

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 9, 2000

TO: J. Kent Fortenberry, Technical Director

FROM: Paul F. Gubanc and David T. Moyle, Oak Ridge Site Representatives

SUBJ: Activity Report for Week Ending June 9, 2000

A. Enriched Uranium Operations (EUO) Restart: On June 9, LMES presented their latest proposal:

1. Pull out and accelerate the restart of the reduction process to make it operational by September. The outstanding technical issues [carried forward from the prior Readiness Assessment (RA)] include concerns with vessel integrity, feed material dryness, and adequacy of the authorization basis. Continued maintenance support and productivity is also an issue. LMES recommends conducting both an LMES and a DOE Operational Readiness Review to confirm readiness.
2. Delay the HF system startup by about 8 months such that it would be operational by July 2002.

We have no objection to accelerating reduction as it is no different than the path EUO was on at the time of the failed DOE RA in November 1999. It is disappointing, however, that in the seven months since the failed RA, little progress has been made to resolve reduction's technical issues. (2-A)

B. Y-12 Building 9212 B-1 Wing Fire Sprinkler: On June 7, Mr. Moyle toured B-1 Wing and discussed the details of the \$20M sprinkler system estimate. Some issues include:

1. LMES assumes large diameter piping can only be moved by hand and thus is limited to 5' lengths.
2. Each pipe section must be anchored to the ceiling, and more than half of the labor cost associated with the installation is attributed to the construction of scaffolding. With the exception of the fourth floor (which probably accounts for less than 10% of the total installation), there seems to be no justification for elaborate scaffolding construction. Wheeled scaffolding, stepladders, or pneumatic lifts would be more than adequate for installing the majority of the piping.
3. Criticality safety issues have been raised in designing the sprinkler system, but most of the equipment in B-1 Wing is engineered to be safe geometry. The major area of concern is a large geometry calciner, which is retired in place and is physically separated from the rest of

the wing by walls. It would seem prudent to either not sprinkle the calciner area or simply remove it.

4. Previous fire hazard analyses may be overly conservative, assuming unrealistic behavior and higher combustible inventories than currently or will exist. LMES is working to develop a more realistic fire scenario in an attempt to scope the sprinkler system to only address the areas at risk. This effort seems well justified and may aid in making this project more manageable.

The staff will follow up on this project in a site-wide fire protection review at the end of June. (2-A)

C. Y-12 Facility Infrastructure: This week, Mr. Gubanc and a DOE system engineer walked down several EUO ventilation systems with the cognizant LMES staff and observed the following:

1. We identified a 6" stalactite of gelatinous "mung" hanging off of a dripping chill water valve. We subsequently identified that the chill water system *has not been sampled in five years!* DOE is exploring with LMES the potential health, safety and reliability impacts from this neglect. LMES utilities personnel claim sampling was stopped due to a lack of funding.
2. Of the ten or so sets of supply air filters inspected (most of these are walk-in housings with 50+ 2'x2' filters), all but a couple were heavily loaded and required replacement. A couple sets were so badly fouled the pleats in the filters could not be distinguished and appeared to have fungal growths. DOE is asking LMES to evaluate the air quality and vent and balance impacts. LMES stopped performing routine supply filter replacements several years ago due to budget cuts. (1-C)

cc: Board Members