DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 28, 2000

TO: J. Kent Fortenberry, Technical Director
FROM: Paul F. Gubanc and David T. Moyle, Oak Ridge Site Representatives
SUBJ: Activity Report for Week Ending April 28, 2000

Staff members Roarty and Winters visited Oak Ridge this week to review the design of a new transuranic waste processing facility. Dr. Blackman visited Y-12 to review project management.

A. Y-12 Enriched Uranium Operations (EUO) Restart and Project Management (PM): In Summer and Fall 1999, EUO struggled mightily to develop an accelerated, cost-constrained, and resource-loaded restart schedule. To aid this effort, PM consultant Paul Rice conducted a review in November 1999 and advised DOE and LMES to treat all of EUO as a "project", starting with the restart effort. (Mr. Rice recognized the highly complex and interrelated aspects of managing Y-12 resources to support both on-going operations and EUO's restart efforts.) In response to this and the Board's November 9, 1999, letter on PM, Y-12 acquired a significant number of talented subcontractors to augment their existing staff which did not possess PM skills in sufficient numbers and was in the process of undergoing a substantial downsizing and reorganization.

Since acquiring these resources, EUO has displayed steady improvements in workforce productivity, work backlog reduction, and technical issue identification and tracking. Unfortunately, due to budgetary restrictions (see weekly of April 14), DOE on April 27 directed that LMES terminate all but ~20 EUO subcontractors. LMES management is still assessing the overall impact but the general consensus is that EUO Restart is essentially stalled. In addition, many of the EUO-related corrective actions provided to the Board in DOE's April 3rd letter on PM at Y-12 will be left incomplete, unsustainable (e.g., maintaining the EUO project schedule) or undone. The cost in time and money of suspending and later reinstating these PM tools and processes in EUO will be substantial. (1-A)

B. Melton Valley Transuranic (TRU) Waste Treatment Project: Site preparation for the construction of this new Foster Wheeler facility is planned to begin in December. Liquid wastes will be processed remotely in shielded process areas, by separating into sludge and supernate streams prior to treatment, drying, and packaging. Contact handled and remote handled solid wastes will be segregated and repackaged in either glove boxes or hot cells. Key observations follow:

1. Very limited safety analysis detail was presented during the staff's meetings, and it appears that significant work remains to meet the July 21 PSAR submittal date.
2. Potential radiolytic generation of flammable gas may not be receiving adequate attention. Piping and instrumentation drawings do not include continuous ventilation of tank headspaces.
3. There may be an over-reliance on process knowledge to ensure there are no surprises (e.g., pyrophoric materials) when opening waste containers. Some containers may date back over 50 years, and characterization data and process knowledge are known to be incomplete. (1-C, 3-A)

C. Y-12 Physical Plant Deterioration: An indicator of the extent of physical deterioration at Y-12 is that the criticality safety organization is attempting to codify how much standing water is permissible in a fissile material storage array. While we recognize the impetus for this is to provide more efficient response to frequent roof leaks, it seems an acquiescence to the status quo. We have commented to DOE and LMES that perhaps we are not working on the right problem. (2-A)

cc: Board Members