

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 18, 2003

TO: J. Kent Fortenberry, Technical Director
FROM: Donald Owen, Oak Ridge Site Representative
SUBJ: Activity Report for Week Ending April 18, 2003

The site rep. was out of the office on Monday and Tuesday. Operations at Y-12 were curtailed on Friday due to a scheduled BWXT holiday. Staff member Rory Rauch was at Y-12 to review the Building 9202 event discussed below. Staff member William Linzau was at Y-12 to review design progress on the Highly Enriched Uranium Materials Facility.

A. Y-12 Building 9202 - Glovebox Explosion/Fire. Late Tuesday afternoon, an explosion and fire in a glovebox occurred in Building 9202, the Technology Development building. Fire department personnel responded to the scene and placed a coke-based extinguishing agent on affected areas of the glovebox floor. An Operational Emergency was declared, Building 9202 was evacuated, and personnel within 200 feet down wind (to the east) were advised to shelter in-place. The site rep. monitored the initial response activities to this event at the Y-12 Technical Support Center (a facility equipped to provide technical assessment of events and support the Emergency Operations Center located at the East Tennessee Technology Park).

Three individuals nearest the glovebox were determined to have clothing and/or skin contamination but, fortunately, were not injured. Involved personnel are being monitored for any radiological uptakes. No contamination was found outside of the room or building. Following an entry to videotape the scene and completion of actions to ensure a safe room and building configuration, the Emergency was terminated early Wednesday morning.

Building 9202 is classified by Y-12 as a chemically hazardous facility and has less than Hazard Category 3 quantities of nuclear material. In progress at the time of the explosion were initial activities to demonstrate a process related to uranium metal production. Product from the process had been placed in a sealed container inside the glovebox preparatory to hand carry of the container to another glovebox. This sealed container did not have an internal pressure sensing device or a pressure relief mechanism. Approximately 10 minutes after being sealed the container exploded.

BWXT management has started an investigation of this event. Though not formally designated a Type B accident investigation, YSO management indicated to the site rep. that the investigation is intended to be conducted at a level of detail and rigor approaching a Type B accident investigation. The site rep. observed the start of the root cause analysis with Tuesday's chronology leading to the event being discussed and documented in detail. No specific cause was apparent from this information.

Monitoring of the area and process equipment continues. Actions to sample materials from the glovebox and surrounding area are being determined. The site rep. will follow the completion of the root cause analysis and other aspects of the investigation. (2-A)

cc
Board Members