DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 24, 2003

TO: J. Kent Fortenberry, Technical Director
FROM: Donald Owen, Oak Ridge Site Representative
SUBJ: Activity Report for Week Ending November 28, 2003

The site rep. will be out of the office from Tuesday through Friday. The Y-12 National Security Complex will be on holiday routine on Thursday and Friday.

A. Y-12 Building 9212 Wet Chemistry Restart. As reported on November 7th, during initial operation of the denitrator with uranium bearing solution, product uranium oxide (UO_3) was not transferring from the denitrator to the product receiver as expected. While a blockage of the downcomer from the denitrator to the receiver was initially suspected, upon opening the bed it was apparent that the material had not fully decomposed to a free-flowing consistency. Subsequent investigation revealed that the temperature indicator used for controlling inner bed temperature was actually reading a shell temperature. The shell temperature is expected to be much higher than the inner bed temperature during operation. As a result, the expected bed temperature was not reached and material was not fully decomposed. Causes for this incident have not yet been formally identified; a BWXT report on this incident is pending. Accuracy/clarity of existing denitrator equipment drawings and clarity/consistency of a prior denitrator procedure (serving as a development input for the current procedure) were noted by BWXT personnel as possible contributing causes. (2-A)

B. Y-12 Emergency Management. As reported on July 25th, the site rep. observed a site-wide Emergency Management exercise simulating a criticality at Building 9995, adjacent to Building 9212. The exercise had been 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 had been an actual triggering of the CAAS that had rendered the CAAS out of service. Per the OSR, personnel would be required to have alarming instruments to enter the coverage area. Due to improper exercise planning, several personnel without alarming instruments had entered the coverage area violating the OSR. The site rep. had 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 had noted that this issue would be addressed by exercise lessons-learned/corrective actions.

This week, the site rep. reviewed the report for the July exercise. This report identified that the major corrective action for the improper exercise planning/OSR violation was to require a Job Hazard Analysis (JHA) as part of the exercise planning process. The report states that various safety and health personnel and facility personnel will approve the JHA. It is not clear, however, that the JHA process will consistently provide the proper level of review of nuclear safety implications of an exercise/drill or identification of necessary controls to avoid safety basis violations as would be provided by nuclear safety screening via the Unreviewed Safety Question Determination process. The site rep. discussed this observation with YSO management who indicated that they would evaluate the matter. (1-C)

cc
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