Uranium Operations Wet Chemistry Restart. As reported last week, there had been failed attempts to start the Primary Intermediate Evaporator (PIE) due to system alignment issues. Valves had been shut when thought to be open including a closed utility steam valve and a closed condensate transfer line valve on separate occasions. YSO management had inquired with BWXT management and asked for a thorough review of these system alignment/conduct of operations issues. This week, BWXT conducted their review. Among a number of issues, it was noted that the closed condensate transfer line valve was a case of failing to identify the cause of a high-level alarm for the PIE condensate discharge tank back in late April (see the May 2nd site rep. report). The main action from this event was to check the discharge pump operation. The pumps operated satisfactorily during the check but were aligned to different tanks. It was not recognized that the cause had not yet been found, and no further investigative action was taken. Corrective actions, mostly to improve knowledge of system status by Wet Chemistry personnel including system engineers, are being developed. (2-A)

C. Y-12 Emergency Management Exercise. The site rep. observed a site-wide Emergency Management exercise conducted on Wednesday. The exercise simulated a liquid-based pulsing criticality at Building 9995 (adjacent to Building 9212). A similar exercise had been previously conducted in April but had focused on command and control elements of the Technical Support Center and Emergency Operations Center without field play (see the April 25th site rep. report). For this exercise, issues regarding incident scene communications and management of irradiated personnel were noted by Y-12 evaluation personnel. Additionally, general confusion existed regarding the announcement made for personnel to avoid "Area 5" following the criticality (plant personnel are generally not trained on or aware of what "Area 5" represents). Assessments of the exercise are being completed along with development of lessons-learned and corrective actions.

The exercise was complicated by a one-hour stoppage due to violations of Building 9212 Operational Safety Requirements (OSR) regarding the Criticality Accident Alarm System (CAAS). The alarm used for the exercise was an actual triggering of the CAAS. This rendered the CAAS out of service and, per the OSR, required personnel to have alarming instruments to enter the coverage area. Due to improper exercise planning, several personnel entered the coverage area. Also, one person did not promptly evacuate the area. The site rep. inquired on what nuclear safety screening had been performed for this exercise and was informed by YSO management that no nuclear safety screening was performed or required. YSO management noted that this issue will be factored into exercise lessons-learned/corrective actions. (1-C)