

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 6, 1996

TO: G. W. Cunningham, Technical Director

FROM: P.F. Gubanc & D.G. Ogg, Hanford Site Representatives

SUBJECT: Activity Report for Week Ending December 6, 1996

Staff members Drop, Jellett, Tontodonato and Zull were on-site this week to review tank waste characterization and retrieval issues

A. TWRS Characterization: Since July 1996, DOE-RL and the tank farm contractor (now Lockheed-Martin [LMHC]) struggled with declaring an unreviewed safety question (USQ) for flammable gas and establishing appropriate controls. On November 1, DOE-RL formally declared the USQ and approved Justification for Continued Operation (JCO) controls. LMHC in implementing these controls has concluded that strict adherence is not possible during characterization operations. On November 26, LMHC requested DOE-RL approval to modify these controls. The technical basis for these changes was provided on December 3. We have requested these documents and will forward them to the DNFSB-HQ staff.

In discussing this matter with LMHC management, the following observations were made:

1. LMHC is demanding a higher level of rigor relative to procedural compliance. LMHC allowed as to how this attitude was galvanized at Oak Ridge in response to the Board's Recommendation 94-4 on criticality safety.
2. To assure they were not over-reacting on these controls, LMHC recently visited a commercial hydrogen production plant. The major lessons learned were:
 - a. controls on spark generation are not imposed as they are viewed to be difficult and unreliable
 - b. design for extensive ventilation and dilution from all possible sources
 - c. deal only with pure gases, mixtures of any measurable quantity are cause for immediate concern

LMHC is still evaluating the implications of these observations but recognizes significant difficulty in dealing with any of them.

B. Tank C-106 Retrieval Project: The construction project to install systems to retrieve waste from single-shell tank C-106 has been viewed as troubled for most of 1996. After Fluor-Daniel (FDH) assumed control, FDH, LMHC and Numatec undertook a comprehensive assessment of this project. This week, Mr. Wagoner was informed that the waste sluicing start date would slip from October 1996 to September 1997 and that the project would require \$2M to complete. The contractor's recovery plan is to be presented to DOE-RL on January 13, 1997, and is expected to include a discussion of the assessment's findings and corrective actions. This is another data point which suggests that construction management at Hanford is problematic.

C. Chemical Reaction Sub-Tank Advisory Panel (CRS): This week, DOE-RL recognized that the CRS advice was "owned" by neither DOE-RL nor LMHC. DOE-RL is evaluating a change to the CRS charter to make it solely a DOE-RL advisory group and force LMHC to obtain its own technical expertise. As part of

this change, DOE-RL also expects to use the CRS to help in the review of flammable gas JCO controls for the tank farms.

D. K-Basins SAR - Risk Acceptance Guidelines: During review of the K-Basins Safety Analysis Report (SAR), Mr. Ogg noted inconsistencies in the criteria used to determine the acceptability of postulated accident consequences (risk acceptance guidelines (RAGs)). Upon further review and discussion with DOE-RL, Mr. Ogg learned that the DOE-RL Safety Evaluation Report rejected the RAGs for accident evaluation purposes. DOE-RL has drafted specific guidance to the contractor regarding the use of RAGs for the Spent Nuclear Fuel (SNF) Project. However, it should be noted that RAGs are inconsistent from facility to facility on site (six different sets of criteria for six different facilities) and in some cases the RAGs differ by more than two orders of magnitude. DOE-RL has provided no clear explanation for the diversity of RAGs in use at Hanford.

RAGs were also a topic of discussion in a video-conference between SNF personnel and the SNF Regulatory Review Team at HQ on December 3rd. DOE-HQ personnel recognized the problem of inconsistency, not only at Hanford, but throughout the complex. DOE-HQ personnel indicated that they would continue to investigate this problem.

cc: Board Members