

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 6, 1999

**TO:** G.W. Cunningham, Technical Director  
**FROM:** Paul F. Gubanc, Oak Ridge Site Representative  
**SUBJ:** Activity Report for Week Ending May 7, 1999

Outside Expert Lary McGrew was at Y-12 this week to observe a meeting on W56 dismantlement issues. Staff members Von Holle, Robinson and Thompson were at Y-12 to review progress on chemical vulnerability, emergency planning and the relation between them. I am on leave Friday.

A. W56 Dismantlement: As discussed in the Board's Pantex Site Representatives weekly letters, at a prior Pantex/Y-12 meeting on the W56, Y-12 identified that during disassembly of a unit in January 1999, work was temporarily interrupted for a "fire." Pantex subsequently suspended work on the W56 until they could better understand the Y-12 event and evaluate their own safety controls. From May 4-6, representatives from Pantex, LLNL, Sandia, Y-12 and DOE-AL met to review and better understand the Y-12 event and collect additional information regarding W56 dismantlement.

1. Some prior dismantlements at Y-12 have experienced minor sparking and burning of chips and fines created by surface corrosion or inadvertent scraping. Y-12 considers this an expected hazard and institutes safety controls accordingly. (To avoid such sparking and burning entirely would require inerting the work area and having workers in supplied air.)
2. In this particular instance, during retrieval of the CSA, the retrieval fixture slipped a short distance raising some metal turnings. Subsequently, when the CSA was being lifted out of the reentry vehicle (RV) the operator looked down into the RV and observed a small yellow flame (like a candle's). The work area was immediately evacuated, an argon blanket applied, and the fire quickly extinguished. Subsequent removal of the CSA was without incident and no trace of the fire (e.g., charred material) could later be found. After this event, Y-12 enhanced their fire controls further by applying a continuous argon blanket. (Curiously, the Sandia representative, who was sent by the W56 team to interview the operator who observed the flame, deliberately withheld these observations from the balance of the team.)
3. Some members of the W56 team were overly focused on identifying the cause of the fire and postulating that this problem was unique to Y-12 and its retrieval tool. I emphasized to the team that Y-12 considers any disturbance of the CSA as creating the potential for fire. Even so, the team did not request Y-12's safety evaluation and procedures for the W56. I am providing these documents to the Pantex Site Reps for their consideration and use.
4. The Y-12 retrieval tool utilizes friction plates to grasp and suspend the CSA; this is not a positive capture design. Y-12 has been advised not to utilize the older retrieval tooling which threaded on to the end of the CSA (i.e., positive capture) based on Pantex and design lab conclusions that the CSA threads are unreliable. The basis for this conclusion appears based not upon a detailed thread examination but rather is inferred from Pantex's current difficulty with dismantling this threaded joint.
5. Despite the technical insights offered by Y-12 (e.g., plating performance, corrosion types and behavior) and Mr. McGrew (e.g., design and dismantlement history, identification of a mockup showing the W56's unique threads), a majority of the W56 team appeared unswerved from their single conclusion and apparent remedies for Pantex's current difficulties.

I am concerned that the W56 team's lack of objectivity could potentially lead it into recommending even more hazardous, costly and unnecessary changes to the dismantlement process. (II.A-1)

cc: Board Members