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Department of Energy  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

99-EAP-496

SEP 16 1999



Mr. Michael A. Wilson, Program Manager  
Nuclear Waste Program  
State of Washington  
Department of Ecology  
P. O. Box 47600  
Olympia, Washington 98504

FOURTH BI-MONTHLY REPORT ON STATUS OF TANK C-106 WASTE RETRIEVAL  
SLUICING SYSTEM AND SUBMITTAL OF SIGNED CHANGE REQUEST M-45-99-01

Since the last report transmitted in the U.S. Department of Energy, Richland Operations Office letter from G. H. Sanders to S. Dahl, State of Washington Department of Ecology (Ecology), "Third Bi-monthly Report on Status of Tank C-106 Waste Retrieval Sluicing System," dated July 21, 1999, six sluicing batch transfers have been completed, accounting for one-foot (ft) of sludge transfer, to a cumulative total transfer of approximately five-ft. About one-ft of sludge remains in the Tank C-106. We are continuing the sluicing with full-effort to complete sluicing operations ahead of the proposed completion milestone of December 31, 1999.

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The return of solids has been significantly lower (3-5%) in this campaign compared to the earlier campaigns. The primary reason for the low return of solids has been the reduced effectiveness of the sluicer to mobilize sludge next to the pump, across the width of the tank. In addition, a number of difficulties occurred in lowering the pump below the sludge level due to the kinking and interference of the pump hose and other solid obstructions under the pump.

It has been exceedingly difficult to remove sludge from Tank C-106. Each of the first two campaigns removed approximately two-ft of sludge in four batches, however, the third campaign has removed only one-ft of sludge in six batches. The last batch on September 14, 1999, transferred less than two inches of sludge. At this point, it is uncertain as to how much further the pump can be lowered, or how much more sludge can be removed. The project team has been working through these issues to continue sluicing.

The high-heat safety issue in Tank C-106 has been resolved. The temperature in Tank C-106 has been reduced from 220 Fahrenheit at the start of sluicing to less than 120 Fahrenheit. Tank C-106 no longer requires water addition to keep it cool.

Change Request M-45-99-01 has been enclosed for your approval. The proposed Change Request incorporates a new Milestone, M-45-03B, identifying the milestone for completion of Tank C-106 sluicing by December 31, 1999, to meet the requirements of the final determination by the Director of Ecology on October 8, 1997.

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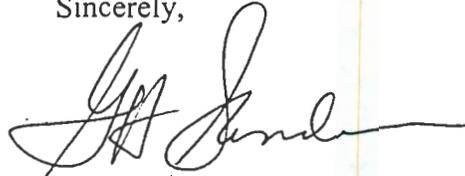
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Completion of the proposed milestone is based on the critical assumptions that: a) No major equipment failures occur, b) No leak occurs in the pits, c) Tank AY-102 ventilation system does not require further modifications to maintain the waste temperature within the limit, and d) Tank AY-102 does not retain flammable gas. Currently, we do not anticipate high possibilities of the occurrence of these incidents.

We will keep you apprised of our progress through these bi-monthly reports, and through interactions with your staff.. If you have any questions, please contact me on (509) 376-6888 or Wahed Abdul, Operations Program Division, on (509) 372-2355.

Sincerely,



George H. Sanders, Administrator  
Hanford Tri-Party Agreement

EAP:HMR

Enclosure

cc w/encl:

J. R. Wilkinson, CTUIR  
S. L. Dahl-Crumpler, Ecology  
D. P. Holland, Ecology  
S. McKinney, Ecology  
R. F. Stanley, Ecology  
A. Valero, Ecology  
D. R. Sherwood, EPA  
J. S. Hertzell, FDH  
M. Reeves, HAB  
P. Sobotta, NPT  
M. L. Blazek, OOE  
R. Jim, YN

TPA Administrative Record, FDH

<b>Change Number</b> M-45-99-01	<b>Federal Facility Agreement and Consent Order</b> <b>Change Control Form</b> <small>Do not use blue ink. Type or print using black ink.</small>	<b>Date</b> September 16, 1999
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Originator <b>G. H. Sanders</b>	Phone <b>376-6888</b>
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Class of Change	<input type="checkbox"/> I - Signatories	<input checked="" type="checkbox"/> II - Executive Manager	<input type="checkbox"/> III - Project Manager
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Change Title <b>Add Tri Party Agreement Interim Milestone M-45-03B.</b>
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**Compliance Issue Description**

Interim milestone M-45-03A was established in January 1994 as a key tank waste remediation system (TWRS) project requirement. Work required to meet M-45-03A has long been recognized as of primary importance in that it both: a) provides for resolution of tank C-106 high heat safety (and environmental) issues via waste transfer to more appropriate facilities, and b) represents a critical test and demonstration of waste retrieval technologies, and an important first step in building DOE's ability to retrieve Hanford tank wastes for processing.

On May 6, 1997, DOE requested extension of the due date for Interim Milestone M-45-03A, Initiate C-106 Sluicing, from October 31, 1997 to September 30, 1998 (Ref. 1). The request was denied by Ecology on May 20, 1997 (Ref. 2), and DOE subsequently invoked the dispute provisions of the Tri-Party Agreement on May 27, 1997 (Ref. 3). The request was denied by the Director of Ecology in a final determination on October 8, 1997 (Ref. 4). In addition, the letter directed DOE to establish an interim agreement milestone for completion of sluicing. The DOE exercised its right to appeal the Director of Ecology's determination to the State of Washington Pollution Control Hearings Board (PCHB) whereupon the PCHB upheld the Director of Ecology's final determination. The DOE subsequently chose not to pursue any further appeals in this matter.

**Description/Justification of Change**

This milestone change request is created in order to comply with the Ecology Director's Final Determination letter dated October 8, 1997. This determination requires sluicing retrieval to be completed by December 31, 1999 and that this date be established as an Agreement interim milestone.

(cont.)

**Impact of Change**

Approval of this change request amends Tri Party Agreement tank 241-C-106 requirements consistent with current TWRS program logic and planning.

**Affected Documents**

Hanford Federal Facility Agreement and Consent Order, Appendix D, as amended.

**Approvals**

<i>Jackson R. King</i>	9-16-99	<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Disapproved
DOE	Date		
		<input type="checkbox"/> Approved	<input type="checkbox"/> Disapproved
EPA	Date		
N/A		<input type="checkbox"/> Approved	<input type="checkbox"/> Disapproved
Ecology	Date		

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**Description/Justification of Change (cont.)**

In light of the preceding, Ecology and DOE agree as follows:

That the following new Tri Party Agreement requirement is established by approval of this M-45-99-01 change request:

M-45-03B: Complete Sluicing Retrieval of Tank 241-C-106 Sludge: December 31, 1999

(See note for determination of completion of sluicing)

**NOTE:**

Sluicing retrieval of Tank 241-C-106 will be considered complete and milestone M-45-03B met when one of the following conditions have been satisfied:

At least 95 percent (approximately 187,000 gal.) of the estimated total sludge of six feet has been removed from Tank 241-C-106;

OR

If the rate of sludge removal is less than 7500 gallons (approximately three inches) per 12-hour sluice batch and evidence of diminishing retrieval effectiveness is documented for three consecutive batches.

When either of the above conditions have been met, the limit of sluicing retrieval capability for Tank 241-C-106 shall be considered reached and Milestone M-45-03B shall be considered complete. The above definition of completion of sluicing is intended to apply only to Tank 241-C-106 and milestone M-45-03B. It is not intended to define completion of sluicing for any other tank.

In order to comply with the Ecology Director's Final Determination letter dated October 8, 1997, after the limit of sluicing retrieval capability for Tank 241-C-106 has been reached, Ecology and DOE will write a mutual written determination that sluicing retrieval is complete. The Ecology and DOE IAMIT representatives will sign the determination. If necessary, additional waste retrieval from tank C-106 will be accomplished via alternative retrieval systems pursuant to M-45-03-T02 and M-45-00.

**References**

1. Letter, G. Sanders, RL, to M. Wilson, Ecology, "Request to Change Due Date for Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Interim Milestone M-45-03A," dated May 6, 1997.
2. Letter, M. Wilson, Ecology, to J. Kinzer and G. Sanders, RL, "RE: Change Package M-45-97-03 and Letter Number 97-WDD-058," dated May 20, 1997.
3. Letter, G. Sanders, RL, to M. Wilson, Ecology, "Invocation of Dispute on Hanford Federal Facility Agreement and Consent Order Change Control Form M-45-97-03," dated May 27, 1997.
4. Letter, T. Fitzsimmons, Ecology, to J. Wagoner, RL, "RE: Final Determination Pursuant to Hanford Federal Facility Agreement and Consent Order (Agreement) in the matter of the disapproval of the Department of Energy's change control form M-45-97-03," dated October 8, 1997.