Department of Energy
Richland **Operations Office**
P.O. **80X 550**
Richland, **Washington 99352**

OCT 2 2 1997

97-SCD-034

The Honorable John T. Conway
Chairman
Defense Nuclear Faci 1 i ties Safety Board
625 Indiana Avenue N.W. , Suite 700
Washington, D.C. 20004

Dear Mr. Chairman:

COMPLETION OF THE DEFENSE NUCLEAR FACILITIES SAFETY BOARD (DNFSB) . RECOMMENDATION 93-5 IMPLEMENTATION PLAN (1P), REVISION 1, MILESTONE 5.6.3. 1.e, "LETTER REPORTING VERIFICATION OF HEADSPACE HOMOGENEITY AND EVALUATION OF VARIATIONS IN HEADSPACE VAPOR CONCENTRATIONS IN PASSIVELY VENTILATED TANKS WITH CHANGING ATMOSPHERIC TEMPERATURES"

As required by DNFSB Recommendation 93-5 1P, Revision 1, Milestone 5.6.3.1.e, due October 1997, this letter reports verification of headspace homogeneity and evaluation of variations in headspace vapor concentrations in passively ventilated tanks with changing atmospheric temperatures. Verification is supported by two reports: (1) "Homogeneity of Passively Ventilated Waste Tanks", PNNL-11640, dated July 1997; and (2) "Seasonal Changes in the Composition of Passively Ventilated Waste Tank Headspaces", PNNL-11667. These reports were forwarded to your staff on October 6, 1997.

The results of the first report show that, even in relatively cool tanks, the headspace concentration of all analytes of interest are independent of sampling location. This verifies our assumption that tank headspace is well mixed. The results of the second report show that seasonal variations in headspace concentrations do occur; however, they are small compared with sampling and analytical errors. Therefore, adjustment of measured concentrations is generally not warranted due to seasonal variations.

The U.S. Department of Energy has completed the actions identified under this milestone and proposes closure of this commitment. 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

SCD:JAP