DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 10, 2003

TO: J. Kent Fortenberry, Technical Director
FROM: Donald Owen, Oak Ridge Site Representative
SUBJ: Activity Report for Week Ending October 10, 2003

Staff member Chuck March was at Y-12 on Wednesday and Thursday to review Building 9212 B-1 Wing Fire Protection issues.

A. Y-12 Building 9212 B-1 Wing Fire Protection. As reported last week, YSO and BWXT personnel were to meet this week to discuss development of performance criteria to be used in assessing whether to move forward with an option to install a shroud around active chemical extraction columns. The shroud would funnel combustible liquids to the first floor where any resulting fire in the liquids could be extinguished by sprinklers. The site rep. and staff toured B-1 Wing with YSO and BWXT personnel to view combustible sources and the locations for the planned prototype shroud equipment. The site rep. and staff observed the meeting between YSO and BWXT to discuss development of the performance criteria. The performance criteria is being developed as part of a Performance Based Analysis (PBA) of B-1 Wing fire protection. The PBA will consider a range of protection options. The PBA is an evaluation process recognized by the national fire protection community in cases where strict code compliance is not met. The performance criteria have been drafted and YSO comments are being addressed. BWXT and YSO personnel noted that the performance criteria is expected to be available for review in the next few weeks.

The overall shroud development effort is proceeding. At this time, the prototype effort is to be a manufacturing and installation demonstration only. YSO personnel inquired about any testing needed to verify the shroud concept. BWXT personnel noted that the performance criteria may drive the need for testing/demonstrations beyond that currently planned. Shroud prototype installation and PBA report completion is expected by early December. (1-C)

B. Recommendation 2000-1 at ORNL. The DOE Implementation Plan for Recommendation 2000-1, *Prioritization for Stabilizing Nuclear Materials*, states that ORNL plutonium (Pu) is to be repackaged or disposed by May 2003. Completion of the ORNL commitment has been delayed and is now not expected until mid-2004. The ORNL plutonium addressed under Recommendation 2000-1 consists of about 700 grams of Pu-239 and about 700 grams of Pu-238. Most of the Pu-239 has been either shipped to the Lawrence Livermore National Laboratory to be packaged for long-term storage or re-designated for programmatic use at ORNL. Options for the remaining 132 grams of Pu-239 are under review. ORNL plans to ship the Pu-238 to Los Alamos National Laboratory. Shipping container certification for this material is a major uncertainty in ORNL's schedule for this effort. The site rep. reviewed the storage configuration of the Pu-238 with ORNL personnel. Each Pu-238 package consists of multiple, sealed metal boundary containers (either welded or metal O-ring sealed). DOE-ORO personnel noted that DOE Headquarters is planning to formally notify the Board on the delays and new schedule for completion of the ORNL commitment. (3-A)

C. Y-12 Building 9212 "Alligator Shear." As reported on August 22nd and 29th, a serious hand injury was narrowly avoided when the shear blade unexpectedly deployed (an unexpected second cut following an intended first cut). As part of recovery from this event, BWXT management (with worker input) has reviewed various options for performing future shearing activities and decided that the existing shear machine will be modified to include guards and shields that will keep an operator's hand from the area of the shear blade and eliminate that hazard. Troubleshooting on the exact cause of the unexpected shear blade deployment continues. (1-C)