

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 28, 2002

TO: J. Kent Fortenberry, Technical Director
FROM: Matt Forsbacka, Oak Ridge Site Representative
SUBJ: Activity Report for Week Ending June 28, 2002

Technical staff member T. Dwyer and Outside Expert R. West were on site this week to participate in the Readiness Workshop held in Oak Ridge. The Site Representative was on leave on Friday.

A. BWXT Y-12 Enriched Uranium Operations (EUO): On Tuesday, BWXT Y-12 and DNFSB personnel discussed the draft results of the Building 9212, EUO, comparative risk assessment for fire protection options and the results of follow-on tests to characterize airborne release fractions (ARFs) from burning organic liquids. The comparative risk assessment, which considers a wide spectrum of fire protection options, is inconclusive at this time because the ARF issue is not fully resolved. BWXT Y-12 is applying the methodology outlined in DOE Handbook 3010, Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities, to provide inputs to the hazard evaluation tables. Pending the results of the consequence categorization, the basis for the comparative risk assessment may be altered.

The Performance Self Assessment for Wet Chemistry restart continued to be postponed this week. (2-A)

B. BWXT Y-12 Assembly and Disassembly: During observations of disassembly operations on Tuesday, the Site Representative noticed that a high-oxygen alarm indicator was lit when an inert-atmosphere lathe was being operating as part of Phase II disassembly. When it became obvious that assembly personnel were unaware of the condition, the Site Representative alerted the on-scene manager, and the operation was stopped.

Phase I operations completed a second unit; however, the threaded extractor tool could not be used due to damaged threads on the object. (2-A)

C. BWXT Y-12 Partial-Site Power Outage: On Wednesday, the Y-12 site lost power to several key facilities, including Building 9212. An orderly evacuation was ordered for the impacted facilities, and no adverse safety consequences were reported. The cause of the power outage was a tripped transformer relay. Power was restored in approximately one hour. (2-A)

D. Recommendation 97-1: On Monday, the Site Representative met with DOE/ORO personnel to discuss disposition plans for UF₆ stored in NaF traps in Building 3019 at ORNL. In 1997, 23-kg of UF₆ (94% ²³³U) was extracted from the Molten Salt Reactor Experiment (MSRE) facility via a reactive gas removal system. The pressure in the traps is steadily increasing due to radiolytic decomposition. The existing plan for converting this material to a stable oxide involves the ORNL Radiochemistry Laboratory in Building 4501. This project has suffered numerous delays and cost overruns. An alternate disposition pathway has been proposed which involves returning the NaF traps to MSRE and using a simpler conversion and downblend process to yield a final product in uranyl nitrate form. On Thursday, the Site Representative walked down both facilities. Much work remains to develop a path forward. (1-C)

cc: Board Members