

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 5, 1999

TO: G.W. Cunningham, Technical Director

FROM: Paul F. Gubanc, Oak Ridge Site Representative

SUBJ: Activity Report for Week Ending March 5, 1999

A. ORNL U-233 Inspection Program: On March 3, I toured ORNL Building 3019 with the cognizant DOE program manager and facility representative and contractor manager. Our tour focused specifically on preparing the staff and equipment of Bldg. 3019 to support the first phase of the U-233 inspection program (i.e., container inspections and potential overpacking, no repackaging).

1. On February 25, Bechtel-Jacobs and LMER personnel in another ORNL facility inadvertently dropped a canister of spent commercial reactor fuel 16 feet inside a vertical dry storage well. Two similar events occurred in 1998. Given the similar tube vault configuration of Bldg. 3019, I strongly encouraged the U-233 inspection program to seek out and incorporate lessons learned.
2. Many of my questions regarding inspection acceptance criteria, personnel and process flow, maintenance planning, staffing and training, contingencies for upset conditions, etc. were answered with assertions that such studies and plans were in development. This is a major change from only a few weeks ago. This progress is attributed primarily to the influence of the recently appointed ORNL project manager.
3. DOE acknowledged that although not yet finalized, they and ORNL are inclined to verify operational readiness via a readiness assessment (RA), as opposed to an operational readiness review (ORR). This selection does not appear consistent with the number of new operations planned for the inspection program. A separate staff paper on this matter will be prepared.
4. On March 1, DOE-ORO issued a memo appointing the team leader for the Phase 1 Integrated Safety Management (ISM) verification review of the ORNL. In that memo, the team leader was directed to specifically evaluate the application of LMER ISM to Building 3019. The review is expected to occur in late April; before inspections are expected to commence.

DOE & ORNL are scheduled to brief the Board on March 16 on their inspection planning. (III-A.2)

B. ORNL Molten Salt Reactor Experiment (MSRE): The MSRE project is retrieving U-233 in the form of fluorides captured on NaF traps or charcoal. Conversion of these fluorides to stable oxide is currently planned to occur in a hotcell at ORNL Building 4501. On March 5, I toured ORNL Building 4501 and the pilot scale conversion facility currently under testing and evaluation.

1. Over 30 kg of U-233 will require conversion processing. Due to the quantities in process at any one time, the hotcell and some surrounding rooms will be classified as a Nuclear Hazard Category 2 facility in accordance with DOE-STD-1027. The balance of Building 4501 will retain its classification as a "radiological" facility. The treatment of shared services and interactions between the nuclear and radiological portions is still under evaluation.
2. The key MSRE project milestones for this facility include having approved safety and criticality analyses by October 1999 and beginning conversion operations by August 2000. ORNL claims they are on or slightly ahead of schedule.
3. Use of this equipment for stabilizing U-233 bearing materials in storage at Bldg. 3019 is not currently funded or decided although no other options are currently identified. (III-A.3)

cc: Board Members