



U.S. Department of Energy
Office of River Protection

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Richland, Washington 99352

SEP 24 2002

02-TOD-066

Mr. Michael A. Wilson, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
1315 W. Fourth Avenue
Kennewick, Washington 99336

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EDMC

Dear Mr. Wilson:

COMPLETION OF HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (HFFACO) MILESTONE M-48, SUBMIT RESULTS OF (4) DOUBLE SHELL TANK'S (DST) NOT PREVIOUSLY EXAMINED

Tri-Party Agreement Milestone Series, M-48, requires the Ultrasonic Testing (UT) of the primary tank walls in four (4) DSTs not previously examined be submitted to the State of Washington Department of Ecology (Ecology) by September 30, 2002. The attached documents contain the UT results for Tanks 241-AN-101, AW-106, AW-104, and AW-102. This submittal completes Milestone M-48-10.

The examination of these four tanks revealed no crack-like indications in the walls or in any of the weld heat affected zones, and no pitting exceeding the acceptance criteria. One reportable indication of a maximum of 12% reduction in wall thickness was found in plate #4 of Tank 241-AN-101, as well as, four reportable indications of a maximum of 16% reduction in wall thickness near vertical welds in plates #3 and #4. One reportable indication of a maximum of 10.4% reduction in wall thickness was found near a vertical weld in plate #2 of Tank 241-AW-106. No reportable wall thinning was detected in Tanks 241-AW-102 and AW-104. The reportable indications do not represent a reduction in the safe operation of these DSTs.

The DSTs (not previously examined) 241-AZ-102, 241-AP-101, 241-AP-103, and 241-AP-105, are tentatively scheduled for UT testing in Fiscal Year (FY) 2003, subject to approval by Ecology. The following criteria were used as the basis for the selection of DSTs to be examined in FY 2003:

- Minimize interference with other planned tank farm activities and upgrades.
- Minimize movement of UT crawler, ancillary and support equipment between tank farms.
- 241-AP-105 was selected for additional examination of the liquid/air interface region, because it is one of only a relatively small number of DSTs that maintained a relatively stable liquid level over a long time period (e.g., within 295-300 inches, over approximately six years).
- 241-AP-101 and AZ-102 were selected for additional examination of the high-stress region of the primary tank lower knuckle, based on a weighted prioritization considering tank age, temperature, waste composition, material, and water level.
- Additionally, 241- AZ-102 was selected for additional examination of the primary tank bottom, based on a weighted prioritization considering the tank age, temperature and material of construction.

During FY 2002, visual inspections of 10 DSTs were conducted, which included tanks 241-AN-101, 241-AN-102, 241-AN-103, 241-AN-104, 241-AN-106, 241-AN-107, 241-AP-107, 241-AP-108, 241-AW-103 and 241-AW-104. For each tank, four annulus risers and one in-tank riser was inspected.

The FY 2002 annulus video inspection data was reviewed and no significant corrosion was identified and no degradation of the primary or secondary tank walls has been observed. The light corrosion and mill scale observed on some of the primary annulus surfaces is consistent with normal weathering of the carbon steel tanks. Where possible, early 1990s annulus inspection videos were used as baseline data for the FY 2002 inspections. No changes were noted in the tanks annuli over the ten-year span between inspections.

During the in-tank DST video inspections, corrosion anomalies were observed on the upper haunch area of the interior primary tank wall in 241-AP-108. These anomalies were evaluated by the Tank Farm Contractor Engineering department, and determined to be most likely caused by "liquid splash" during normal process operation and therefore posed no immediate cause for concern. The anomalies have been noted and will be further evaluated at the next video inspection.

DST video inspections that are planned for FY 2003 include: 241-SY-101, SY-102, SY-103, AP-101, AP-102, AP-103, AP-104, AP-105, AP-106, and AN-105.

Ecology approval by October 30, 2002, is requested for the four tanks selected for examination in FY 2003. ORP will commit personnel and resources for this planned work scope at the beginning of FY 2003.

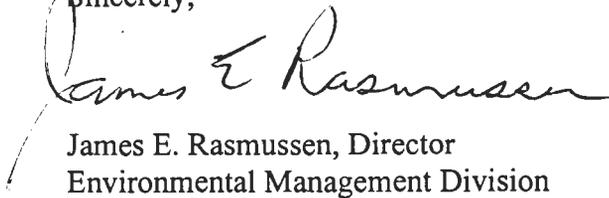
Mr. M. A. Wilson
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If you have any questions, please contact me, or your staff may contact Victor Callahan, Technical Operations Division (509) 373-9880.

Sincerely,



James E. Rasmussen, Director
Environmental Management Division

TOD:VLC

Attachment

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J. Lyon, Ecology
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