[DOE (RICHLAND) LETTERHEAD]

APR 04 1997

97-WSD-066

The Honorable Mr. John T. Conway
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, N.W., Suite 700
Washington, D.C. 20004

Dear Mr. Chairman:

COMPLETION OF DEFENSE NUCLEAR FACILITIES SAFETY BOARD (DNFSB) RECOMMENDATION 93-5 IMPLEMENTATION PLAN (IP), REVISION 1, MILESTONE 5.4.3.5.d, "LETTER REPORTING QUALIFICATION OF ROTARY MODE CORE SAMPLING SYSTEM FOR USE IN FLAMMABLE GAS TANKS"

References:

1. RL letter from J. K. McClusky, to H. J. Hatch, FDH, "Contract Number DE-AC06-96RL13200; Closure of Pre-Start Punchlist Items for Rotary Mode Core Sampling (RMCS) in Flammable Gas Tanks," 96-WSD-347, dated February 25, 1997.

2. RL letter from J. Wagoner, to H. J. Hatch, FDH, "Contract Number DE-AC06-RL9613200; Approval to Start Rotary Mode Core Sampling (RMCS) in Flammable Gas Tanks," 96-WSD-250, dated December 20, 1996.
3. RL letter from J. Wagoner, to Dr. A. L. Trego, WHC, "Authorization of the Safety Assessment (SA) of Rotary Mode Core Sampling (RMCS) in Flammable Gas Single-Shell Tanks, WHC-SD-WM-SAD-035, Rev 0a and Interim Operation Safety Requirements (IOSR)," 96-QSH-042, dated August 30, 1996.
4. Safety Evaluation Report of the Safety Assessment document titled, "A Safety Assessment of Rotary Mode Core Sampling in Flammable Gas Single Shell Tanks: Hanford Site, Richland, Washington," prepared by Lockheed Idaho Technologies Company, dated July 18, 1996.

This letter reports continuing delays towards the completion of DNFSB Recommendation 93-5 IP, Revision 1, Milestone 5.4.3.5.d, "Letter Reporting Qualification of Rotary Mode Core Sampling System for Use in Flammable Gas Tanks." Reference 1 acknowledges the closure of three pre-start punchlist items required prior to field deployment of the Rotary Mode Core Sampling (RMCS) System. Reference 2 reported the completion of a U.S. Department of Energy, Richland Operations Office (RL) Operational Readiness Review (ORR) and directed the contractor to use the RMCS System in those flammable gas tanks authorized by References 3 and 4.

The original due date for Milestone 5.4.3.5.d was September 1996. In late September 1996 the first RL ORR was terminated prior to completion due to weaknesses in procedures development and inadequacies in the dedication of safety class components. The second ORR commenced in late November and was completed on December 13, 1996. A pre-start punchlist required the contractor to do the following: verify that the intrinsic safety barriers met safety class requirements; develop a process for tracking and closing emerging issues; and correct fabrication errors with regards to exhauster fasteners.

While in the process of addressing the punchlist items the contractor discovered more problems that needed to be corrected prior to deploying the system. For example, the Whittaker Cell Hydrogen Sensor required a heated enclosure to operate as required by the safety assessment. The vacuum pumps used on the exhauster record sampler had to be redesigned for use in a flammable flow stream, as did the SMC flammable gas sensing element.

Over the last three months emerging problems have outpaced the contractors' ability to resolve existing problems. As a result, there is little confidence that the current approach is an acceptable long-term solution.

The contractor is evaluating several alternatives, which include the following:

- Modifications to enhance the current design, addressing design problems as they arise;
- A new design which separates intrinsically safe instrumentation from unclassified components in separate enclosures; and
- Revision to the Safety Assessment and Authorization Basis to allow for complete shutdown of the exhauster following a Gas Release Event, eliminating the need for intrinsically safe components. This option is also being considered to apply only to Facility Group III Tanks.

RL will evaluate the impacts of the options during the first week of April 1997 and decide on a path forward. RL will keep your staff informed throughout the design and fabrication period and will formally update you in the quarterly report for the period January to March 1997. You should receive this report by April 30, 1997.

Because of the delays in deploying RMCS, another milestone (5.4.3.1.g, "Completion of Sampling and Analysis of High Priority Tanks") is in jeopardy. The impacts to this milestone are being determined. Once the RMCS is deployed, data will be available to determine the revised completion date for this milestone.

At that time, a formal change (i.e., according to Section 6 of the DNFSB 93-5 IP) to Milestone 5.6.3.1.g will be provided to the DNFSB. Information regarding these delays will be informally discussed with DNFSB staff during routine Friday teleconference calls.

If you have any questions, please contact me, or your staff may contact Jackson Kinzer, Assistant Manager for Tank Waste Remediation System, on (509) 376-7591.

Sincerely,

John D. Wagoner
Manager

WSD:PRH

cc: J. Owendoff, EM-2
C. Peabody, EM-4
R. Erickson, EM-38
M. Whitaker, S-3.1