

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 2, 1998

TO: G. W. Cunningham, Technical Director

FROM: M. T. Sautman, R. F. Warther

SUBJECT: RFETS Activity Report for Week Ending July 3, 1998

Recommendation 95-2. The current seismic safety basis for B707 and its annex is a confusing mixture of a BIO Appendix, JCO, and RFFO direction that use different assumptions and dose consequence methodologies such that risk numbers cannot be directly compared. SSOC recently proposed combining the B707 70 kg Pu-equivalent and B707A 285 kg Material at Risk (MAR) OSR limits into one 355 kg MAR limit for both buildings. This proposal was determined to be a negative USQD. The Site Reps did an independent analysis that normalized the risk of the previous calculations. This showed that the proposed OSR revision in fact increased the combined risk of B707 and B707A by an estimated 55%, eliminated the safety margin imposed by RFFO, and increased the site seismic risk by approximately 25%. The risk increased because B707A will not collapse or will only partially collapse in a 385- to 10,600-year-return-earthquake while B707 will totally collapse. When shown this data, SSOC agreed with the Site Rep's conclusion that the proposed OSR would increase the risk and be a USQ. SSOC is redoing their calculations to determine a new MAR limit that will not increase the risk, which is RFFO's expectation. Although the new MAR limit will be lower, recent changes in the building's mission should reduce the need to store 355 kg of Pu.

Recommendation 94-1. B771 spent the week unsuccessfully trying to purge the oxalic acid system. A bad valve may be blocking the purge path. The crew also had to repeatedly clean up puddles of chemical solution that the Site Reps found leaking from "empty" tanks. The Site Reps identified several issues that were appropriately resolved by the supervisor and the union:

- the assigned RCT was found laying down on top of a waste crate,
- the potential compromise of the independence of the valve lineups due to third party assistance and a discussion between the initial positioner and the independent verifier,
- the Industrial Safety rep tried to justify not having the workers use a full face shield that the work package required, and
- violations of scaffold safety requirements.

B371 met their Implementation Plan milestone Tuesday night after a last minute JCO allowed pipe draining to start despite problems with the fire alarm panel. No liquid was found at the first drain point, as expected. The system could not be purged as planned, however. When the valves were labeled earlier, part of one valve fell off, creating a purge path that was not later noted on the drawing. Although this in fact made the system safer by making it easier to purge, it raised concerns about the accuracy of the new drawings. As a result, operators verified the rest of the valves the next day. The Site Reps have also been talking with the project manager about ways to reduce the dose (6 to 18 mrem/hr) in the area caused by nearby residue drums.

Repacking of LECO crucible residues in Module K of B707 began last week.

Building 779 Decommissioning. During a walkdown of B779, one of the workers told the Site Reps that one of two tents used for glove box size reduction activities had higher than expected

DAC readings. Upon investigating, the Site Reps noted that two different control sets were used to minimize the airborne contamination concentrations in the two different tents. The first control set took a suction on the GB (necessary to maintain negative ΔP during size reduction operations), cycled the air through two HEPA filters then back into the supply side of the tent. Tent air exhaust was into the main exhaust plenum. The second tent exhausted GB air into the main exhaust plenum and recycled tent air through a HEPA filter, into the room and back into the tent using access openings in the tent. The Site Reps noted that the second tent provided additional protection and provided feedback to building management. Subsequently, DAC readings in the first tent increased to 1400 (1000 DAC suspension limit) and the workers evacuated the tent as required by the RWP. Building management is in the process of modifying the first tent's ventilation system to be consistent with the second tent, and increase the margin of safety for the workers. The Site Reps have communicated some opportunities to improve tent and building controls during D&D activities to K-H and D&D managers. Site personnel, including the K-H Rad Con Manager are investigating these issues and have stated that they will provide feedback.

cc: Board members