DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 13, 2004

TO: J. Kent Fortenberry, Technical Director
FROM: Donald Owen, Oak Ridge Site Representative
SUBJ: Activity Report for Week Ending February 13, 2004

A. Response to Board Letter of October 16, 2003. The Board's letter on Building 9212 safety systems, structures and components noted that six credited fire sprinkler systems were designed to a National Fire Protection Association (NFPA) code dating back to 1969, that one of the systems had been recently upgraded from safety-significant to safety class, and that the Board believed that the adequacy of the sprinkler systems to meet current standards should be evaluated. The staff report forwarded by the Board's letter noted that one of three organic phase separators would not be modified to provide automatic decantation but would continue to require operator action for safe operation. The staff report suggested that this be evaluated and documented.

Last week, BWXT forwarded a response to the Board's letter to YSO. The response discusses an assessment of the upgraded sprinkler system in meeting its safety function, identifies some vulnerabilities, but concludes that adequate, reliable flow to affected areas (in gpm/ft^2) is provided. Evaluation of the other five sprinkler systems is being conducted and results are to be provided by early April. The response notes that BWXT Y-12 is leading an Energy Facility Contractor Group (EFCOG) effort to propose a process for design adequacy evaluations such as discussed above. Regarding the organic phase separator, the response notes a reduced hazard concern for the wiped-film evaporator process supported by that phase separator. No details are provided, however, to base the stated intention to continue to rely on operator action. The site rep. noted this observation to YSO management. The response is being provided to staff for review. (I)

B. Y-12 Conduct of Operations. This week, there were two events where failures were evident to properly report and/or follow-up on an unusual condition or event:

- During a Quality Evaluation disassembly operation, the work crew had been having trouble establishing vacuum in a lifting fixture and had taken upon themselves to rig a large wrench and vice-grip pliers into a leveraging device to apply force to the top of lifting fixture and establish vacuum on the part. Use of the rigged device on Thursday resulted in a worker losing balance and chipping a tooth. Based on information provided at the critique, there was no specific reporting of the difficulties with establishing vacuum to facility management nor follow of a formal change process to authorize use of such a rigged device. This device had also been used on Tuesday to achieve required vacuum in a lifting operation of the part. Factors such as schedule pressure and difficulties with lifting fixtures in general were cited by operations personnel at the critique.

- In Building 9212 on Wednesday, upon placing a vapor scrubber column that supports a uranium dissolution process into operation, scrubber solution was inadvertently transferred to an unintended set of tanks. The tanks overflowed to a dike before operations personnel noticed the overflow and stopped the pump. It was quickly determined by the crew that a valve required to be shut in an initial step of the procedure had not been shut thereby allowing the inadvertent transfer of scrubber solution. This was reported by the crew to the shift manager who made an entry into his shift log of the inadvertent transfer/missed procedural step and immediate response actions. No follow-up action (i.e., critique) was being taken, however, until a few hours later when a YSO Facility Representative reviewing the shift log inquired about that entry. A critique was then initiated.

The site rep. discussed both of these issues with YSO and BWXT management who indicated that followup actions are being determined. (I)