

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 8, 1999

TO: G.W. Cunningham, Technical Director

FROM: Paul F. Gubanc, Oak Ridge Site Representative

SUBJ: Activity Report for Week Ending January 8, 1999

A. Y-12 Control of Maintenance: On December 23, 1998, a fire sprinkler system "master alarm box" in the Y-12 enriched uranium operations (EUO) complex alarmed. Subsequent investigation found no alarm condition but the box could not be reset. In attempting to troubleshoot and recover the system, the following errors were made:

1. Operational Safety Requirements (OSRs) for EUO fire protection were violated. Both EUO management and the Plant Shift Superintendent (PSS) were involved in these violations.
2. Portions of the EUO fire sprinkler system were valved out-of-service without appropriate authorization or compensatory measures.
3. "Emergency maintenance" authority was inappropriately requested and granted and the work was subsequently performed beyond the limits of what had been authorized.

LMES and DOE-YSO management are still in the process of determining exactly what transpired and why. I have already discussed some aspects of this event with DOE and LMES and expect to follow up further as details become clear. I will forward the critique minutes when they become available.

B. Y-12 Site Modernization: On January 7, Y-12 presented a modernization plan for its nuclear facilities to a "Senior Steering Committee" chaired by DP-20. Highlights include:

1. The plan is designed to support anticipated weapon system return and refurbishment campaigns for the next 20-30 years. The committee stressed the need to identify fundamental objectives and provisions/flexibility to meet unanticipated work needs.
2. The first three facilities proposed to be built are a new EU warehouse, a special processing facility, and an integrated EU processing facility. A conceptual design report for the new warehouse, which has already received CD-1 approval, is anticipated for issue in April 1999.
3. Much of the discussion was focused on the "exciting" aspects of designing and moving into new facilities. A more detailed evaluation of life cycle costs, including the costs to vacate and lay up old facilities, will be necessary to understand the total costs of Y-12 modernization.
4. DOE-DP's budget planning does not currently incorporate Y-12 modernization needs.
5. A site-wide environmental impact statement (EIS) is considered necessary to support the plan. The current (aggressive) schedule is to obtain a record of decision by October 2000.

DOE-DP anticipates briefing the Board on this plan later this year.

C. HEPA Filter Test Facility: DOE-Oak Ridge (ORO) operates the last remaining HEPA filter test facility (FTF) in the DOE complex. Just before the holidays, ORO's Environmental Management office unilaterally, and without prior notification to FTF users, zeroed out FTF funding for the remainder of the fiscal year. The impacts of this action are still being evaluated. A more detailed discussion of this matter is attached.

cc: Board members

Oak Ridge HEPA Filter Test Facility Shutdown

Issue: Operation of the Oak Ridge HEPA Filter Test Facility (FTF) is now unfunded effective January 31, 1999. FTF testing of all HEPA filters used in DOE nuclear facilities was justified as prudent by a 1996 DOE-Headquarters study and is prescribed for those facilities which comply with DOE standards DOE-STD-3020-97 and DOE-STD-3022-98.

Background: The Oak Ridge FTF, located in Building K-1024 at the East Tennessee Technology Park, is the last operating facility of its kind in the DOE complex. The FTF performs penetration and flow resistance testing, as well as receipt inspections, for a wide variety of HEPA filters. The FTF tests 2000-3000 HEPA filters annually and typically rejects between three and five percent of the HEPA filters tested. The FTF costs roughly \$0.5M annually to operate and is funded entirely by DOE-EM on a free-to-DOE-users basis (i.e., no cost recovery). Nearly every site in the DOE complex utilizes this testing service.

Basis for Requiring Testing: Even though vendors are required to test and certify the HEPA filters they supply, DOE has historically performed its own performance testing of these filters prior to installation. Reasons cited for this redundant testing by DOE include:

1. Desire for high confidence in this barrier between hazardous nuclear materials and the public. (History shows vendor certification testing still permits a 3-5% failure rate.)
2. Cost avoidance of finding and replacing defective filters after installation. This includes disposal costs for defective filters which become contaminated after installation.
3. Post-installation testing is not sufficiently sensitive to verify filter efficiency requirements.
4. Deterrence of lower quality or disreputable vendors from supplying filters to the DOE.

A DOE-EM "Report on Quality Assurance Testing of HEPA Filters", dated September 1996, reaffirmed the desirability of continuing this redundant testing of HEPA filters.

Basis for Terminating Operation of the FTF: The DOE Oak Ridge Operations Office of Environmental Management (ORO-EM), which funds the FTF, is under pressure from its regulators to meet its cleanup milestones. ORO-EM claims their FY99 budget is \$30M-\$40M short to meet these milestones and considers the FTF budget sacrificial for the following reasons:

1. The FTF does not support any ORO-EM cleanup milestones.
2. ORO-EM, and its contractor Bechtel-Jacobs, could identify no regulatory requirement which mandated the operation of the FTF. (DOE standards -3020 and -3022 are only "requirements" when in DOE-approved requirements documents, contracts or plans.)
3. Filter testing services are commercially available and could be obtained by the FTF users.

ORO-EM (division director level) executed the FTF funding change on December 16, 1998.

Matters **NOT** considered by ORO-EM in taking this action include:

1. Those reasons listed above as the basis for requiring testing.
2. Sufficient advance notification of the FTF users (including even EM facilities) so that they could arrange for an orderly transition (for both testing and receipt inspection services).
3. Closeout and layup activities for the FTF. (The initial funding termination date of December 31, 1998, was subsequently extended to January 31, 1999, to support this.)
4. Potential operational impacts to those DOE facilities which invoke the testing standards of -3020 and -3022. (These are still being identified as more FTF users are made aware.)