



U.S. Department of Energy

0059506

**Office of River Protection**

P.O. Box 450  
Richland, Washington 99352

03-ED-078

MAY 22 2003

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

Dear Mr. Wilson:

INITIATION OF DISPUTE RESOLUTION UNDER THE HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (HFFACO) ON THE STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (ECOLOGY) PROPOSED CHANGE REQUESTS M-23-02-02<sup>1</sup> AND M-45-03-03

- References:
1. Ecology letter from L. J. Cusack to J. E. Rasmussen, ORP, "Denial of Hanford Federal Facility Agreement and Consent Order (HFFACO) Change Request M-23-02-02 Requesting Revisions to the M-23 Milestone Series, dated April 16, 2003," dated May 8, 2003. ✓
  2. "Extension to Review Change Request M-23-02-02 and M-45-03-03," dated May 19, 2003 59431
  3. "Hanford Federal Facility Agreement and Consent Order (HFFACO) Change Request M-23-02-02 Requesting Revisions to the M-23 Milestone Series," dated April 16, 2003.
  4. "Transmittal of Revised SST System Leak Detection & Monitoring Function & Requirements Document for Completion HFFACO Milestone M-23-23," dated December 23, 2002. ✓

On May 13, 2003, the U.S. Department of Energy (DOE), Office of River Protection (ORP) received your letter (draft copy faxed on May 8, 2003) denying DOE's proposed Change Request M-23-02-02 (Reference 3) and transmitting Ecology's proposed HFFACO Change Requests M-23-02-02 and M-45-03-03 (Reference 1). The stated basis for Ecology's denial was that DOE's proposed change "did not fully address the additional requirements necessary for the Parties to reach agreement on requirements for leak detection and monitoring of the Single-Shell Tank System." For the reasons set forth below, DOE does not concur with this statement and hereby initiates dispute under Part Two, Article VIII, of the HFFACO. Additionally, DOE does not concur with Ecology's proposed amendment to the M-23-26 Milestone and objects to unilateral creation of new Milestone M-45-17. Based upon the lengthy and productive

<sup>1</sup>This is the same change request identification number used in the proposed change request submitted by DOE on April 16, 2003. Since Ecology rejected that proposal, a new number should have been used.

MAY 22 2003

negotiations preceding submission of our proposed M-23-02-02 Change Request, and the documented agreement reached between our agencies before its submittal, we are at a loss to understand Ecology's reversal of position.

The chronology of negotiations leading up to our April 16, 2003, submission of Change Request M-23-02-02 follows:

- **June 13, 2002.** The M-23-23 Functions & Requirements (F&R) document was submitted to Ecology (milestone due date June 15, 2002);
- **June 18, 2002.** ORP staff met with Ecology staff to discuss the F&R document crosswalk to milestone requirements to aide Ecology's review. (Ecology: Jeff Lyon, Dick Heggen, Melinda Brown, Kevin DeWitt, Bob Wilson; ORP: Deborah Williams; CHG: Phil Miller, Dennis Crass, Jon Peschong, Warren Thompson, Randy Stickney);
- **July 29, 2002.** ORP received Ecology notification extending their review of the primary document 30 days. (Ecology letter dated July 26, 2002);
- **August 26, 2002.** ORP received Ecology comments on F&R. (Ecology letter dated August 22, 2002);
- **September 16, 2002.** ORP requested a 90-day extension for response to comments and document revision for M-23-23;
- **September 19, 2002.** ORP staff met with Ecology staff to discuss Ecology's comments. (Ecology: Jeff Lyon, Bob Wilson, Melinda Brown; ORP: Mary Beth Burandt, Billie Mauss, Deborah Williams, Woody Russell, Jim Rasmussen; CHG: Phil Miller, Warren Thompson, Sandra Fowler);
- **September 30, 2002.** ORP received Ecology approval of the comment review extension request (Ecology letter dated September 25, 2002);
- **October 22, 2002.** ORP staff met with Ecology staff on comment resolution. (Ecology: Bob Wilson, Jeff Lyon; ORP: Mary Beth Burandt, Deborah Williams, Billie Mauss; CHG: Phil Miller);
- **November 12, 2002.** ORP submitted the Review Comment Record (RCR) comment response. (e-mail Mary Beth Burandt, ORP, to Jeff Lyon, Ecology);
- **November 20, 2002.** Jeff Lyon, Ecology, agreed to comments resolution and incorporation of changes into the F&R document. (e-mail Jeff Lyon, Ecology, to Mary Beth Burandt, ORP);
- **December 3, 2002.** Jeff Lyon, Ecology, signed the RCR form (Attachment 1) agreeing to comment resolution as described therein;
- **December 23, 2002.** The revised F&R document, signed RCR, and draft M-23-23-02 Change Request were submitted to Ecology;
- **January 7, 2003.** Milestone status reported as "complete; awaiting Ecology approval" at the Tri-Party Agreement (TPA) PMM meeting;
- **March 4, 2003.** Milestone status reported as "complete; awaiting Ecology approval" at the TPA Quarterly Milestone Review meeting. Discussion regarding the unsigned change request resulted in an action recorded at the meeting. "Action: Submit a draft Tri-Party Agreement Change Package for M-23-25E to Ecology for review and approval;"

MAY 22 2003

- **April 8, 2003.** Milestone status reported as "complete; awaiting Ecology approval" at the TPA PMM meeting; and
- **April 16, 2003.** Signed Change Request M-23-02-02 Requesting Revisions to the M-23 Milestone Series was delivered to Ecology (Kennewick office) per teleconference between Jeff Lyon, Woody Russell, and Sandra Fowler.

As a result of agreements reached between Ecology and ORP following lengthy discussions, ORP transmitted a revised F&R Primary Document, which incorporated the Ecology approved comment resolution, and the draft M-23-02-02 Change Request for Ecology approval and signature. No additional comments were provided by Ecology subsequently. Pursuant to HFFACO Section 9.2.1 Primary Documents, last paragraph, "If the lead agency does not respond and has not notified DOE of the need for an extension, the document becomes final at the end of the 30-day period." Therefore, the revised F&R document became final as of January 23, 2003.

At the March 4, 2003, Tri-Party Agreement Milestone Review meeting, discussion between Ecology and ORP regarding the unsigned M-23-02-02 change request resulted in an action recorded at the meeting. "Action: Submit a draft Tri-Party Agreement Change Package for M-23-25E to Ecology for review and approval." On April 16, 2003, ORP transmitted a signed M-23-02-02 Change Request for Ecology approval signature. This was the same change request that had been submitted on December 23, 2002. Ecology requested two extensions to review the change request. During this time, ORP teleconferenced with Ecology (Mary Beth Burandt telephoned Laura Cusack on Wednesday, May 7, 2003.) to understand any issues regarding Ecology's delay in approving the change request. At no time did Ecology mention, discuss, or infer it was going to deny the change request and unilaterally impose new milestones that were never negotiated or previously discussed.

Ecology states that the "change request was denied because it did not fully address the additional requirements necessary for the Parties to reach agreement on requirements for leak detection and monitoring of the SST System" (Reference 1, Paragraph I). HFFACO Milestone M-23-23 is the only milestone with requirements for Single-Shell Tanks System Leak Detection & Monitoring, and those requirements were addressed through the extensive discussions with Ecology staff and the documented RCR process and in the revised F&R document. Ecology's attempt to unilaterally implement schedule for upgrades, programmatic change, and scope expansion into these proposed change requests bypasses the final primary document and reverses an agreed-upon resolution generated through several months of negotiations.

After comment resolution was approved and the RCR was signed by Ecology in December 2002, and the revised F&R was transmitted to Ecology, the work scope to procure an additional Liquid Observation Well van (Milestone M-23-25E) was deleted by ORP. Because both the Ecology (May 8, 2003) and the DOE (April 16, 2003) proposed change requests deleted the M-23-25E Milestone, DOE requests approval of a separate change request to delete the M-23-25E

Mr. Michael A. Wilson  
03-ED-078

-4-

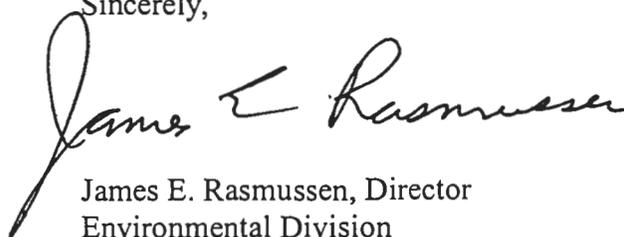
MAY 22 2003

Milestone because that action is not in dispute. If this milestone is not deleted, the work scope will have to be reinitiated and the milestone completion date (September 30, 2003) extended. Attachment 2 is a signed Change Request M-23-03-01 that simply deletes M-23-25E.

In accordance with HFFACO, Part Two, Article VIII, DOE hereby initiates dispute resolution and requests that the parties meet to discuss this matter within 10 days.

If you have any questions, please contact me, (509) 376-2247 or Deborah Williams, Tank Farm Operations Division, (509) 376-8488.

Sincerely,



James E. Rasmussen, Director  
Environmental Division

ED:JER

Attachments: (2)

cc w/attachs:

E. S. Aromi, CHG  
D. I. Allen, CHG  
S. J. Bensussen, CHG  
M. N. Jarayssi, CHG  
S. B. Fowler, CHG  
M. J. Ostrom, CHG  
J. Cox, CTUIR  
L. J. Cusack, Ecology  
J. J. Lyon, Ecology  
R. Morrison, FHI  
J. L. Hanson, INNOV  
P. Sobotta, NPT  
A. W. Conklin, WDOH  
R. Jim, YN

Administrative Record

Attachment 1  
03-ED-078

Review Comment Record

<b>REVIEW COMMENT RECORD (RCR)</b>	1. Date <p style="text-align: center;">11-06-02</p>	2. Review No. <p style="text-align: center;">.</p>
	3. Project No.	4. Page <p style="text-align: center;">Page 1 of 16</p>

5. Document Number(s)/Title(s)  RPP-9937 submitted per HFFACO Milestone M-23-23	6. Program/Project/ Building Number	7. Reviewer  Heggen (DH), Caggiano (JC), Wilson (BW), Brown (MB), DeWitt (KDW)	8. Organization/Group	9. Location/Phone
---	--	--	-----------------------	-------------------

17. Comment Submittal Approval:

10. Agreement with indicated comment disposition(s)

11. CLOSED

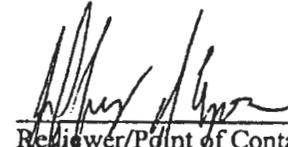
\_\_\_\_\_  
Organization Manager (Optional)

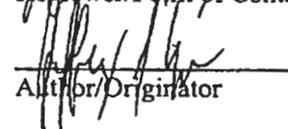
\_\_\_\_\_  
Date

\_\_\_\_\_  
Reviewer/Point of Contact

\_\_\_\_\_  
Author/Originator

12-03-02  
Date

  
\_\_\_\_\_  
Reviewer/Point of Contact

  
\_\_\_\_\_  
Author/Originator

12. Item	13. Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/ resolve the discrepancy/problem indicated.)	14. Hold Point	15. Disposition (Provide justification if NOT accepted.)	16. Status
1.	<p>Section 4.1.1, item (2), Basis, links the ability to respond to a leak (specifically interim stabilization) to the regulatory requirement for leak detection.</p> <p>There is no regulatory language in either state or federal codes that provide for reduced leak detection due to reduced ability to respond to a detected leak. Each is a separate requirement. Interim stabilization should not be considered the ONLY possible response to leak, rather it is an intermediary step towards closure. In the case of a catastrophic tank failure, it is possible other actions may be needed (i.e. retrieval, grout curtains, chemical stabilization, capping, engineered barriers, etc). Also, there are many reasons to monitor for leaks (i.e. impact to groundwater, worker safety, etc). For these reasons it is unacceptable for USDOE to link regulatory requirements</p>		<p>Per discussions with Ecology on 9/19/02 and 10/22/02:</p> <p>The language in Section 4.1.1.A.2, page 4-7 will be modified to read: "SSTs that meet interim stabilization criteria, and do not have a susceptibility to exceeding the interim stabilization criteria, shall have a reduced monitoring frequency due to reduced risk. (see Figure 4-2) (see Section 5.0 for BMP monitoring for these tanks)." Table B-4 will also be updated to reflect this language.</p> <p>Figure 4-2 and supporting text will be modified to reflect that the tank conditions will be monitored and evaluated and, if conditions change, monitoring frequency could change as specified in the Figure.</p>	

REVIEW COMMENT RECORD (RCR)	1. Date	2. Review No.
	3. Project No.	4. Page

11-06-02

Page 2 of 16

12. Item	13. Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/ resolve the discrepancy/problem indicated.)	14. Hold Point	15. Disposition (Provide justification if NOT accepted.)	16. Status
	for leak detection to regulatory requirements to respond to a leak. RPP-9937 is unacceptable as written and must be revised to delete leak response as a requirement for maintaining a leak detection system. (BW)			
2.	<p>Section B 4.0 of RPP-9937 advises that interim stabilization is the action to be taken in the event of a detected leak; therefore, an SST declared to be interim stabilized need not be provided with a leak detection system. Per this section, 102 of the 149 SSTs (68%) are not required to have leak detection monitoring. This section also states that tanks that have been interim stabilized contain less than 40K gallons of <u>drainable</u> liquid, therefore leak detection is no longer needed. The Interim Stabilization Criteria presented on page xii states that a SST system tank may be considered interim stabilized when up to 50K gallons of drainable liquids may remain in SSTs and up to 400 gallons may remain in "non single shell tanks."</p> <p>Leak detection requirements apply to tank systems storing hazardous waste until such systems are closed per RCRA requirements. Interim stabilization is an intermediary step towards RCRA tank closure and not an end-point unto itself. Also, there is no minimum leak amount in state or federal code that exempts a tank system from leak detection requirements. The regulatory requirement for leak detection is to detect <u>any</u> leak. Therefore RPP-9937 must be revised to delete interim stabilization as the sole demonstration for reduced leak detection requirements and provide sufficient demonstration per 40CFR, Subpart J, 265.193(c)(3), (4) and (f) for reducing leak detection requirements. (BW)(MB)(DH)(JC)</p>		<p>Per discussions with Ecology on 9/19/02 and 10/22/02, Table B-4, reference to 4.1.1(A)(2) will be changed to read: "SSTs that meet interim stabilization criteria, and do not have a susceptibility to exceeding the interim stabilization criteria, shall have a reduced monitoring frequency due to reduced risk. (see Figure 4-2) (see Section 5.0 for BMP monitoring for these tanks)."</p> <p>Monitoring is required for all 149 SSTs as described in Sections 4 and 5 and summarized in Appendix A. The frequency of monitoring is based on specific tank conditions.</p> <p>The 40K gallons is used as one of the criterion for determining monitoring frequency. Per Section 5.2.1, tanks that contain less than 50,000 gallons but greater than or equal to 40,000 gallons are deemed susceptible to exceeding interim stabilization criteria due to potential intrusion. See page B-39 for further discussion.</p>	

REVIEW COMMENT RECORD (RCR)		1. Date	2. Review No.
		3. Project No.	4. Page
		11-06-02	Page 3 of 16

3.	RPP-9937 does not discuss whether SSTs that are interim stabilized in the future will also be considered exempt from leak detection monitoring. Therefore, for those tanks where interim stabilization is acceptable by Ecology for alternate leak detection requirements, RPP-9937 must be revised to describe the leak detection requirements for SSTs completing interim stabilization in the future. (BW)	Per discussions with Ecology on 9/19/02 and 10/22/02, when a tank is interim stabilized, the monitoring requirements for the tank will be updated to reflect the revised category for the tank as described in Figure 4-2. Figure 4-2 and supporting text will be modified to reflect that the tank conditions will be monitored and evaluated and, if conditions change, monitoring frequency could change as specified in the Figure.	
4.	Section B 4.0 describes the parameters beyond which leak detection would not be required for interim stabilized tanks (i.e. dry surface and no interstitial liquid above 24" from the bottom of a tank). However, the text lacks a discussion of what monitoring is in place to insure these parameters are maintained. Therefore RPP-9937 must be revised to describe the system in place to monitor and insure that conditions within each interim stabilized SST remain within the parameters for interim stabilization. (BW)	As discussed during negotiations of M-23-25, <i>LOW Installation</i> , tanks with the interstitial liquid level within about 24 inches of tank bottom cannot utilize a Liquid Observation Well (LOW) for leak detection.  Section 5.2.1 describes the monitoring of SSTs that fit this criterion. All SSTs will receive monitoring to identify changing conditions as described in the response to Comment 3.	
5.	Definitions (page xii): This section defines "Interim Stabilization Criteria" and refers to procedure HNF-IP-0842. Section 3.1 of HNF-IP-0842 lists the steps to be taken to determine if a SST has been interim stabilized. In addition to pumping a SST to the specified limits a SST may be considered interim stabilized per this procedure if a major equipment failure has occurred, if engineering reviews based on estimated waste volumes determine further pumping is not technically feasible or if cost/benefit analysis or ALARA concerns preclude further pumping. Also, interim stabilization criteria were based on older pump technology and it is likely that newer pumps would be able to retrieve additional tank liquids without the failure rates of the old pumps (i.e. Moyno down hole pump technology).	Per discussions with Ecology on 9/19/02, interim stabilization criteria are beyond the scope of M-23-23. Interim stabilization criteria have been established through Consent Decree CT-99-5076-EFS. Tanks that do not meet interim stabilization criteria, or are susceptible to exceeding the criteria, have an increased monitoring frequency as described in Section 5.2.1.  Per discussions with Ecology on 10/22/02, summary information on each tank will be provided in the executive summary of this report.	

REVIEW COMMENT RECORD (RCR)		1. Date	2. Review No.
		3. Project No.	4. Page
		11-06-02	Page 4 of 16

	<p>Provide a listing of the 102 SSTs described in section B 4.0 which have been determined to be interim stabilized and no longer requiring leak detection by the following categories: 1) SSTs pumped to a final flow rate of 0.05 gpm and with less than 50K gallons of interstitial liquid remaining, 2) SSTs in which major equipment failure occurred resulting in interim stabilization, 3) SSTs in which calculated waste volumes determined interim stabilization had been completed and 4) SSTs in which engineer's evaluation determined that cost/benefit analysis, ALARA or other considerations resulted in completion of interim stabilization. Include the volumes of liquids remaining in each SST and an analysis of current (and developing) pump technology and the potential for application of such technologies to the SSTs. (DH)(BW)</p>		
6.	<p>Throughout RPP-9937 the term "active" is applied to tank system components determined by USDOE and its contractors to be used in support of various tank farm program functions (i.e. section 4.2). RPP-9937 then limits leak detection requirements to those components administratively determined by USDOE and its contractors to be "active" and exempts those components administratively determined to be "inactive" or "out-of-use" (i.e. section 4.3.2).</p> <p>Leak detection and monitoring requirements apply to tank systems until they are closed per WAC 173-303-610. Furthermore, any tank system component that is used to treat, stores or dispose of waste is subject to all regulatory requirements for tank systems including leak detection. Therefore USDOE's administrative determination of "active" is incorrect, conflicts with regulatory requirements and cannot be used to exempt any tank system component from leak detection requirements. RPP-9937 must be revised to clarify the regulatory meaning of active tank systems as described above. (JC)(BW)(MB)(DH)</p>		<p>Per discussions with Ecology on 10/22/02, the term active will be deleted from the report due to the unintended regulatory connotation, which was not the way the term was used in the document. The term "active" will be replaced with "mission essential" which is defined as "those systems, components, and structures where it would be typical for waste to be moved in and out of the system to meet a current or expected mission."</p>

REVIEW COMMENT RECORD (RCR)

1. Date	2. Review No.
11-06-02	
3. Project No.	4. Page
	Page 5 of 16

<p>7.</p>	<p>Section 4.1.1 limits review of leak detection capability to those devices currently installed within the SST system. However, the regulatory reference to "existing detection technologies" includes all <u>existing and available</u> technologies.</p> <p>Currently installed leak detection equipment in the SSTs are limited at best, ineffective in many cases, and do not include all existing and available technologies. Some SSTs have no effective in-tank leak detection. Also, certain ex-tank technologies have the potential to detect leaks in the several hundred gallon-range. USDOE has failed to demonstrate per 40CFR, Subpart J, 265.193(c)(3) that existing and available leak detection technologies do not exist to accurately detect a leak in SSTs. Therefore, RPP-9937 is unacceptable as written and must be revised to include a description of all existing and available leak detection technologies that could be used to detect a leak from SSTs. This description must include the current status of the USDOE's ex-tank LDM workshop down-select process. (DH)(BW)</p>		<p>Per discussions during negotiations and with Ecology on 9/19/02, for M-23-23, leak detection was limited to existing Tank Farm in-tank leak detection technology (e.g., ENRAFs, LOWs, and Manual Tapes). Ex-tank technology is outside the scope of this document.</p>	
<p>8.</p>	<p>Section 3.0 divides the SST system into components governed by leak detection requirements and those components USDOE considers exempt from leak detection requirements.</p> <p>The ninth bullet on this page exempts the 242-S and T Evaporators from leak detection requirements based on their administrative status (i.e. standby/shutdown). However, these facilities have not been closed per RCRA requirements. Also, the Calendar Year 2001 Hanford Land Disposal Restrictions Report lists these facilities (in Appendix C, Pg C-15 of the 2001 LDR Report) as containing liquids and solids in process tanks that potentially may designate as mixed waste. The 2001 LDR Report includes a schedule (for CY 2004) to perform assessments of the storage status of the vessels within these facilities which would include quantification of liquid levels in vessels. Therefore, RPP-9937 must be revised to include the 242-S</p>		<p>Per discussions with Ecology on 10/22/02, the 242-S and -T Evaporators are not within the scope of this document. Management of the 242-S and -T Evaporators is described on the Silver List Closeout Forms (5.3 and 5.4) in which the parties agreed that the evaporators would be listed in the WIDs database and managed as RCRA Past Practice Units.</p> <p>With respect to the 2001 LDR report, the agreement between Ecology and DOE states that a schedule would be developed to perform assessments and identify data gaps. Quantification of liquid levels for the Evaporators is not required for the assessment phase.</p>	

<b>REVIEW COMMENT RECORD (RCR)</b>	1. Date	2. Review No.
	3. Project No.	4. Page
	11-06-02	Page 6 of 16

	<p>and T Evaporators as SST components requiring liquid level assessments to determine if leak detection will be needed. (BW)(JC)</p>		
9.	<p>The number of Miscellaneous Underground Storage Tanks (MUSTs) provided in section 3.1.2 (19 MUSTs listed) does not correspond to either the number of MUSTs (40) reported to Ecology as administered by CHG during a March 2001 MUST inspection or the number of MUSTs (31) attributed to single-shell tank system in the monthly Tank Waste Summary Report (HNF-EP-0182). RPP-9937 must be revised to accurately list all MUSTs within the SST system including explanations for any discrepancies with HNF-EP-0182 and the SST Closure Plan (DOE/ORP-2001-18, Rev.0) and include plans for leak detection and monitoring for each MUST. (DH)(BW)</p>		<p>The MUST list in this document has been compared with the list provided to Ecology in a August 2002 briefing (08/02/02 DOE - Ecology Brownbag), the Waste Tank Summary Report for Month Ending July 31, 2002 (HNF-EP-0182, Rev. 172), and the SST System Closure Work Plan (DOE/ORP-2001-18, Rev.0 Draft C). The MUST list provided in this document has been updated to include MUSTs associated with the SST system that are not RCRA Past Practice or CERCLA Past Practice Units. Per discussions with Ecology on 10/22/02, RCRA Past Practice units will not be included in this report. RCRA Past Practice Units are addressed in TPA Milestone M-45 and the Single-Shell Tank System Closure Work Plan.</p> <p>The revised list of MUSTs now includes: 241-A-302A, 241-AX-151-CT, 241-S-304, 241-TX-302C, 241-U-301B, 241-UX-302A, and 241-BY-ITS2-Tank 2. Summary information on the MUSTs will be provided in the executive summary of this report.</p> <p>The text in the document will be revised to reflect this revised list (including text in Sections 3.1.2, 4, Figure 4-3, 5, 6, Appendix A, and Appendix B).</p>

<b>REVIEW COMMENT RECORD (RCR)</b>	1. Date  11-06-02	2. Review No.
	3. Project No.	4. Page  Page 7 of 16

10.	<p>Section 3.1.4, (pg. 3-14) contains descriptions of three out-of-service facilities (244-TXR Vault, 244-UR Vault and 231-W-151 Vault) that are not monitored. The monthly Tank Waste Summary Report (HNF-EP-1087) lists the contents of 244-TXR as unknown; however, table B-44 indicates that the 244-UR and TXR tanks do not require monitoring. Page 3-13 states that records do not indicate if tanks in the 231-W-1512 vault receive monitoring. Ecology cannot be assured that tanks within these three vaults are empty; therefore, the waste must be characterized (265.199(a) or volumes measured. (MB)</p>	<p>Per discussions with Ecology on 10/22/02, RCRA Past Practice Units will not be included in this report. The list of vessels and cells in Miscellaneous Structures has been reviewed and updated and these three vaults have been deleted. The vaults are addressed in the Single-Shell Tank System Closure Work Plan.</p> <p>Summary information on the vessels in the miscellaneous structures will be provided in the executive summary of this report.</p> <p>The text in the document will be revised to reflect this revised list (including text in Sections 3, Figure 4-4, 5, 6, Appendix A, and Appendix B).</p>	
11.	<p>1) RPP-9937 lists catch tank 242-TA-R1 as an "inactive/out-of-use" catch tank (see appendix A, Pg A-6). Section 5.2.2 states that tanks in this category are only subject to leak detection requirements if interim stabilization requirements have not been met and if they are subject to intrusion. If these requirements have been met, the catch tank is subject only to visual monitoring once every five years as a "best management practice" or BMP, see section 4.1.1, B).</p> <p>A catch tank (241-TA-R1) is listed in table B-8, appendix B. However, Ecology believes this is a typographical error. Assuming tank 241-TA-R1 in appendix B actually corresponds to catch tank 242-TA-R1 listed in appendix A, this catch tank would be subject only to five-year monitoring as a BMP. The vault (242-TA) in which catch tank 242-TA-R1 is located is not listed in RPP-9937 at all (see section 3.1.6, pg 3-13 and appendix A, pg A-6).</p> <p>On August 1, 2002 Hanford Occurrence Report # RP-CHG-</p>	<p>1) Catch tank 241-TA-R1 in Table B-8 should be 242-TA-R1. However, per discussions with Ecology on 10/22/02, RCRA Past Practice Units will not be included in this report and reference to this tank will be removed from the document.</p> <p>2) Per discussions with Ecology on 10/22/02, the monitoring frequency for non-RCRA Past Practice tanks in this category has been reduced from once every five years to annual.</p> <p>3) For those tanks and miscellaneous structures within the scope of this report, Figures 4-3 and 4-4 and supporting text will be modified to reflect that the tank/structure conditions will be monitored and evaluated. If conditions change, monitoring frequency could change as specified in the Figures.</p>	

REVIEW COMMENT RECORD (RCR)

1. Date	2. Review No.
11-06-02	
3. Project No.	4. Page
	Page 8 of 16

<p>TANKFARM-2002-0083 was issued describing the discovery of ten feet of liquid within the 242-TA vault and that the 242-TA-R1 catch tank was floating off its foundation in the accumulated liquid.</p> <p>Considering this discovery, RPP-9937 must be revised to:</p> <p>1) explain why the 242-TA-R1 catch tank is listed in RPP-9937 but the 242-TA vault isn't.</p> <p>2) explain and justify how the five year BMP monitoring frequency would support timely discovery of leaks within SST components, such as catch tanks and vaults, considering the findings of occurrence report # RP-CHG-TANKFARM-2002-0083.</p> <p>3) describe what action will be taken per RPP-9937 requirements to address identification and removal of the liquid accumulated in the 242-TA vault considering that: a) the 242-TA vault isn't listed in RPP-9937, b) that, per leak response requirements of RPP-9937, the action to respond to a leak has already been taken (i.e. interim stabilization), and 3) per RPP-9937 leak detection isn't required for the 242-TA vault or its catch tank since the 242-TA-R1 catch tank is considered interim stabilized and not subject to intrusion.</p> <p>4) confirm and correct the typo (listing of 242-TA-R1 catch tank in appendix A as 241-TA-R1 in appendix B).</p> <p>5) provide a listing of <u>all</u> catch tanks and <u>all</u> vaults in the SST system consistent with: a) the monthly Tank Waste Summary Report (HNF-EP-0182), b) SST Part A, c) the SST Closure Plan (DOE/ORP-2001-18, Rev. 0), and d) between all sections of RPP-9937 itself. This listing must include, in tabular form, the date of the most recent surveillance of liquid level within each catch tank and each vault, the volume and liquid level within each catch tank and each vault per most recent surveillance, a description of the surveillance methods and liquid level monitoring equipment in each catch tank and each vault, the frequency and method of liquid level monitoring in each catch tank and vault, and improvements to the surveillance and liquid</p>	<p>4) This catch tank has been removed from the report as discussed in the response to 1).</p> <p>5) As discussed in Comment 9 and 10 above, RCRA Past Practice Units will be removed from this report. Summary information on the MUSTs and Vessels in Miscellaneous Structures will be provided in the executive summary of this report.</p>	
---	--	--

<b>REVIEW COMMENT RECORD (RCR)</b>		1. Date	2. Review No.
		3. Project No.	4. Page
		11-06-02	
			Page 9 of 16

	level monitoring of each catch tank and vault sufficient to meet leak detection requirements of 40CFR, subpart J, 265.193(c)(3) and (4). (BW)		
12.	Section 3.1.4, Diversion Boxes (page 3-11, paragraph 2) states that diversion boxes receive transfer line drainage, thereby serving as containment for any drained liquid. Without knowledge of the status of secondary containment in every diversion box, Ecology cannot determine if they are compliant. Add text to explain which if any of them meet secondary containment requirements or what assessments will be done of their structures. (MB)		The diversion boxes serve as secondary containment. The DOE does not assert that these boxes are RCRA-compliant for secondary containment. In-use diversion boxes required for mission essential activities will be required to have LDM during transfers as defined in Section 4.2.2.
13.	Table 3-2 (page 3-6) lists the date that a SST was declared a leaker and lists the waste type present in the tank at the time it was declared a leaker. The declaration may have occurred years after the tank leaked and thus the type of waste present in the tank may have been different. For example, BX-102 is listed as being declared a leaker in 1971, but that's the date that waste spilled from an overfill in 1951 (U Recovery waste) actually reached a drywell where gross gamma logging detected the elevated gross gamma activity (incorrectly identified as Cs-137). There were probably also numerous leaks of various waste streams from piping feeding these tanks. This table is oversimplified and ought to be appropriately qualified. (JC)		DOE does not disagree with this comment. However, this table was provided to give historical perspective on the SST System to enable the reader to put LDM in context. The data is consistent with the leak history information contained in the references listed on page 3-5. DOE is unable to respond to "appropriate qualification". Per section 9.2.1 of the Hanford Federal Facility Agreement and Consent Order: "Comments by the lead regulatory agency shall be provided with adequate specificity so that the DOE can make necessary changes to the document. Comments shall refer to any pertinent sources of authority or references upon which the comments are based and, upon request of the DOE, the commenting agency shall provide a copy of the cited authority or reference."
14.	Page 3-3, first paragraph, last sentence: Cascade lines were a major problem during historic tank farm operations because: a) the seal with the tank sidewall was often faulty and not liquid tight, b) lines became plugged leading to tank overfills (e.g., BX-102) and c) use of site-fabricated above ground transfer lines/equipment. Sludge accumulated in all tanks in a cascade, NOT just the first tank. Please correct. (JC)		Some sludge is carried over into all of the tanks during the cascading process. The last sentence in the paragraph will be changed to read: "Due to the cascading effect, more solids generally tended to settle out in the first tanks in the series with more supernate in the last tanks."

REVIEW COMMENT RECORD (RCR)		1. Date	2. Review No.
		3. Project No.	4. Page
		11-06-02	
			Page 10 of 16

15.	Section 4.1.1 (page. 4-8, item 3, Requirement): Please explain how weekly monitoring satisfies the requirement to detect a leak within 24 hours. (JC)		The purpose of M-23-23 is to address appropriate monitoring requirements for SSTs. DOE and the WDOE discussed that detecting a leak in 24 hours was not practicable for Hanford SSTs based on existing in-tank leak detection technology.	
16.	Figure 4-3 (page 4-11): The first box indicates that there are 19 MUSTs holding a total of 8,260 gals. Simple division of 8,260 by 19 indicates that the average MUST contains 434 gals. Although some may be bigger, at least some must exceed 400 gallons. Explain and revise. (JC)		The MUST list will be updated as discussed in the response to Comment 9 above. Figure 4-3 will be updated accordingly.	
17.	Section 4.1.3, 1, 2, Requirement (page 4-16): The basis for not requiring a response to a leak appears to be some internal procedure. Identify this procedure and justify its use for precluding leak detection. (JC)		The technical basis for not requiring a response to a leak is described in the paragraph below the Requirement.	
18.	<p>Section 5.1.1 Current Leak Detection &amp; Monitoring; Pg 5-3: The last bullet on the page, "Groundwater Monitoring" states that groundwater monitoring requirements have been implemented through HFFACO Milestone 24-00 series.</p> <p>This is an inaccurate statement. Milestone M-24-00 has not been completed and the groundwater monitoring system in SST waste management areas is incomplete. Well installations per M-24-00 have been occurring at a pace that will take decades to complete. Further, a Compliance Monitoring Evaluation (CME) inspection completed by Ecology in December 2000 revealed serious deficiencies of the groundwater monitoring system in SST waste management areas (T &amp; TX/TY waste management areas). These deficiencies have yet to be resolved.</p> <p>The original groundwater monitoring network was established when the groundwater flow direction, gradient, and water table were significantly different than at present. Consequently, some of the</p>		This information was intended to provide historical perspective to enable the reader to put LDM in context. It was not meant to provide an all-inclusive status of other existing TPA milestones. This information will be deleted from this report.	

## REVIEW COMMENT RECORD (RCR)

1. Date <p style="text-align: center;">11-06-02</p>	2. Review No.
3. Project No.	4. Page <p style="text-align: center;">Page 11 of 16</p>

	<p>wells installed before 1995 and may now be either dry and/or no longer located up or down gradient. Additional groundwater monitoring wells have been constructed at SSTs since 1999 and some wells listed as active in 1999 are now dry because of the declining water table.</p> <p>Also, the SSTs are monitored under WAC 173-303-400 which references 40 CFR 265, Subpart F (interim-status standards). However, on page 5-4, the top three bullets reference a mix of final status and interim-status terminology. Under interim-status standards, those SST WMAs that have impacted groundwater go from indicator parameter monitoring to groundwater quality assessment monitoring. Five of the SST WMAs are in assessment monitoring status (WMAs B-BX-BY, S-SX, T, TX-TY and U). The SST system is proceeding directly to closure without applying for final status. Correct this information and make it current.</p> <p>Therefore, RPP-9937 must be revised to describe these limitations of the groundwater monitoring system as a component of a SST leak detection system while including current groundwater monitoring system data and configuration. (BW)(JC)</p>		
19.	Pg. 5-2, LOWs. What response occurs if there is a significant change in the profile in an LOW? Revise the document to clarify. (JC)		Each LOW has an established baseline for interstitial liquid level measurements and tolerance limits. Any confirmed data point that falls outside this limit is investigated as a possible intrusion or leak, depending on the direction of the data deviation.
20.	Pg. 5-3, Drywell Monitoring. The tool used to monitor drywells is a gross GAMMA logging tool that detects (or did detect when in operation) changes in the count rate from gamma-emitting radionuclides. Spectral gamma logging was performed as a baseline, and certain other wells were then re-logged. However, spectral gamma logging using the HPGe detector is not occurring on a regular		This information was intended to provide historical perspective to enable the reader to put LDM in context. It was not meant to provide an all-inclusive status of the drywell monitoring program. This information will be deleted from this report.

## REVIEW COMMENT RECORD (RCR)

	1. Date <p style="text-align: center;">11-06-02</p>	2. Review No.
	3. Project No.	4. Page <p style="text-align: center;">Page 12 of 16</p>

	<p>basis. Some follow-on logging is conducted using an NaI tool. Please update and correct this information including a description of actions taken in response to a change in the logging profile? Please clarify what the response to such a change would be. (JC)</p>		
21.	<p>Appendix B, Pg. B-13. Drywells were historically logged with gross GAMMA logging systems to detect gamma-emitting radionuclides. Routine drywell monitoring ceased in 1994. Spectral gamma logging IS NOT routine; i.e., a baseline logging was performed in all accessible drywells and some follow-on logging has occurred. Some movement of gamma-emitting contaminants in the subsurface has been detected. What is being done for these cases? If you don't track this movement, then this is not monitoring. Please correct. Appendix B, Pg. B-13. State the limitations of drywell logging; i.e., the number, location, spacing and depth of boreholes, the tools used, the radius of investigation from the borehole, the frequency of logging, and the speed of the tool being moved in the borehole. Also include the limitation that this is a monitoring technique, NOT an effective leak detection technique that can detect a leak within 24 hrs except under the most unusual of circumstances. (JC)</p>	<p>This information was intended to provide historical perspective to enable the reader to put LDM in context. It was not meant to provide an all-inclusive status of the drywell monitoring program. This information will be deleted from this report.</p>	
22.	<p>Page 5-5, third bullet: Missing are details relating to the accuracy, error margins, all measurement parameters, etc. for the material (mass) balance monitoring process. Provide additional text describing the missing information. (DH)</p>	<p>This section was provided for general information and is intended to be a generic discussion of the material balance process. Material balance monitoring requirements are tank specific and are included in tank specific procedures for transfers.</p>	
23.	<p>Page 5-6, Section 5.1.3: The first paragraph mentions different interim stabilization requirements yet fails to describe the differences. Provide additional text and/or table comparing the old and new interim stabilization requirements. (DH)</p>	<p>Per discussions with Ecology on 9/19/02 and 10/22/02, interim stabilization requirements are beyond the scope of M-23-23. Interim stabilization criteria have been established through Consent Decree CT-99-5076-EFS. Tanks that do not meet interim stabilization criteria, or are susceptible to exceeding the criteria, have an increased monitoring frequency as described in Section 5.2.1.</p>	

<b>REVIEW COMMENT RECORD (RCR)</b>	1. Date	2. Review No.
	3. Project No.	4. Page
	11-06-02	Page 13 of 16

24.	Pg. 5-8, paragraph 2. Clarify the 40,000 gallons of waste; i.e., is it total waste, liquid waste, or some other category? (JC)	The 40,000 gallons is drainable interstitial liquid waste. All locations in the text will be modified to state "40,000 gallons of drainable interstitial liquid waste".
25.	Pg. 5-8, paragraph 2. Liquid intrusion averaging 1,000 gal/yr is unacceptable. Provide a description of what is being done to control this problem? (JC)	The 1000 gal/yr is not defined as an acceptable intrusion rate. Rather, it is the historical intrusion that the interim stabilized tanks experienced over a 10-year duration. Appendix B, Section 2.1 describes ongoing intrusion prevention activities.
26.	Pg. 5-8, paragraph 2. Provide a publication date and a title/summary of RPP-10435, as it seems integral to the argument being made here. (JC)	The citation will be added: "RPP-10435, <i>Single-Shell Tank System Integrity Assessment Report</i> ". The reference will also be updated in Section 8.0.
27.	<p>Table 6-2 shows a single cost that is reflected in Appendix C for tanks readily accessible through risers. Estimates of the cost of conducting a liquid waste volume assessment are grossly deficient. No attempt is made to address the costs if tanks have constraints to entry. Section 6.0 contains a single paragraph that addresses costs for ENRAF installation; the total cost shown (\$144K) does not match the estimate for installation in tank C-106 (\$132K). No supporting data are provided for either of the costs shown. The information provided is grossly insufficient for Ecology to evaluate the bases of the costs or to determine the impacts on compliance should inadequate funding be received for FY03.</p> <p>No identification of funding sources is made, even at the PBS level. Ecology cannot be assured that the funds will be available in FY03 because ORP is constrained by DOE HQ from revealing details of funding. Nothing assures this reviewer that the work will actually get done or that it will have any source of assured funding. The information is therefore unacceptable as submitted. (MB)</p>	<p>Many of the statements such as "grossly deficient" and "grossly insufficient" appear to be opinion without the pertinent source or authority referenced per Section 9.2.1 of the HFFACO. During negotiations, the information on cost was added due to the uncertainty related to the M-23-23 F&amp;R. Now that the document is completed and the technical basis established, the work can be accomplished within the existing baseline. With that in mind, DOE recommends deleting the cost and extra equipment from the scope of the M-23-23 Milestone.</p> <p>Although this identification of funding sources is a TPA requirement, this requirement is outside the scope of this document.</p>

## REVIEW COMMENT RECORD (RCR)

	1. Date  11-06-02	2. Review No.
	3. Project No.	4. Page  Page 14 of 16

28.	<p>The schedules provided in Section D for installation of an ENRAF and an LOW are not supported by detailed cost information in Appendix C. The schedules show installation in the first quarter of Federal Fiscal Year 2003 (Oct-Dec 2002). It appears from the schedules that all of the installations will be completed by the end of December 2002. The locations of the C-106 tank and the vault tanks would seem to imply that multiple crews will be conducting the installations. Without planning data to the contrary, Ecology will expect the entire volume measurement/ENRAF and LOW installations effort to be completed by 1 January 2003. Cost information should be provided for each installation then summed with ALL assumptions included. (MB)</p>	<p>It appears the reviewer has mis-understood the schedule, which was provided to give an idea of the timeframes for installation. DOE did not intend to imply we were modifying M-23-25. An assessment schedule will be provided by September 15, 2003. Once the volume assessment is complete, the results will be compared against the technical requirements of this document and appropriate changes will be made."</p>
29.	<p>The schedules in section D include activities such as mockup/training. Ecology cannot determine if such training is done for every installation or once. Without such information, Ecology cannot gauge the cost of installation accurately. (MB)</p>	<p>DOE does not understand the relevancy of this comment and how it applies to the scope of this document.</p>
30.	<p>Executive Summary, Page iv, last para: Strike the statement "...monitoring for safe storage, ...are beyond the scope of this document." Part of the purpose of this document is to document "monitoring" activities for the SSTs. Monitoring for unfit-for-use underground storage tanks shall include monitoring for safe storage. Revise this document to include and describe safe storage monitoring. (DH)</p>	<p>The sentence was incorrect. Executive Summary, Page iv, second paragraph, first sentence will be revised to: "Functions and requirements for monitoring other activities associated with the single-shell tank system, including monitoring associated with retrieval or groundwater quality, are beyond the scope of this document." The last sentence will be deleted.</p>
31.	<p>Page 1-2, Last paragraph: Typo. Last sentence should read "This F&amp;R document supports..." (DH)</p>	<p>The typo will be corrected.</p>
32.	<p>Page 1-7, Fig. 1-4. Correct this figure to include a schematic of construction of tanks in the SX and A Tank Farms where the intersection of the sidewall and bottom is orthogonal, NOT dished. Also, add information as to which tanks farms include tanks of the different capacities and constructions shown. (JC)</p>	<p>SX tanks do have a dished bottom. A and AX tanks have flat bottoms. The figure will be revised to include this information.</p>

<b>REVIEW COMMENT RECORD (RCR)</b>	1. Date	2. Review No.
	3. Project No.	4. Page
	11-06-02	Page 15 of 16

33.	Page 6-1, Section 6.0, third paragraph: Explain why it costs \$79,000 to connect an ENRAF to the TMACS. (DH)	See response to Comment #29.
34.	Pages 6-2 – 6-5, Tables 6-1, and 6-2. What is the basis of these cost estimates? (JC)	See response to Comment #27.
35.	Page A-4 to A-5: Missing is a description of the destination of any liquid drainage for each At-Tank Pit. Provide the missing information. (DH)	A general description was included in Section 3.1.3: "By engineering design, pits drain to tanks".
36.	Page A-5: Missing is a description of the status of each "Active" SST transfer line. Provide the missing description, including the nature of any secondary containment, the destination of any secondary containment drainage, and the specific type of leak detection used. (DH)	The description of active piping was provided in Section 3.1.5. Typically, transfer piping was designed to drain to pits, and pits to drain to tanks. DOE does not assert that this piping has secondary containment. As a result, LDM will occur during transfers as described in Section 5.1.2.
37.	Section 3.0: Define how much and what kinds of additions were added to enhance storage life and is this still the best management practice. (KDW)	This section was provided for general information and is a discussion of past practices. It is not intended to provide a comprehensive history of the SSTs. No liquids are currently being added to the tanks unless it is approved under the SST Part A.
38.	Section 3.0: Describe what types of heat producing radionuclides were removed, which were left and why. (KDW)	This section was provided for general information and is a discussion of past practices. It is not intended to provide a comprehensive history of the SSTs.
39.	Section 4.3.2: List tank farm procedure for daily inspections. (KDW)	Further discussion of tank farm inspections was provided in Section 5.1.2, pages 5-5 and 5-6.
40.	Section 5.1.2: How and why was the 30 minute response time for manual shutdown by operator determined. Is this the only fail safe. (KDW)	The 30-minute response time is determined by the commute distance and access into the farm, including time for personnel to dress into required Personnel Protective Equipment.

<b>REVIEW COMMENT RECORD (RCR)</b>	1. Date  11-06-02	2. Review No.
	3. Project No.	4. Page  Page 16 of 16

41.	Section 5.2.1: Explain why certain tanks deemed to have suspect integrity, determined to be a leaker or experienced intrusion at a rate greater than 1,000 gal/yr would not require monitoring at a frequency greater than annually. (KDW)		The technical basis for monitoring frequency is provided in Appendix B, Section B 4.0.	
42.	Section 5.2.1: This section states that a determination can be to demonstrate a tank does not show suspect integrity. Explain this determination. (KDW)		As stated in Section 5.2.1, a tank is deemed to have suspect integrity if it has been previously declared a known or assumed leaker (HNF-EP-0182, Rev. 166) or was identified in RPP-10435 as having a bulge or having stored boiling waste.	
43.	Section 5.2.1: Reconcile a five-year inspection frequency with a possible intrusion rate of 1,000 gal/yr. (KDW)		Per agreement with Ecology on 10/22/02, the frequency will be changed to annually. The tanks in this category have been interim stabilized and contain < 40,000 gallons drainable interstitial liquid. If an intrusion event were to occur, the liquid would be absorbed into the solid and the interstitial liquid level would slowly rise. This level would not be readily detectable for some period of time.	
44.	Section 5.2.1: Define what is considered in a "timely manner" to facilitate a response action. (KDW)		Per agreement with Ecology on 10/22/02, the frequency will be changed to annually.	

Attachment 2  
03-ED-078

M-23-03-01 Change Request



M-23-03-01  
May 22, 2003

**Description/Justification of Change Cont.**

Modifications to the M-23 series milestone incorporated into the HFFACO by approval of this M-23-02-02 Change Request are shown here as either **shaded** additions, or ~~strikethrough~~ deletions.

M/S Number	Milestone Description	Due Date
M-023-25E	<b>PROCURE NECESSARY EQUIPMENT TO SUPPORT ADDITIONAL LOW MONITORING SYSTEMS</b>	September 30, 2003