



U.S. Department of Energy
Office of River Protection

0071302

P.O. Box 450, MSIN H6-60
Richland, Washington 99352

06-TPD-069

SEP 29 2006

Ms. Jane Hedges, Program Manager
Nuclear Waste Program
Washington State
Department of Ecology
3100 Port of Benton Blvd.
Richland, Washington 99354

RECEIVED
OCT 20 2006
EDMC

Dear Ms. Hedges:

SUBMITTAL OF TANK 241-S-102 HIGH-RESOLUTION RESISTIVITY (HRR) LEAK DETECTION AND MONITORING (LDM) TESTING REPORT, RPP-30121, REVISION 0A, AND RECOMMENDATION FOR FURTHER DEPLOYMENT, HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (HFFACO) MILESTONE M-45-00B

Reference: Ecology letter from J. J. Lyon to R. J. Schepens, ORP, "Ecology Approval of 'Single-Shell Tank Deployment Demonstration and Injection Leak Testing of the High Resolution Resistivity (HRR) System Long Electrode LDM System' RPP-17191, Revision 2," dated June 19, 2006.

Attached is the subject report on the results of the injection leak test of the HRR tank LDM technology performed at Tank S-102 from January through May 2006. Several interim briefings were held during the course of the testing to apprise your staff on testing progress and technical issues encountered. The injection test was performed and test report written in accordance with the provisions in the test plan approved by the Washington State Department of Ecology (Ecology) Reference. Submittal of the test report and a recommendation for further deployment is required by HFFACO Milestone M-45-00B.

Based on the results of the testing at Tank S-102, the U.S. Department of Energy, Office of River Protection (ORP) recommendation is as follows:

- Implement HRR as the primary LDM for modified sluicing/saltcake dissolution retrievals in S-Farm, excluding S-112, following development and implementation of a transition plan;
- Perform a single injection test (<~3,000 gal) in a different Farm (preferably C-Farm) to observe response under different electrical background noise and soil conditions;
- Continue HRR as demonstration LDM for C-Farm modified sluicing retrievals until second injection test is completed, if found to be acceptable a transition plan would need to be developed and implemented prior to any C-Farm HRR system becoming the primary LDM system.

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Jane Hedges
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This recommendation was briefed to your staff on September 26, 2006. ORP and its contractor, CH2M HILL Hanford Group, Inc., would like to work with Ecology to develop a path forward for additional testing of the HRR technology. We will keep your staff apprised on transition of the HRR system at S-Farm at the monthly Tri-Party Agreement review meetings, and through other means as necessary. We are also willing to discuss any questions or comments you may have on the test report.

If you have any questions, you may contact me, or your staff may contact Roger A. Quintero, Tank Farms Programs and Projects Division, (509)373-0421.

Sincerely,


Roy J. Schepens, Manager
Office of River Protection

TPD:RAQ

Attachment

cc w/ attach:

J. J. Lyon, Ecology

cc w/o attach:

C. A. Burke, CH2M HILL

M. N. Jaraysi, CH2M HILL

R. E Raymond, CH2M HILL

S. Harris, CTUIR.

C. L. Whalen, Ecology

T. C. Post, EPA

T. Martin, HAB

G. Bohnee, NPT

K. Niles, Oregon Energy

R. Jim, YN

Administrative Record: M-45-00B

CH2M HILL Correspondence

Environmental Portal, LMSI

**Attachment
06-TPD-069**

**RPP-30121, Revision 0A Tank 241-S-102 High-Resolution Resistivity (HRR) Leak
Detection and Monitoring (LDM) Test Report**