DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 11, 2002

TO: J. Kent Fortenberry, Technical Director
FROM: Tim Hunt, Y-12 Site Cognizant Engineer
SUBJ: Activity Report for Week Ending October 11, 2002

Staff members W. Andrews and T. Hunt were on site this week providing Site Representative coverage.

A. BWXT Y-12 EUO E-Wing: The site rep walked down E-Wing as a follow up to several criticality safety violations that occurred recently in that area. It is apparent that lapses in conduct of operations contributed to the infractions. The infractions were self identified by contractor personnel and management continues to take positive and reasonable actions to recover, determine the causes, and rectify the issues. One staff observation is that the multitude of containers types drives the numerous, different, criticality safety analyses. This results in the complex and inconsistent criticality safety requirements and postings which in turn drives conduct of operations failures. (2-A)

B. BWXT Y-12 Building 9206: The site rep toured B9206 and discussed upcoming risk reduction activities. BWXT has requested permission to decertify the Material Access Area and DOE approval is expected soon. This should have little direct impact on safety but will allow work to be done with less restrictions and possibly make more resources available to support deactivation. Due to recent heavy rains and roof leaks, standing water was evident in several rooms, including areas where uranium solutions are stored. Valves are leaking fissile solutions into catch trays which are emptied periodically. An unusual occurrence involving 4 plastic bottles of organic solution moved into a non-sprinklered area in violation of the facility safety basis is additional evidence that removal of solutions in B9206 should remain a high priority. It is not clear when draining the extraction columns will begin. There are no firm plans to begin deactivation of the recovery furnace, another high risk activity due to the large amounts of easily respirable ash. Lack of funding continues to be a major barrier to expediting deactivation. (3-B)

C. BWXT Y-12 Building 9202: The site rep toured B9202 (Development) to discuss the recent fire in Room 176. Two containers of legacy items were being prepared for disposal by initially exposing the potentially reactive material to air. A pyrex tray of the pyrophoric material became excessively hot and ignited the plastic tray beneath it and other combustibles in the hood. The heat and fire were fueled by powdered forms of depleted uranium metal, reactive materials (e.g., lithium, magnesium, calcium), and polyethylene. Work instructions and hazards analysis and control processes normally developed for these types of activities were not generated or used. This salvage material had been stored in a glovebox for more than 10 years and adequate identification of the contents was not performed prior to removal for processing. The potential for reactive behavior and the importance of a comprehensive material characterization protocol and hazards assessment when handling or processing hazardous legacy materials were not recognized. Activities involving potentially pyrophoric materials in B9202 will be restored after clean-up of the effected hood and the Operational Safety Board review and approval of the plan for restoring operations.(2-A)