

M-026 LDR Report Project Manager Meeting Minutes  
Ecology Office, 3100 Port of Benton Blvd.  
Richland, Washington  
May 4, 2017

1245101

0069546H

Meeting Minutes – Approval

---

The undersigned indicate by their signatures that these meeting minutes reflect the actual occurrences of the above dated meeting. Signatures denote concurrence with content only and do not imply agreement or commitments.

Mango Voogd for Date: 6/16/17  
Al Farabee, Project Manager, DOE-RL

[ N/A - not present ]

\_\_\_\_\_  
Bryan Trimberger, TPA Lead, DOE-ORP Date: \_\_\_\_\_

Kelly Elsethagen Date: 6/22/17  
Kelly Elsethagen, Project Manager,  
Washington State Department of Ecology

---

**Purpose:** Discuss LDR Report related topics

The attached minutes are comprised of the following:

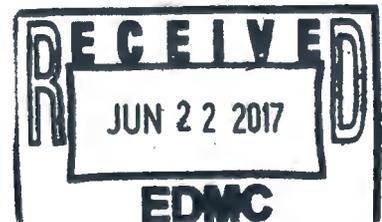
Attachment 1 - Meeting Agenda/Minutes

Attachment 2 - Attendance List

Attachment 3 - Group One LDR Response Comment Package, April 26, 2017

Attachment 4 - DOE-RL Letter 00-ORL-055, Dated May 23, 2000, *Submittal of Sixty-Day Notifications Required by Final Determination*

C: Admin Record, M-026-01, M-026-01Y



**M-026 LDR Report Project Manager Meeting Minutes  
Ecology Office, 3100 Port of Benton Blvd.  
Richland, Washington  
May 4, 2017**

**Attachment 1**

**Meeting Minutes**

- 1) Status of Previous Meeting Minutes
  - Dalena Weyns (MSA) provided the meeting minutes from the last LDR PMM, held February 23, 2017, for signature.
  
- 2) Milestone M-026-01 Hanford Site Mixed Waste LDR Report Status:
  - a) Comment Resolution of CY2014 M-026-01Y LDR 5-Year Full Report
    - Margo Voogd (DOE-RL) provided the Group One comment resolution package for Ecology approval [ATTACHMENT 3]. Package included:
      - Disposition of 22 LDR Comment Responses Discussed April 26, 2017 and 4 comments with actions.
      - Action List – 5 actions total, 4 – Ecology and 1 – DOE-RL
        - DOE-RL will address RL’s action # 2014LDR-004 in next comment resolution working session to review use of “waste acceptance criteria” versus “waste acceptance requirements.”
      - E-mail from Elis Eberlein, dated April 26, 2017, to disposition comments 167 and 122.
    - Ecology Response:
      - Agreement with Disposition of 22 LDR Comment Responses Discussed April 26, 2017. These will be attached to the meeting minutes and submitted to the AR.
      - Action List
        - Elis Eberlein (Ecology) agreed with the recommended disposition for comments 6, 16, 122, and 196. This completes the Ecology’s four actions (Actions #: 2014LDR-001, -002, -003, and -005). These dispositions will be documented in the next Comment Resolution Working Session and added to the next PMM minutes.
      - Ed Soto (Ecology) and Elis requested an appendix be added to the LDR report to track changes made to the report. Margo agreed to work with Ecology and develop a configuration management approach in the comment resolution working sessions.

3) Agreements

<u>Agreement #</u>	<u>Responsible Party</u>	<u>Description</u>	<u>Status</u>
1	DOE-RL/Ecology	Consider a configuration management approach for the LDR Report in the comment resolution working sessions.	New

**M-026 LDR Report Project Manager Meeting Minutes  
Ecology Office, 3100 Port of Benton Blvd.  
Richland, Washington  
May 4, 2017**

- 4) DOE Storage Assessments/Data Gap Plans provided to TPA Lead Regulatory Agency Project Managers and updates of ongoing assessments
- a) Status of requested assessment of IMUSTs not associated with a building.
- Margo indicated Bryan Trimmerger (DOE-ORP) had previously provided the DOE-ORP storage assessment procedure to Ecology.
  - Margo provided Ecology a copy of DOE-RL letter 00-ORL-055, Dated May 23, 2000, *Submittal of Sixty-Day Notifications Required by Final Determination*. This letter provided Ecology the DOE-RL procedure for storage assessments [ATTACHMENT 4]. This closes Action Item #1.
- 5) Action Item Status
- Action 1: Closed per 4a above.
  - Action 2: Margo provided status: two Inactive Miscellaneous Underground Storage Tanks (IMUSTs), 240-S-302 and 241-SX-302B, have not yet been assigned to an operable unit change package. Elis indicated the IMUSTs, if assigned to operable units, may not need separate assessment under LDR. Kelly Elsethagen (Ecology) took action to determine status for two remaining IMUSTs.

**Action Items**

<u>Action #</u>	<u>Responsible Party</u>	<u>Description</u>	<u>Status</u>
1	DOE-RL	Determine status of DOE-RL storage assessment procedure; if current, provide Ecology a copy. Check with DOE-ORP on the status of their procedure.	<b>Closed</b>
2	<del>DOE-RL</del> /Ecology	Provide update on contractor assignment status of IMUSTs 240-S-302 and 241-BX-302B, when available.	<b>Open</b>

**M-026 LDR Report Project Manager Meeting Minutes  
Ecology Office, 3100 Port of Benton Blvd.  
Richland, Washington  
May 4, 2017**

- 6) Documents to be submitted to the Administrative Record
  - February 23, 2017 PMM meeting minutes
- 7) Next Meeting: Thursday, June 22, 2017. Time: 10:30 a.m.

M-026 LDR Report Project Manager Meeting Minutes  
 Ecology Office, 3100 Port of Benton Blvd.  
 Richland, Washington  
 May 4, 2017

Attachment 2  
 Attendance Roster

Date: May 4, 2017

Name	Representing
Daleen Weyus	WASH-EIS
Margo Voogd	DOE-RL
CAROLYN NOONAN	MSA
Annie McLain	WRPS
Al Farabee	DOE
Wayne Toebe	CMPRC
Kelly Elsethagen	ECY
Elis Eberlein	ECY
Ed Soto	ECY
Scott Davis	USA - TPA
DAVID DeLoe	DOE-RL-955C (2/18/17)

**M-026 LDR Report Project Manager Meeting Minutes  
Ecology Office, 3100 Port of Benton Blvd.  
Richland, Washington  
May 4, 2017**

**Attachment 3 –**

**Group One LDR Response Comment Package from April 26, 2017 Meeting**

- (a) Disposition of 22 Comments and 4 Comments w/Actions
- (b) Action List
- (c) Elis Eberlein Email and Attachments, dated April 26, 2017, re:  
Disposition of Comments 167 and 122

## Disposition of LDR Comment Responses Discussed April 26, 2017

### Summary

Meeting Date	Comments Reviewed	Comments Dispositioned	Comments w/actions	Dispositioned to Date
04/26/17	26	22	4	22/217

Meeting Date	New Actions	Ongoing	Actions Completed
04/26/17	5	0	0

No.	Page	Report Text	Ecology Comment
3	1-1	...or the waste is managed at a Hanford Site location managing mixed waste pursuant to the CERCLA off-site rule (40 CFR 300.440, "Procedures for Planning and Implementing Off-site Response Actions").	Units subject to a CERCLA off-site rule determination are not a distinct category from a 90-day accumulation area or a TSD unit. The highlighted text should be simply deleted. Another option is to have a separate sentence that says "Where a TSD unit is managing wastes generated pursuant to a CERCLA decision document and that unit is not on-site with respect to the scope of the CERCLA action, then the unit must also be subject to a CERCLA off-site determination of acceptability, in addition to authorization to treat, store or dispose according to the Hanford dangerous waste permit." The CERCLA off-site rule simply does not provide any authority to authorize the treatment, storage or disposal of regulated waste.
<b>Recommendation</b>			
	Modify	Revise text as follows: Mixed waste is not subject to the storage prohibition until generated and managed in a 90-day accumulation area or a treatment, storage, and/or disposal (TSD) unit, <del>or the waste is managed at a Hanford Site location managing mixed waste pursuant to the CERCLA off-site rule (40 CFR 300.440, "Procedures for Planning and Implementing Off-site Response Actions").</del> Although mixed waste managed in a 90-day accumulation area is not considered stored, the EPA has indicated that the storage prohibition clock begins when mixed waste is managed in the 90-day accumulation area.	

ATTACHMENT 3a TO TPA M-026 LDR PMM MINUTES 5-4-2017

No.	Page	Report Text	Ecology Comment
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
5	1-1	"a result of discussions among DOE, Ecology, EPA"...	Unless there is a referenced signed document verifying these discussions, delete this sentence. How is this relevant and what was the discussion? Report is based on a director determination and TPA milestones.
<b>Recommendation</b>			
	Accept	Modify text as follows: Other mixed waste streams are being reported under the Tri-Party Agreement Milestone M-026-01 as a result of <del>discussions held among DOE, Ecology, and EPA</del> <a href="#">the 2002 Resolution of Dispute Pertaining to Hanford Federal Facility Agreement and Consent Order Calendar Year 2000 Hanford Site Mixed Waste Land Disposal Restrictions Report</a> .	
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
6	1-1	Examples of these other mixed waste streams <u>include mixed waste that meets LDR treatment standards</u> and mixed waste being managed under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) on-site provisions being treated at the Environmental Restoration Disposal Facility (ERDF).	The report is for: 1) Provide an inventory and projected generation of mixed waste subject to LDR; If a waste meets the LDR treatment standards, why is it on this report? Please explain.
<b>Recommendation</b>			
	Explain	This section is included because Ecology has required it of DOE. Reference January 25, 2000, <a href="#">letter from R. Stanley, Ecology, to G.H. Sanders, RL</a> . On January 20, 2000, DOE requested clarification from Ecology on its draft resolution of dispute. Clarification #2 of DOE's request asked Ecology to explain the scope of the phrase "each and all mixed waste stream," and asked Ecology to indicate which waste streams applied to this phrase. Ecology responded that the "information must cover <u>all</u> mixed waste streams, not just those prohibited from land disposal." Ecology's response also clarified that mixed hazardous waste <i>not</i> subject to the LDRs actively managed in permitted or unpermitted TSD storage for less than or greater than one year did apply to the "each and all waste stream" reporting expectation. DOE recommends removal of this section.	

ATTACHMENT 3a TO TPA M-026 LDR PMM MINUTES 5-4-2017

No.	Page	Report Text	Ecology Comment
<b>Comment Disposition</b>		Ecology to discuss removal of this section internally.	
<b>Action No.:</b>		2014LDR-001	
<b>Action:</b>		Discuss removal of the LDR-compliant mixed waste reporting requirement.	
<b>Assignee:</b>		Ecology	
<b>Due Date:</b>		TBD	

No.	Page	Report Text	Ecology Comment
15	1-9	The annual report revisions consist of the following....	What is the approved document reference and number that verifies this bullet list and final determination for the annual LDR reports? List references for bullets in the list.
		<b>Recommendation</b>	
		Explain/Modify	This is an introductory sentence. The full requirement set is identified in Appendix A. Modify text as follows: <u>The following summarizes the information updated in each annual report-revisions-consist-of-the following:</u>
<b>Comment Disposition</b>		Ecology concurred as proposed.	

ATTACHMENT 3a TO TPA M-026 LDR PMM MINUTES 5-4-2017

No.	Page	Report Text	Ecology Comment
16	1-9	"...either updating the document and publishing the updated report, documenting changes through use of errata sheets, or could be incorporated in the next annual LDR report".	This is not what Fig 9-1 in the TPA Action plan says about the process for primary documents. It should be acknowledged that this is the way it has been done a few times. Furthermore, what does it mean with "annual LDR report"? Is this the annual summary report or the full report? The sentence describing the "third option" will be deleted.
<b>Recommendation</b>			
Accept/Modify		<p>Modify text as follows:</p> <p>Each annual <u>LDR Report update</u> is issued <del>as a complete replacement</del> with a <u>uniquenew</u> document number. <u>Each full report that supersedes the previous full report, and each summary report supersedes the previous summary report year's LDR Report.</u> Proposed TPA milestones or proposed changes to TPA milestones are identified and processed using existing processes contained in the TPA Action Plan, Section 12.0, and not as part of the annual LDR report review and approval process. <u>Modifications to TPA milestones listed in the LDR report are incorporated in the next year's report.</u> Commitments other than TPA milestones <del>however,</del> can be proposed in the LDR Report when required. <del>Modification of commitments in the report are made by: using an LDR Report change form for within year changes; by agreement through TPA lead regulatory agency project manager meetings; by agreement through LDR TPA project manager meetings; or by DOE in the annual update agreed on by Ecology during the primary document review and comment process. Changes to commitments proposed by DOE as part of the primary document process are summarized in Section 1.5.</del></p> <p><del>Changes made to the LDR Report after DOE submits the document to Ecology can be incorporated by either updating the document and publishing the updated report or documenting changes through use of errata sheets. A third option is to incorporate changes in the next annual LDR report. The decision to choose a particular pathway is made jointly by DOE and Ecology project managers responsible for the work scope in question. Modification to TPA milestones listed in the LDR report is incorporated in the next annual LDR report and are not issued as errata sheets.</del></p>	
<b>Comment Disposition</b>		Ecology to review internally with TPA Section Manager.	
<b>Action No.:</b>		2014LDR-002	
<b>Action:</b>		Discuss proposed markup with TPA Section Manager.	
<b>Assignee:</b>		Ecology	
<b>Due Date:</b>		TBD	

No.	Page	Report Text	Ecology Comment
68	7-1	N/A	Treatment capacity at the WRAP and T-Plant DWMUs is currently shut down, hardly indicative of a continuing increase in waste management activities. If this statement is nevertheless true, it should be supported by specific

No.	Page	Report Text	Ecology Comment
			reference to actual characterization and treatment activity data. This text is identical to that appearing in the 2009 LDR report – has this text been reviewed to reflect the current status of characterization and treatment activities?
<b>Recommendation</b>			
Accept	<p>Modify text as follows:</p> <p>Sections 7.0 through 15.0 of the LDR report discuss characterization, treatment and disposal actions, and plans for managing mixed waste on the Hanford Site. <del>Waste characterization and treatment activities on the Hanford Site continue to increase as waste management facilities are completed and funded to process and/or treat the waste.</del> This chapter briefly describes the development process for the treatment plan contained in this report and identifies other documents that can be consulted for additional information concerning the Hanford Site and expected waste treatment activities. <del>This report has been organized to be similar to the site treatment plans (STPs) prepared by other DOE sites governed by the Federal Facilities Compliance Act of 1992 (FFCA) requirements.</del></p>		
<b>Comment Disposition</b>	Ecology concurred as proposed.		

No.	Page	Report Text	Ecology Comment
79	9-2	The text talks about "Broad Spectrum contracts"	This gives the impression that is a special treatment technology while it is probably just talking about broad spectrum contracts for treatment. Rewrite text to accurately reflect the situation.
<b>Recommendation</b>			
Accept	<p>Modify text as follows:</p> <p>The planning baseline indicates that sufficient capacity exists or will exist, to treat this volume of MLLW using the identified treatment process and alternatives: commercial stabilization, commercial thermal treatment, <u>on-site treatment at T Plant Complex</u>, <del>Broad Spectrum contracts</del>, etc. However, the exact distribution of treatment among these treatment processes has not been finalized. This allows the Hanford Site to optimize the use of funds (minimize unit costs), to react to changing conditions and capabilities of the treatment processes, and to use emerging national treatment contracts.</p> <p>Table 9-2</p> <p>Sufficient capacity exists to treat this volume of MLLW using the identified treatment processes and alternatives (e.g., commercial stabilization, commercial thermal treatment, <u>on-site treatment at T Plant Complex</u>, <del>Broad Spectrum contracts</del>, etc.).</p>		
<b>Comment Disposition</b>	Ecology concurred as proposed.		

ATTACHMENT 3a TO TPA M-026 LDR PMM MINUTES 5-4-2017

No.	Page	Report Text	Ecology Comment
85	9-4	The Hanford Site is allowed to treat, and will continue to treat, the MLLW-04 Hazardous debris using macroencapsulation in accordance with a site-wide 1,609 kilometer (1,000 mile) inapplicability certification for the Washington State O/C LDR per WAC 173-303-140(4)(d)(iii).	The inapplicability certification used as a basis for not using thermal treatment is not cited. Provide the citation to the certification.
<b>Recommendation</b>			
	Modify	<p>Modify text as follows:</p> <p>The Hanford Site is allowed to treat, and will continue to treat, the MLLW-04 Hazardous debris using macroencapsulation in accordance with a site-wide 1,609 kilometer (1,000 mile) inapplicability certification for the Washington State O/C LDR per WAC 173-303-140(4)(d)(iii) <a href="#">(99-EAP-055, "Certification to Allow Land Disposal of Hanford Organic/Carbonaceous Mixed Waste" [Rasmussen, 1998])</a>.</p> <p>Add reference to reference list:</p> <p><a href="#">Rasmussen, J. E., 1998, "Certification to Allow Land Disposal of Hanford Organic/Carbonaceous Mixed Waste," (external letter 99-EAP-055 to M. A. Wilson, Washington State Department of Ecology), U.S. Department of Energy, Richland Operations Office, Richland, Washington, December 1.</a></p>	
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
109	10-3	Tri-Party Agreement milestones related to these treatability groups M-09-44 and M-091-01	Should the milestone "M-09-44" be "M-091-44?"
<b>Recommendation</b>			
	Accept	<p>Modify text as follows:</p> <p>M-09<u>1</u>-44 and M-091-01</p>	
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
110	10-3	Current regulatory status "In planning"	What does this mean? Shouldn't this be something like "Not yet permitted – the design and subsequent permit modification/application materials under development?"
<b>Recommendation</b>			

ATTACHMENT 3a TO TPA M-026 LDR PMM MINUTES 5-4-2017

No.	Page	Report Text	Ecology Comment
	Modify	Modify text as follows: <u>Not yet permitted; alternatives are under review in accordance with M-091 in planning.</u>	
<b>Comment Disposition</b>		Ecology concurred with change as noted (addition of "Not yet permitted;").	

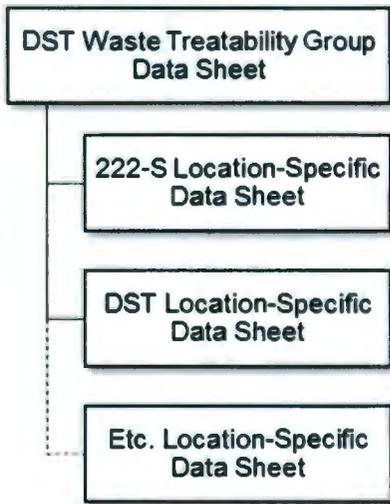
No.	Page	Report Text	Ecology Comment
122	13-1	The information must be sufficient to quantify constituents of regulatory concern and to determine waste characteristics and unit specific waste acceptance criteria.	Information about a waste can be used to determine whether or not unit-specific waste acceptance criteria are satisfied. Unit-specific waste acceptance criteria depend on the nature and capability of the receiving unit. Please edit accordingly.
<b>Recommendation</b>			
	Accept	Modify text as follows: As part of generation of any waste, a generating unit must take steps necessary to confirm the proper management of this waste. This includes identifying proper radioactive classification, understanding the physical matrix, properly designating the waste, and, where applicable, identifying the appropriate underlying hazardous constituents. Types of information that can be used to characterize waste can include data from analysis of the waste and knowledge of the materials and/or processes used to generate the waste. The information must be sufficient to quantify constituents of regulatory concern, <del>and to determine waste characteristics, and to determine whether unit-specific waste acceptance criteria or requirements are satisfied. unit-specific waste acceptance criteria.</del>	
<b>Comment Disposition</b>		Ecology proposed change to DOE's initial comment response was acceptable to DOE. However, before closing the comment, Ecology to discuss internally use of waste acceptance criteria vs. waste acceptance requirements (reference public comment on draft permit). DOE to recommend criteria or requirement wording.	
<b>Action No.:</b>		2014LDR-003	
<b>Action:</b>		Discuss internally the use of waste acceptance criteria vs. waste acceptance requirements in the LDR Report.	
<b>Assignee:</b>		Ecology	
<b>Due Date:</b>		TBD	
<b>Action No.:</b>		2014LDR-004	
<b>Action:</b>		Provide recommendation on "waste acceptance criteria" and "waste acceptance requirement" wording/usage.	
<b>Assignee:</b>		DOE	
<b>Due Date:</b>		TBD	

ATTACHMENT 3a TO TPA M-026 LDR PMM MINUTES 5-4-2017

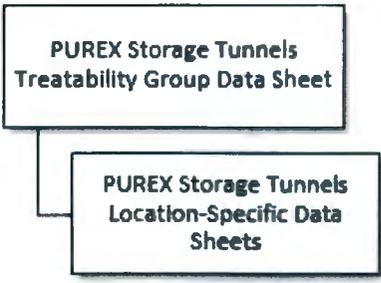
No.	Page	Report Text	Ecology Comment
136	A-2	3-RCRA hazardous waste code	and "state only" waste designation(s).
<b>Recommendation</b>			
	Accept	Verbage consistent with with A.1.)b. on page 16 of the 2000 Final Determination <a href="#">here</a> . Revise text as follows: RCRA hazardous waste code(s) <a href="#">and state-only waste designations</a>	
<b>Comment Disposition</b>		Ecology concurred as proposed.	

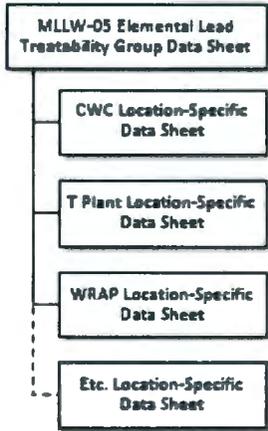
No.	Page	Report Text	Ecology Comment
139	A-4	20-Identification of any releases	Add "of hazardous waste or hazardous constituents to the environment from these storage units."
<b>Recommendation</b>			
	Accept	Consistent with <i>Requirements for Hanford LDR Plan</i> , page 1, item 1.e. <a href="#">here</a> . Revise text as follows: Identification of any releases <a href="#">of hazardous waste or hazardous constituents to the environment from these storage units</a>	
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
142	B-1	...and give a glimpse of the waste's past and future.	The Final Determination and the 1990 LDR Report requirements document have very specific information requirements that must be provided. Whether or not "give a glimpse" satisfies these specific information requirements is entirely unclear.
<b>Recommendation</b>			
	Accept/ Modify	<p>Modify text as follows:</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">DST Waste Treatability Group Data Sheet</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; margin-left: 20px;">222-S Location-Specific Data Sheet</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; margin-left: 20px;">DST Location-Specific Data Sheet</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; margin-left: 20px;">Etc. Location-Specific Data Sheet</div>	<p>Treatability group data sheets (TGDSs) describe the common physical and chemical characteristics of the waste streams. They also provide a quantitative summary of some data in the associated location-specific data sheets (LSDSs).</p> <p>Each TGDS <u>consolidates information about wastes represented by has one or more LSDS associated with it. The TGDS is used to associate these wastes with the treatment technologies described in the full report. The LSDS describe on a plant/unit/project basis how, where, and how much of the waste is stored, and give a glimpse of the waste's past and future. The LSDSs provide certain information specific to waste streams within treatability groups that is not reflected in TGDSs. Unique information is included on LSDSs that is not reflected on TGDSs. The information in both the TGDSs and LSDSs is required to satisfy reporting requirements as listed in Table A-1. LDR report requires both to provide a clear picture of each waste stream.</u></p>
<b>Comment Disposition</b>	Ecology concurred as proposed.		

No.	Page	Report Text	Ecology Comment
143	B-1	Unique information is included on LSDSs that is not reflected on TGDS.	Better language would be "Information specific to wastes within the treatability group stored in specific locations that is not reflected in TGDSs." This recommended language is better aligned with the stated function of LSDSs.
<b>Recommendation</b>			
	Accept/ Modify	<p>Modify text as follows:</p> 	<p>Treatability group data sheets (TGDSs) describe the common physical and chemical characteristics of the waste streams. They also provide a quantitative summary of some data in the associated location-specific data sheets (LSDSs).</p> <p>Each TGDS <u>consolidates information about wastes represented by</u> <del>has</del> one or more LSDS <del>associated with it.</del> <u>The TGDS is used to associate these wastes with the treatment technologies described in the full report.</u> <del>The LSDS describe on a plant/unit/project basis how, where, and how much of the waste is stored, and give a glimpse of the waste's past and future.</del> <u>The LSDSs provide certain information specific to waste streams within treatability groups that is not reflected in TGDSs.</u> <del>Unique information is included on LSDSs that is not reflected on TGDS.</del> <u>The information in both the TGDSs and LSDSs is required to satisfy reporting requirements as listed in Table A-1.</u> <del>LDR report requires both to provide a clear picture of each waste stream.</del></p>
<b>Comment Disposition</b>	Ecology concurred as proposed.		

No.	Page	Report Text	Ecology Comment
144	B-1	The LDR report requires both to provide a clear picture of each waste stream.	<p>"Whatever may be ""a clear picture"" needs to be defined in terms of the FFCA, the FD and the 1990 document. Suggested text change: "The combination of TGDS and LSDS provide the information required to be included in the LDR report by the 1990 LDR Report Requirements document."</p> <p>This comments pertains to language "present a complete picture" shown in Figure B-1 with the PUREX Storage Tunnels information.</p>
<b>Recommendation</b>			

No.	Page	Report Text	Ecology Comment
	Accept/Modify	Modify text as follows: 	This is an example of data sheets for mixed waste stored "long-term." - <del>Both a Combined, the</del> TGDS and a LSDS <u>address the requirements outlined in EPA and Ecology's 1990 Requirements for Hanford LDR Plans</u> <del>are required to present a complete picture of the waste.</del>
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
145	B-1	LSDSs for generating locations contain the current facility inventory of this waste	To avoid confusion as to the meaning of "facility," this text should be re-written to read: "LSDS for generating locations contain the current inventory of this waste at the generating location."
<b>Recommendation</b>			
	Accept/Modify	Revise the text as follows: 	In this example, the CWC LSDS would contain the CWC inventory and projected generation for any waste generated at CWC and coming from offsite directly to CWC  LSDSs for generating locations contain the current <u>facility storage</u> inventory of this waste (if any, because SAA/90-day waste is not part of stored inventory), plus 5-year generation projections (including SAA/90-day waste).
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
159	B-23	N/A	Grammatical Error was "\$" instead of ">=" under section 3.3.4.2. (This appears to have happened across the board on all LDR Report Treatability Group Data Sheets)
<b>Recommendation</b>			

ATTACHMENT 3a TO TPA M-026 LDR PMM MINUTES 5-4-2017

No.	Page	Report Text	Ecology Comment
	Accept	The database administrator has corrected this error. Subsequent report exports will reflect this change.	
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
160	B-24	4.4 <i>Treatment schedule information:</i> Dependent upon M-091 capability, canyon deck and process cell cleanout continues, or in support of other missions.	The sentence in Section 4.4 is difficult, if not impossible to parse or understand. Please revise to ensure it is clearly understandable.
<b>Recommendation</b>			
	Accept	Modify text as follows: <del>Dependent upon M-091 capability, canyon deck and process cell cleanout continues, or in support of other missions.</del> <u>The treatment schedule for these wastes will depend on the following factors: (1) continued progress in implementation of canyon deck and process cell cleanout; (2) potential for future need of 221-T in support of Hanford cleanup; and (3) development of M-091 capabilities.</u>	
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
161	B-24	4.9 <i>Key Assumptions:</i> All efforts to segregate low-level from mixed and transuranic from low-level and/or mixed waste.	This is an incomplete sentence. If the intent of this sentence is to suggest that separation of various classifications of waste will be performed, why is not such separation technology described in the treatment section of the TGDS?
<b>Recommendation</b>			
	Modify	Data field 4.9, "Key Assumptions," covers assumptions concerning treatment not provided previously in the TGDSs or LSDSs; therefore, this assumption is being removed. Modify text as follows: <del>All efforts to segregate low-level from mixed and transuranic from low-level and/or mixed waste. In addition, size reduction techniques will also be used.</del> <u>None.</u>	
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
162	B-24	<i>After treatment, how will the waste stream be disposed of (include locations, milestone numbers, variances required, etc. as applicable):</i>	This doesn't make sense. - The factors enumerated may well influence the timing and nature of treatment, but doesn't seem to have anything to do with how the waste stream will be disposed of. Please revise to be responsive

ATTACHMENT 3a TO TPA M-026 LDR PMM MINUTES 5-4-2017

No.	Page	Report Text	Ecology Comment
		Dependent upon M-91 as well as ongoing and future missions (e.g., K Basin sludge storage, etc.), and canyon/process cell cleanout.	to the stated question: "How will the waste stream be disposed of?"
<b>Recommendation</b>			
	Accept/ Clarify	Modify text as follows: <del>Dependent upon M-91 as well as ongoing and future missions (e.g., K Basin sludge storage, etc.), and canyon/process cell cleanout.</del> Wastes are anticipated to be disposed at ERDF and/or WIPP.	
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
167	p. B-29, TGDS, 221-T Tank System Section 3.2 (EPA)	Physical form indicated as solid, liquid and semi-solid.	The draft permit issued by Ecology includes the following statement regarding the 221-T tank system: "Liquids have naturally evaporated from the tank waste at a rate of approximately 30 liters per day (11,053 liters per year) until presently the tank system contains only dry waste residues." Thus, the "liquid" and "semi-solid" boxes checked in the LDR report are inconsistent with the certified permit application provided to Ecology. This sort of discrepancy must be corrected. A similar comment applies to Section 1.3.1 in the LSDS for the 221-T Tank system.
<b>Recommendation</b>			
	Accept/ Explain	Subsequent LDR report language and final permit language will be consistent. Report text to remain as written.	
<b>Comment Disposition</b>		Ecology concurred as proposed, and will provide 221-T presentation for DOE reference.	

No.	Page	Report Text	Ecology Comment
188	B-96	Current Storage Methods	The containers in the 400 Area WMU are both covered and on a pad, but only "Container (Pad)" is marked.
<b>Recommendation</b>			
	Accept	Check the "Container (covered)" box. (The database <u>does</u> allow multiple boxes to be checked.)	
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
196	p. B-233, LSDS,	—	Why is this waste in this LDR report?

ATTACHMENT 3a TO TPA M-026 LDR PMM MINUTES 5-4-2017

No.	Page	Report Text	Ecology Comment
	MLLW-01-LDR Compliant Waste (Comp)		
<b>Recommendation</b>			
	Explain	Reference January 25, 2000, <a href="#">letter from R. Stanley, Ecology, to G.H. Sanders, RL</a> . On January 20, 2000, DOE requested clarification from Ecology on its draft resolution of dispute. Clarification #2 of DOE's request asked Ecology to explain the scope of the phrase "each and all mixed waste stream," and asked Ecology to indicate which waste streams applied to this phrase. Ecology responded that the "information must cover all mixed waste streams, not just those prohibited from land disposal." Ecology's response also clarified that mixed hazardous waste not subject to the LDRs actively managed in permitted or unpermitted TSD storage for less than or greater than one year did apply to the "each and all waste stream" reporting expectation.	
<b>Comment Disposition</b>		Ecology to discuss removal of the requirement to report on LDR-compliant mixed waste. Reference comments 6 and 9 (6 addressed in this round of comments, 9 to be addressed).	
<b>Action No.:</b>		2014LDR-005	
<b>Action:</b>		Discuss removal of the LDR-compliant mixed waste reporting requirement.	
<b>Assignee:</b>		Ecology	
<b>Due Date:</b>		TBD	

No.	Page	Report Text	Ecology Comment
211	C-8	DOE Assessments.	This mentions that the 242-Z facility with the McCluskey room is sealed. This is not correct, as work is ongoing to D&D this facility. Update information.
<b>Recommendation</b>			
	Accept	Modify text as follows: No assessments. <del>Facility is sealed currently because of high levels of radioactive contamination resulting from cation-exchange column explosion, August 1976.</del> <u>D&amp;D began in 2014.</u> DOE assessment: N/A.	
<b>Comment Disposition</b>		Ecology concurred as proposed.	

No.	Page	Report Text	Ecology Comment
212	C-11	For 242-B/BL DOE assessment: N/A Singleton 2011).	Language missing from what was documented in the DOE-RL-2014-17, Rev. 0 Report. "DOE assessment: N/A ("Waste Storage Assessment of 224-B, 242-B/BL, 270-W,

ATTACHMENT 3a TO TPA M-026 LDR PMM MINUTES 5-4-2017

No.	Page	Report Text	Ecology Comment
			and IMUSTs Not Associated with a Building" [Singleton 2011])."
	<b>Recommendation</b>		
	Accept	Reference corrected to be consistent with remainder of the table. Modify text as follows: DOE assessment: N/A (Singleton 2011).	
<b>Comment Disposition</b>		Ecology concurred as proposed.	

# Action List

No.	Related Comment	Action	Assignee	Date Originated	Due Date	Completion Date
2014LDR-001	6	Discuss removal of the LDR-compliant mixed waste reporting requirement.	Ecology	04/26/17	TBD	
2014LDR-002	16	Discuss proposed markup with TPA Section Manager.	Ecology	04/26/17	TBD	
2014LDR-003	122	Discuss internally the use of waste acceptance criteria vs. waste acceptance requirements in the LDR Report.	Ecology	04/26/17	TBD	
2014LDR-004	122	Provide recommendation on "waste acceptance criteria" and "waste acceptance requirement" wording/usage.	DOE	04/26/17	TBD	
2014LDR-005	196	Discuss removal of the LDR-compliant mixed waste reporting requirement.	Ecology	04/26/17	TBD	

**Weyns, Magdalena (Dalena)**

---

**From:** Weyns, Magdalena (Dalena)  
**Sent:** Thursday, May 04, 2017 2:08 PM  
**To:** Weyns, Magdalena (Dalena)  
**Subject:** Attachment 3 May 4, 2017 LDR PMM- E Eberlein Email Dated April 26, 2017  
**Attachments:** 221-T Tank System - Evaluation of Tank Waste Management Options 09042001....pdf;  
Example DOE comment criteria vs. requirements.docx

---

**From:** Eberlein, Elis (ECY) [<mailto:eber461@ecy.wa.gov>]  
**Sent:** Wednesday, April 26, 2017 3:56 PM  
**To:** Voogd, Margo J <[margo.voogd@rl.doe.gov](mailto:margo.voogd@rl.doe.gov)>; Farabee, Oliver A (AI) <[oliver.farabee@rl.doe.gov](mailto:oliver.farabee@rl.doe.gov)>; Noonan, Carolyn P <[Carolyn\\_P\\_Noonan@rl.gov](mailto:Carolyn_P_Noonan@rl.gov)>; Carter, Duane B <[Duane.Carter@rl.doe.gov](mailto:Duane.Carter@rl.doe.gov)>; Toebe, Wayne E <[Wayne\\_E\\_Toebe@rl.gov](mailto:Wayne_E_Toebe@rl.gov)>  
**Cc:** Kamal, Mostafa <[Mostafa.Kamal@rl.doe.gov](mailto:Mostafa.Kamal@rl.doe.gov)>; Trimberger, Bryan R <[Bryan\\_R\\_Trimberger@orp.doe.gov](mailto:Bryan_R_Trimberger@orp.doe.gov)>; Soto, Ed (ECY) <[ESOT461@ECY.WA.GOV](mailto:ESOT461@ECY.WA.GOV)>; Elsethagen, Kelly (ECY) <[kels461@ECY.WA.GOV](mailto:kels461@ECY.WA.GOV)>  
**Subject:** Follow up on LDR meeting

Hi all,

During the meeting this morning Ecology promised to send over some documents which are attached to this email.

1. Presentation about 221-T tank system from 2001. We agreed that the information in the LDR report (checked boxes) will remain as written (comment #167). Changes is needed in the future permit language to make it consistent.
2. Example DOE comment on the Draft Rev 9 permit from 2012 regarding the use of "waste acceptance criteria" versus "waste acceptance requirements". This will influence word selection in revised language in the LDR report caused by resolution of comment #122. Ecology has decided to use "requirements" in the future Rev 9 permit.

Thanks,

*Elis Eberlein, PhD*

Washington State Department of Ecology  
Nuclear Waste Program  
Waste Management Section  
Email: [eber461@ecy.wa.gov](mailto:eber461@ecy.wa.gov)  
Office phone: 509-372-7906  
Cell phone: 509-539-3494

**Comment Number: 15951**

**Permit Section:**

OUG-4 (242-A Evap) B.2

**Comment Text:**

Replace "waste acceptance criteria" with "waste acceptance requirements."

**Basis Text:**

The term "Waste Acceptance Criteria" is not a term used in WAC 173-303, and is not a term used in EPA's "Waste Analysis at Facilities that Generate, Treat, Store, and Disposal of Hazardous Wastes: A Guidance Manual" (April 1994). Acceptance requirements for a TSD unit are governed by WAC 173-303-300, Waste Analysis and documented in the permit for a TSD unit in Addendum B, Waste Analysis. The term "waste acceptance criteria" is only used by the DOE in DOE M

435.1-1, "Radioactive Waste Management Manual" which is part of the family of documents associated with DOE Order 435.1, "Radioactive Waste Management".

**Recommendation Text:**

Revise text to read: "In some cases, individual waste streams that are not acceptable at the 242-A Evaporator may be pre-treated or blended with other compatible waste streams to meet the 242-A waste acceptance requirements."

**Response Code (Either A for Accept or R for Reject):**

**Ecology Response:**

# **221-T Tank System**

## **Evaluation of Tank Waste Management Options**

# 221-T Tank System

## ■ Purpose of Evaluation

- Identify a safe and cost-effective approach for management of PCB/mixed waste currently in the 221-T Tank System for approval by regulators. Ecology and EPA approval is necessary because tank waste is not being stored in a manner consistent with RCRA and TSCA regulations. Interim approval is necessary until formal waste management agreements are reached.
- Meet an RL commitment to re-evaluate tank waste management options in the light of the following recent developments:
  - Framework Agreement for Management of PCB Remediation Waste in Hanford Tanks
  - Revised double-shell tank (DST) acceptance criteria
  - PCB Inventory Management Plan for the Double Shell Tanks
  - Sampling and analysis of archived tank material.

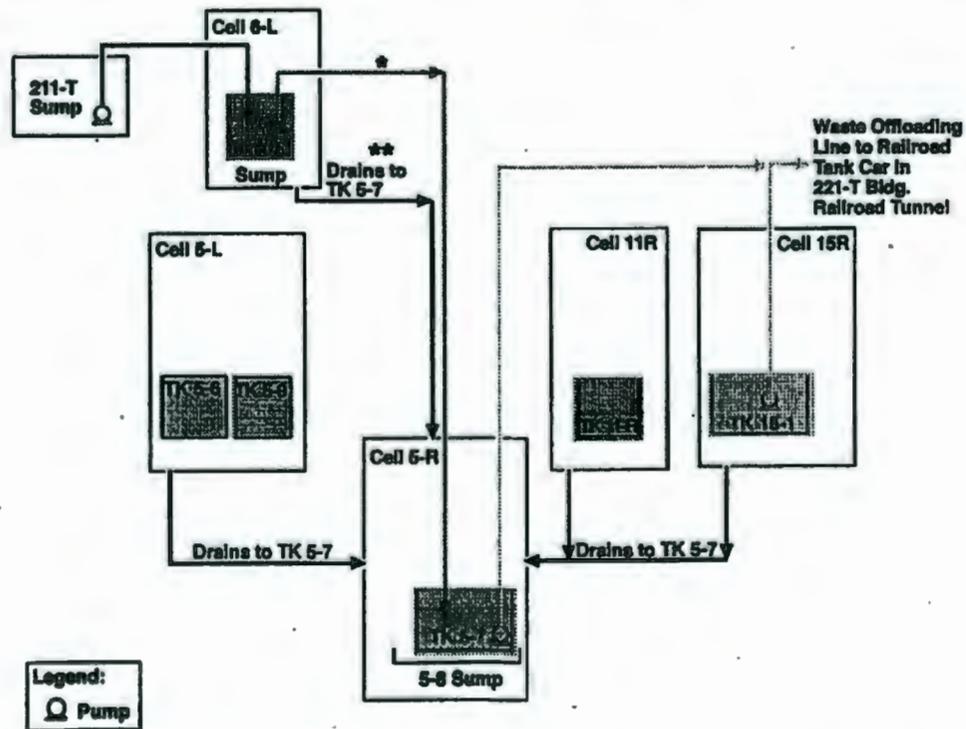
# 221-T Tank System

## ■ Tank System Information

- T Plant Complex is located in the 200 Area of the Hanford Site and began operations in 1944. T Plant has operated since 1957 decontaminating radioactive tools and equipment and storing and treating liquid mixed waste generated from these decontamination activities.
- T Plant Complex is now a RCRA TSD unit for which a Part B Permit Application is being generated for inclusion into the Hanford Facility RCRA Permit in 2002 (during Mod H). The 221-T canyon is a RCRA containment building.
- 221-T Tank System is comprised of six, solid-bottom, stainless steel tanks located in the 221-T 'canyon' and of the 211-T sump located between 221-T and 2706-T. As of March 2000 the system contained approximately 21,260 gallons of liquids and sludge, of which approximately 9,240 gallons is sludge:
  - Tank 15-1 contains 6724 gallons.
  - Tank 5-7 (in Cell 5R) contains 6472 gallons. Cell 5R holds Sump 5-8 that is dry.
  - Tank 5-6 (closed-top) contains 416 gallons.
  - Tank 5-9 (closed-top) contains only sludge (no liquids).
  - Tank 6-1 contains 7500 gallons.
  - Tank 11R contains only sludge (no liquids).
  - 211-T Sump contains 150-gallons.

# 221-T Tank System

## Current 221-T Tank System Waste Transfer Configuration



Legend:  
 Pump

\* portable pump and transfer line

\*\* drains no longer used to transfer waste but would collect spills (if any) and transport to TK-5-7.

H0020186.1

# 221-T Tank System

## ■ Tank System Information (Continued)

- The 221-T Tank System does not meet secondary containment, leak detection, and inspection requirements for storage of RCRA or TSCA waste. Tank system can't be upgraded and so was permanently isolated from further waste additions in June 1999 (TPA Milestone M-32-03).
- Tanks 6-1, 5-7, and 15-1 are open-topped and ventilate to the monitored canyon atmosphere. Liquid is naturally evaporating from these tanks at approximately 10.5 gallons per day (3800 gallons per year) and could evaporate away by mid-2005. At that time, tanks will be considered empty, non-operating tanks containing only dry residues and awaiting final closure.
- Passive evaporation from the 221-T Tank System is not RCRA treatment: T Plant is not actively processing this waste and volatile organic dangerous waste constituents are not being detected in liquids above LDR (40CFR 268.40) treatment standards so water vapor already meets treatment standards.
- Passive evaporation is not TSCA decontamination: PCBs exist in liquids only at detection levels and because PCBs have low vapor pressure/volatility, vapor escaping the liquid fraction would readily meet PCB free release standards (.5 ppb).

# 221-T Tank System

## ■ Tank System Information (Continued)

- Liquid level monitoring shows tank system is not leaking. There are no liquid losses beyond natural evaporation and TK 5-7 that would receive any spills via building drains is not gaining waste. The liquid collection system (building drains) has not leaked during prior waste transfers from Tank 6-1 to Tank 5-7. The 211-T sump is located in the ground outside 221-T and is visually inspected and static leak tested twice yearly.
- "T Plant facility complex" is identified in the Long-Term Facility Decommissioning Plan, (DOE/RL-96-0046) as a "Candidate Key Facility" for future decommissioning under Section 8.0 of the Tri-Party Agreement but has not yet formally been declared a Key Facility.

# 221-T Tank System

## ■ Tank Waste Characteristics

- Tank waste is a multiphasic waste comprised of liquids and sludge. The liquid fraction is primarily rainwater mixed with dilute radioactive decontamination solutions. The sludge is highly radioactive solids (4 REM per hour from a 20 ml sludge sample) and is primarily dirt, sandblasting grit, oil and grease from T Plant decontamination processes.
- Based on the most recent sampling, liquid tank waste may not designate as characteristic dangerous waste but is 'F-listed' mixed waste due to potential contact with various spent organic solvents. To-date, the sludge has not been analyzed for dangerous waste constituents.
- Tank waste also contains PCBs and 40 CFR 761.3 requirements for 'PCB remediation waste' apply. The most recent sampling shows PCBs just at or below detection levels in liquids. PCB concentrations in sludge on a dry weight basis are:
  - TK 5-7 at 702 ppm PCBs
  - TK 6-1 at 282 ppm PCBs
  - TK 15-1 at 98 ppm PCBs
  - 211-T Sump at 30 ppm PCBs
- Tank waste (liquids and sludge) is stable (incompatible, reactive, or ignitable wastes were not added to the tank system). Evaluation of dry sludge is underway to ensure that sludge will remain chemically stable during long-term storage.

# 221-T Tank System

## I Discussions To-date

- WAC 173-303-610 (4)(c) 'demonstration to delay closure' was submitted to Ecology in August 1999 (99-EAP-425) indicating:
  - I Closure of 221-T Tank System (tanks, equipment, and containment) cannot be completed until the entire 221-T canyon is dispositioned because of significant structural, radiological, and budgetary constraints.
  - I Liquid tank waste cannot be removed from the tank system because of scheduling constraints that preclude access to the canyon until liquids are gone by natural evaporation (See schedule). No reasonable treatment, storage, or disposal pathway currently exists for PCB/mixed waste sludge.
  
- At a March 2000 meeting, RL presented a tank closure and tank waste management approach to Ecology and EPA (Duncan via telecon) identifying the following waste management limitations:
  - Treatment limitations:
    - I For radioactive PCB liquids, TSCA 'free release' level of .5 ppb PCBs is difficult to analytically verify because below method detection level for radioactive waste.
    - I Sludge PCB remediation waste requires treatment because above the 1 ppm, but no treatment capability is currently available due to high radioactivity (requires special shielding, possibly remote handling, special containers).
  - Storage limitations:
    - I PCB liquids must first undergo case-by-case review for acceptability prior to transfer to DSTs for storage.
    - I No large-volume, TSCA-compliant containers (tanker trucks, railcars) are available to transport and store PCB liquids. Liquids would have to be drummed (approximately 350 drums) and provided with secondary containment.
    - I Special containers would have to be designed and built to hold and shield highly radioactive sludge
  - Disposal limitations:
    - I No capability will exist until 2003 at which time ATG could possibly be available to thermally treat (Incinerate) mixed, low-level TSCA liquids -but not sludge because of high radioactivity.
    - I No incineration capability currently exists for disposal of radioactive PCB liquids or of highly radioactive sludge.

# 221-T Tank System

## ■ Discussions To-date (continued)

- T Plant Part B workshops have been ongoing since June 2000 to resolve issues on the Draft Part B Permit Application.
- RL letter to Ecology and EPA dated March 9, 2001 requested regulator approval of the following tank system closure and tank waste management approach:
  - The 221-T Tank System tanks, ancillary equipment, and tank waste (liquids, sludge, and residues) will remain in-place and monitored until final tank system closure in coordination with future 221-T 'canyon' disposition.
  - Tank system closure and disposition of remaining tank waste will be documented in Chapter 11.0 of the T Plant Complex Part B Permit Application.
  - Necessary regulator notifications and tank waste disposal approval as required by 40 CFR 761.61 will be pursued at the time of closure.
- RL and regulators met May 14, 2001 to discuss Ecology/EPA comments on the March letter. From that meeting, RL issued a letter dated June 29, 2001 documenting the following meeting agreements:
  - RL will re-evaluate tank waste management options.
  - T Plant Complex Part B workshops can be used to resolve TSCA compliance issues with EPA involvement.
  - The agreed-to tank waste management approach will be reflected in closure Chapter 11.0 of the T Plant Complex Part B dealing with tank system closure.
  - Ecology remains the lead regulatory agency for this TSD.

# 221-T Tank System

## ■ Cost and Schedule Evaluation of Tank Waste Treatment, Storage, and Disposal Options

### ■ Option #1:

- Remove PCB liquids and sludge: transfer liquids to DST as PCB waste or decontaminate and store sludge.
- 591 working days (approximately 2 years) costing \$10.2 Million. Includes physical closure activities (triple-rinse tanks to exit TSCA, remove tanks for RCRA treatment or disposal).

### ■ Option #2:

- Remove PCB liquids: (a) transfer liquids to DST as PCB waste or (b) remove as non-PCB waste and filter to remove <5 microns radioactive solids for transfer to LERF/ETF.
- Tanks and sludge to remain in-place and monitored until final closure.
- Control airborne radioactive emissions.
- 447 working days (approximately 1 1/2 years) costing \$7.1 Million.

### ■ Option #3:

- Liquids, sludge, and tanks to remain in-place and monitored.
- Control airborne radioactive emissions.
- 145 days to control radioactive air emissions after shielding from liquids is gone (mid-2005) and after K-Basin sludge is stored at T Plant Complex costing \$913,000.

# 221-T Tank System

## ■ Preferred Option: Option #3

### ■ Option #3, as follows, is currently considered to be the most feasible, protective, and cost-effective option for 221-T Tank System closure and management of tank waste:

- The 221-T Tank System will remain in-place and tank waste will remain in the system and monitored, if necessary until final tank system closure in coordination with future 221-T 'canyon' disposition.
- Chapter 11.0 of the T Plant Complex Part B Permit Application will document continued storage of PCB remediation waste in a safe and controlled manner.
- Periodically re-evaluate viable treatment pathways for tank waste.
- If waste remains at the time of tank system closure, pursue regulator notification and tank waste disposal approval as required by 40 CFR 761.61 at the time of final tank system closure.
- Consider the tanks to be empty, , non-operating tanks that cannot meet all RCRA and TSCA operating requirements and so will remain non-operating, isolated, and monitored while awaiting final closure.

# 221-T Tank System

## ■ Justification

- The 221-T Tank System poses minimal and declining risk to human health and the environment because:
  - Remote location (200 Area of the Hanford Site) far from public access.
  - The tanks are located within an operating RCRA TSD unit. The 221-T canyon containing the tanks is a RCRA containment building. Canyon atmosphere is monitored for radioactive air emissions.
  - Tanks and sump are not leaking as shown by liquid level monitoring.
  - Tank waste (liquids and sludge) is stable.
  - The tank system is permanently isolated from further waste additions and liquids are evaporating so risk of tank liquid leaks or spills is declining. Monitoring for leaks will continue until liquids are gone at which time tank monitoring will focus on minimizing worker exposures.
  
- Facilitates ALARA and facility cost-cutting by avoiding waste processing rendered unnecessary by M-91 waste processing capability at T Plant (online approximately 2013) that will allow onsite waste treatment and/or use of tank waste as treatment test material
  
- Allows K-Basins sludge storage mission to continue without interruption of schedule.

# 221-T Tank System

## ■ Justification (continued)

- Allowing waste to remain saves from \$6.1 to \$9.0 million over the cost of alternative closure/waste management activities without added risk to human health or the environment. As a low-risk, low-priority waste, no funding currently exists for tank waste removal.
- After liquids are gone, storage of the remaining sludge will meet substantive safety requirements for waste storage:
  - Under RCRA, secondary containment will not be necessary [40CFR264.175(b)(3)].
  - Tanks are acceptable containers for dry PCB waste (sludge) because they meet the definition of container and meet 40CFR761.65 (c)(6)(i) requirements for radiation protection, including being non-leaking while storing liquids, are acceptable to TSCA for storage of PCB rad waste.
  - Tanks are located within a RCRA TSD unit the permit for which will contain steps to safely address RCRA labeling, inspections and leak detection shortcomings by meeting substantive safety requirements.
- Using the RCRA permitting process addresses TSCA compliance concerns as an alternative to a separate TSCA disposal approval and so eliminates overlapping regulatory documentation.

# 221-T Tank System

## ■ Path Forward

### ■ Initiate a formal notification to regulators:

- Summarizing proposed closure and waste management approach (Page 10)
- Indicating that closure plan requirements are proposed as an alternative to a separate EPA disposal approval for PCB waste.
- Requesting interim regulator approval until the time of formal approval (via issuance of the T Plant Part B)
- Describing system monitoring, air emission monitoring and controls, and regulator notification if operating conditions change.

**M-026 LDR Report Project Manager Meeting Minutes  
Ecology Office, 3100 Port of Benton Blvd.  
Richland, Washington  
May 4, 2017**

**Attachment 4**

**DOE-RL Letter 00-ORL-055, Dated May 23, 2000,  
*Submittal of Sixty-Day Notifications Required by Final Determination***



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

00-0204

MAY 23 2000

00-ORL-055

Mr. Tom C. Fitzsimmons, Director  
State of Washington  
Department of Ecology  
P.O. Box 47600  
Olympia, Washington 98504

Mr. Charles C. Clarke, Regional Administrator  
U.S. Environmental Protection Agency  
Region 10  
1200 Sixth Avenue  
Seattle, Washington 98101

**RECEIVED**  
JUN 19 2000  
**EDMC**

Addressees:

**SUBMITTAL OF SIXTY-DAY NOTIFICATIONS REQUIRED BY FINAL DETERMINATION**

In reference to your letter to Richard T. French, Office of River Protection (ORP), and Keith A. Klein, U.S. Department of Energy, Richland Operations Office (RL), "Final Determination Pursuant to the Hanford Federal Facility Agreement and Consent Order (HFFACO) regarding the U.S. Department of Energy's (DOE) Compliance Land Disposal Restriction (LDR) Requirements of Washington State's Hazardous Waste Management Act (HWMA) and the Federal Resource Conservation and Recovery Act (RCRA), DOE's Annual Land Disposal Restrictions Report, and HFFACO Milestone M-26-01," dated March 29, 2000, this Final Determination requires that DOE make certain written notification within sixty days of letter issuance. In particular, DOE is required to "provide written notification of specific organizational units tasked with the responsibility to perform these required storage method compliance assessments." DOE is also required to submit a "schedule for the performance of these assessments.... and a copy of DOE's written procedure to be used in assessing the compliance status of mixed waste storage methods."

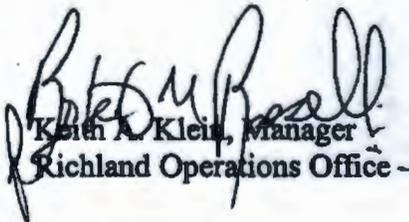
Addressees  
00-ORL-055

-2-

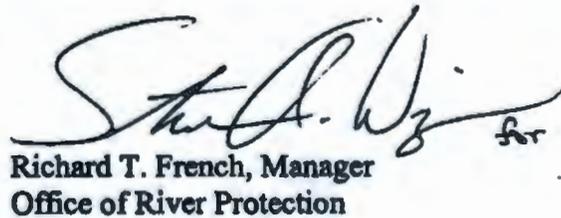
MAY 23 2000

To this end, RL has tasked its Office of Performance Evaluation, Analysis and Evaluation Division, and ORP has tasked its Tank Farm Oversight Division with this responsibility. Attachments A and B contain the procedures and schedule information for RL and ORP, respectively.

If you have questions, please contact us, or your staff may contact Mary Jarvis, Office of Regulatory Liaison, on (509) 376-2256, or Ami Sidpara, Office of Assistant Manager for Operations, on (509) 376-0933.



Keith A. Klein, Manager  
Richland Operations Office -



Richard T. French, Manager  
Office of River Protection

Attachments

cc w/attachs:

L. M. Dittmer, BHI  
R. J. Landon, BHI  
W.T. Dixon, CHG  
B. G. Erlandson, CHG  
P. A. Powell, CHG  
W. Burke, CTUIR  
L. Ruud, Ecology  
R. Stanley, Ecology  
M. Wilson, Ecology  
D. Bartus, EPA  
D. Sherwood, EPA  
J. S. Hertzell, FHI  
K. M. McDonald, FHI  
D. E. McKenney, FHI  
R. D. Morrison, FHI  
F. A. Ruck, III, FHI  
J. D. Williams, FHI  
TPA Administrative Record, FHI  
M. B. Reeves, HAB  
Ecology Library, Kennewick  
M. L. Blazek, Oregon Energy  
P. Sobotta, NPT  
R. Jim, YN  
H.T. Tilden, III, PNNL  
J. E. Shorin, III, WA. Attorney General's Office

**Attachment A**



U.S. DEPARTMENT OF ENERGY  
RICHLAND OPERATIONS OFFICE

**TITLE:** Evaluation of Contractor Performance in Meeting  
Mixed Waste Storage Requirements

Number: A&E 01  
Effective Date: 5-30-00  
Page: 1 of 6  
Prepared by: A&E

**1.0 PURPOSE**

This procedure describes the process and defines the responsibilities for scheduling, planning, performing and documenting RL evaluations of contractor performance in meeting environmental requirements for mixed waste storage. The RL Analysis and Evaluation Division (A&E) has the lead responsibility for RL for compliance with this procedure.

DOE and its Contractors monitor and evaluate work by using a layered approach to assessments. Level A is the actual performance of the storage activities and Level D is the highest level of oversight function. (see Attachment 1)

**Level A:**

At this level, the Contractor performs activities necessary to manage generation and storage of mixed waste (MW) in accordance with applicable regulations and permits. Such activities include, identifying the potential generator activities (satellite accumulation areas (SAA), 90-day accumulation areas), and arrangement to transfer MW to a treatment, storage, and disposal facility (TSD) upon generation. The contractor that performs the activity carries out the required inspections to verify storage requirements are being met.

The contractor organization performing the work also does self-assessments periodically of the work. Contractor records, including all self-assessment reports, are generated, reviewed, and maintained to demonstrate and document compliance to the applicable regulations. They are maintained at the facility as specified in applicable regulations. These self-assessments can be Management Assessments and/or Worker Assessments. Worker Assessments are performed by worker's responsible for, or familiar with, the process. Supervisory reviews of daily tasks provide near-term monitoring of MW storage area procedure compliance. Managers cognizant of the process, perform Management Assessments.

**Level B:**

The Contractor performs internal independent oversight review of operations to ensure requirements are being met. The records generated from each of the described assessments are maintained as required by their implementing procedures. The Contractor's review of operation can be accomplished in a variety of ways. At this level the assessments are performed independently from those that are performed at the work level. Subject matter experts who have been specifically tasked with the review of field activities perform these assessments. In addition, a team of qualified individuals who are independent from the performing organization will conduct performance reviews.

**TITLE: Evaluation of Contractor Performance in Meeting  
Mixed Waste Storage Requirements**

**Number: A&E 01**

**Effective Date: 5-30-00**

**Page: 2 of 6**

**Level C:**

The DOE Programs are responsible for monitoring performance of the Contractors in Level A and B. This is accomplished through RL Program and Support personnel operational observations. In addition, the Operations Oversight Division Facility Representatives monitor activities in these areas.

**Level D:**

The DOE-RL Office of Performance Evaluation's Analysis and Evaluation Division (A&E) is responsible for an overall evaluation of compliance including lower level assessment activities, with the established programs, systems and applicable regulations. These evaluations may be conducted in a variety of ways based on the specific activity being reviewed and the results of the level A, B and C assessment activities. Any combination of field observation, documents and record review, and interview of responsible personnel may be used to conduct an assessment.

**2.0 CANCELLATION**

None

**3.0 APPLICABILITY**

The assessments by A&E will include MW facility storage areas and activities managed by DOE RL contractors. This procedure applies to Level D assessments conducted by, or for, A&E on Hanford Site MW satellite accumulation areas, 90-day accumulation areas, and interim and/or final permit status storage locations. This procedure does not apply to activities performed at Levels A, B, and C.

**4.0 DEFINITIONS**

**4.1 ACRONYMS**

A&E - Analysis and Evaluation Division  
MW - Mixed Waste  
TSD - Treatment, Storage, and Disposal  
WAC - Washington Administrative Code  
LDR - Land Disposal Restrictions  
SAA - Satellite Accumulation Area

**4.2 DEFINITION OF TERMS**

- Satellite Accumulation Area - As defined in WAC 173-303-040.

**TITLE: Evaluation of Contractor Performance in Meeting Mixed Waste Storage Requirements**

**Number: A&E 01**

**Effective Date: 5-30-00**

**Page: 3 of 6**

- Ninety (90) day accumulation area - as defined in WAC 173-303-200.
- Interim Status - As defined in WAC 173-303-400.
- Final Status - As defined in WAC 173-303-806.
- Storage - As defined in WAC 173-303-040
- Mixed Waste -- Hazardous or Dangerous Waste with a radioactive component
- Mixed Waste Compliance Assessment - An A&E managed oversight activity that is performed through A&E audit or surveillances to assess contractor MW management practices for their adherence to applicable environmental requirements.

Note: "Accumulation" refers to generator activities. "Storage" refers to permitted/interim status TSD activities.

## **5.0 PROCEDURE FOR LEVEL "D" ACTIVITIES (A&E)**

### **5.1 Responsibilities**

Director, A&E is responsible for ensuring:

- A&E MW compliance assessments/evaluations are scheduled and conducted in accordance with the guidance of this procedure.
- Personnel conducting these assessments have appropriate skills to carry out the evaluations assigned.

### **5.2 MIXED WASTE COMPLIANCE ASSESSMENT SCHEDULE**

The A&E Director, or designee, develops an A&E MW assessment schedule no later than 30 days prior to the start of each quarter. Based on contractor self-assessment and independent oversight review results, up to five assessments on TSDs and one 90-Day Storage Pad or SAA may be performed per quarter.

Selection of the MW storage locations to be assessed may be based on:

- Waste storage issues based on findings from RL Facility Representative and contractor self-assessment and independent oversight activities,
- Contractor's/facility's past performance in managing the storage locations,
- Results from external regulatory inspection activities,

**TITLE: Evaluation of Contractor Performance in Meeting Mixed Waste Storage Requirements**

**Number: A&E 01**

**Effective Date: 5-30-00**

**Page: 4 of 6**

- Significant changes to a contractor/facility MW management program.

### **5.3 ASSESSMENT PLANNING**

The A&E Director, or designee, will assign an individual to lead the MW compliance assessment. At the Director's discretion, an assessment team may be formed to help the Assessment Lead conduct the assessment. Individuals outside of A&E, or even outside of DOE-RL, may be selected as long as they satisfy the skill requirements.

The individual assigned the responsibility to lead the assessment will perform the activity in accordance with this procedure.

The Assessment Lead/Team will review the following sections from the environmental regulations, depending on the scope and type of activities being assessed, in order to prepare for the assessment:

- (a) Interim Status Storage Locations - Refer to WAC 173-303-400(3), 173-303-630 (3), 173-303-630 (7) 40CFR265 Subparts B, F through R, W, AA, BB, and DD.
- (b) Final Status Storage Locations - Refer to WAC 173-303-600 through 680.
- (c) Facility-specific information can also be found in the TSD Unit-Specific Portion (Part III) of WA7890008967 "Hanford Facility RCRA Permit", Dangerous Waste Portion.
- (d) Additional information can also be found in contractor /facility-specific implementing procedures associate with MW management and storage.
- (e) Satellite Accumulation Areas - Refer to WAC 173-303-200(2)
- (f) 90-Day Accumulation Areas - Refer to WAC 173-303-200 (1).

### **5.4 ASSESSMENT NOTIFICATION**

Prior to conducting the assessment, the Assessment Lead should coordinate with an applicable program/contractor point of contact to gain access to the MW storage locations that will be evaluated. The Assessment Leads will be responsible to make any arrangements for the appropriate access training for themselves and other members of the assessment team when applicable to gain facility access.

The Assessment Lead will provide formal notification of the pending assessment, via the program office as appropriate, for the scope of the evaluation.

### **5.5 CONDUCTING THE ASSESSMENT**

The assessment personnel will conduct the MW compliance assessment through any one or more of the following methods:

- Review contractor implementing procedures, work instructions, training records and other documentation for adherence to applicable regulations and requirements,

<b>TITLE: Evaluation of Contractor Performance in Meeting Mixed Waste Storage Requirements</b>	<b>Number:</b> A&E 01
	<b>Effective Date:</b> 5-30-00
	<b>Page:</b> 5 of 6

- Review contractor procedures and work activities for conformance with applicable regulations and requirements
- Performing visual inspection of the MW storage location(s),
- Directly observe contractor MW storage inspection activities,
- Interview appropriate personnel associated with MW management activities,
- Oversees contractor inspection and evaluation activities.

The assessment personnel shall record the results of the assessment using a previously prepared checklist, as appropriate. Information such as the following shall be collected to aid personnel in the preparation of the final report:

- (a) Identification of individuals interviewed,
- (b) Identification of procedures, work packages, inspection data sheets and other documents that were reviewed,
- (c) Potential areas of concern or deficiencies.

The individuals conducting the assessments/evaluations should notify the contractor in a timely manner of potentially significant issues discovered during the review.

#### **5.6 ASSESSMENT EXIT**

At the completion of the review, the assessor should brief the cognizant RL program and contractor management of the results, including detailed information on deficiencies.

In the event the assessment is conducted as part of an audit, a formal exit meeting will be conducted in accordance with A&E procedures.

#### **5.7 DOCUMENTATION AND CORRECTIVE ACTION MANAGEMENT**

The results of the assessments will be documented in a report, distributed and managed in accordance with established RL Program/Contractor procedures and processes. The reports will be formally transmitted to the contractor for appropriate corrective actions as necessary. Corrective actions taken as a result of the reviews shall be tracked to completion in accordance with established contractor procedures and processes.

#### **6.0 RECORDS**

This procedure does not generate any new records. Records identified as a result of this process are identified in A&E procedures.

TITLE: <b>Evaluation of Contractor Performance in Meeting Mixed Waste Storage Requirements</b>	Number: <b>A&amp;E 01</b>
	Effective Date: <b>5-30-00</b>
	Page: <b>6 of 6</b>

**7.0 ATTACHMENTS**

Compliance Assessment Pyramid (See attachment 1)

**8.0 REFERENCES (optional)**

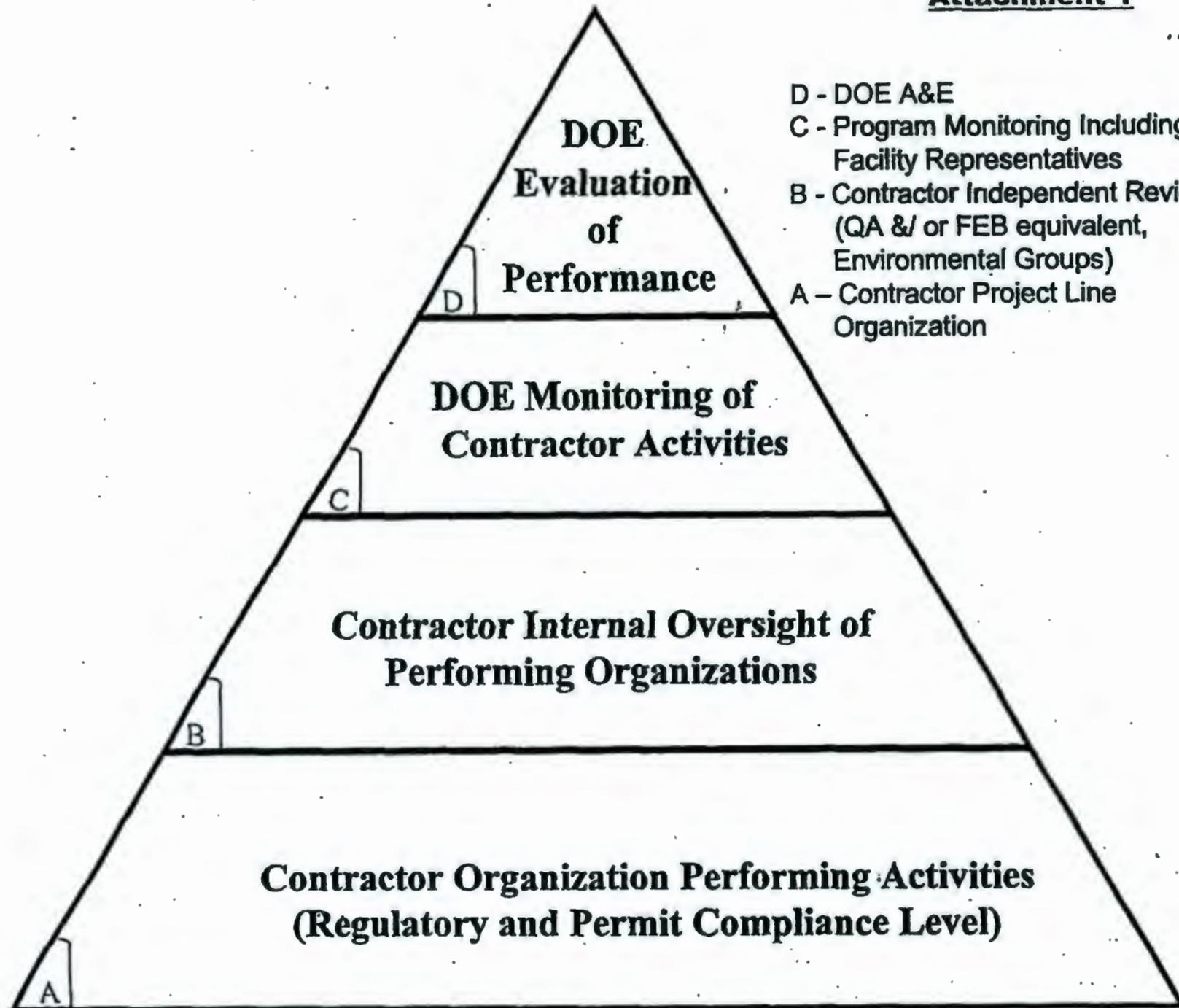
- a) 40CFR265, "Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities"
- b) WAC 173-303, "Dangerous Waste Regulation"
- c) Ecology "Hanford Facility RCRA Permit", Dangerous Waste Portion, WA7890008967
- d) State of Washington Department of Ecology letter to R.T. French, DOE and K.A. Klein, DOE, from T. Fitzsimmons and C. Clarke, "Final Determination pursuant to the Hanford Federal Facility Agreement and Consent Order (HFFACO) regarding the U.S. Department of Energy's (DOE) compliance with Land Disposal Restriction (LDR) requirements of Washington State's Hazardous Waste Management Act (HWMA) and the federal Resource Conservation and Recovery Act (RCRA), DOE's annual Land Disposal Restrictions Report, and HFFACO milestone M-26-01," dated March 29, 2000.

Prepared by Paul Hernandez Date 5/23/00  
 Paul R. Hernandez

Reviewed by Gerald M. Bell Date 23 MAY 00  
 Gerald M. Bell

Approved by Lloyd L. Piper Date 5/23/00  
 Lloyd L. Piper

**Attachment 1**



**Attachment B**

~~OFFICE OF RIVER PROTECTION~~

**TITLE: Mixed Waste Storage Evaluations**

**Number: ORPID 435.1**  
**Effective Date: May 22, 2000**  
**Prepared by: TOD/OSD**  
**Page: 1 of 6**

**1.0 PURPOSE**

To describe the process and define the responsibilities for scheduling, planning, performing and documenting mixed waste storage evaluations to determine whether the contractor is performing activities in accordance with environmental regulations and requirements. This directive meets requirements detailed in a Washington Department of Ecology Final Determination letter (Reference (c) of section 5.3 of this ORPID).

**2.0 CANCELLATION**

None.

**3.0 APPLICABILITY**

This procedure applies to mixed waste storage evaluations conducted by or for ORP on River Protection Project (RPP) mixed waste in satellite accumulation areas (SAA), less than ninety day accumulation areas, interim status storage locations and final status storage locations.

**Note:**

Satellite Accumulation Areas and Less than ninety day accumulation areas will be reviewed to determine if the contractor is controlling these areas in accordance with generator procedures and requirements (i.e. not to storage requirements).

**4.0 ACRONYMS AND TERMS**

**4.1 ACRONYMS**

AMO--Assistant Manager for Operations  
ESHQ--Assistant Manager for Environment, Safety, Health & Quality  
EVD--Environmental Division  
FRI--Facility Representative Instruction  
ORP--Office of River Protection  
ORPID--ORP Implementing Directive  
OSD--Operations Support Division  
RPP--River Protection Project  
TOD--Tank Farm Oversight Division



**TITLE: Mixed Waste Storage Evaluations**

**Number: ORPID 435.1**  
**Effective Date: May 22, 2000**  
**Prepared by: TOD/OSD**  
**Page: 2 of 6**

**4.2 DEFINITION OF TERMS**

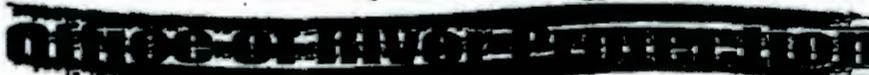
- a. Less than 90 Day Accumulation Area – As defined in WAC 173-303.
- b. Final Status – As defined in WAC 173-303
- c. Interim Status -As defined in WAC 173-303-400.
- d. Mixed Waste Storage Evaluation - A DOE-ORP review conducted as an assessment or surveillance to determine the contractor's compliance with environmental requirements identified in this procedure.
- e. ORP Master Assessment Plan--An annual assessment and surveillance plan developed by TOD consisting of a month-by-month list of assigned reviews to be conducted by DOE-ORP personnel (primarily Facility Representatives), the areas of reviews, and the individuals responsible for conducting the reviews.
- f. Storage -- means the holding of dangerous waste for a temporary period. "Accumulation" of dangerous waste, by the generator on the site of generation, is not storage as long as the generator complies with the applicable requirements of WAC 173-303-200 and 173-303-201.
- g. Satellite Accumulation Areas - As defined in WAC 173-303

Note: "Accumulation" as used herein means generator activities, which includes satellite accumulation areas and less than 90 day accumulation areas. As used herein "Storage" means permitted/interim status Treatment, Storage and Disposal (TSD) activities.

**5.0 PROCEDURE**

**5.1 Responsibilities**

- 5.1.1 Director, Operations Support Division (OSD) is responsible for ensuring ORP compliance with the requirements of this procedure as the responsible DOE line manager for RPP operations. OSD is the customer for the products developed from this procedure.
- 5.1.2 Assistant Manager, Environment, Safety, Health & Quality (ESHQ) is responsible to ensure the Environmental Division, under their direction, carries out the requirements of this directive.
- 5.1.3 Director, Environmental Division (EVD) is responsible for:
  - a. Ensuring mixed waste storage evaluations are scheduled and performed in accordance with the requirements in this procedure to support the determination described in paragraph c. below.



**TITLE: Mixed Waste Storage Evaluations**

**Number: ORPID 435.1**  
**Effective Date: May 22, 2000**  
**Prepared by: TOD/OSD**  
**Page: 3 of 6**

- b. Ensuring personnel conducting these assessments are appropriately trained and qualified.
- c. Conducting an annual determination as to the conformance of RPP mixed waste storage to applicable regulations and requirements based on the evaluations conducted in accordance with this procedure and the ORP Master Assessment Plan.

**5.1.4** Assistant Manager for Operations (AMO) is responsible for ensuring OSD and TOD, under their direction carry out the requirements of this directive.

**5.1.5** Director, Tank Farm Oversight Division is responsible for:

- a. Ensuring mixed waste storage evaluations conducted by TOD personnel are performed in accordance with the ORP Facility Representative Instructions, this procedure, and the ORP Master Assessment Plan.
- b. Ensuring the mixed waste storage evaluation schedule developed by EVD is included/incorporated into the ORP Master Assessment Plan.

## **5.2 SPECIFIC REQUIREMENTS**

### **5.2.1 Mixed Waste Storage Assessment Schedule**

The Director, EVD, in collaboration with the Director, TOD, develops an annual schedule for mixed waste storage compliance evaluations as appropriate.

Note: Satellite accumulation areas, less than 90 day accumulation areas, interim status and final status storage locations may be obtained through the contractor's environmental organization.

Selection of the mixed waste storage locations to be evaluated may be based on:

- Waste storage findings,
- Contractor's /facility performance in managing the storage locations,
- Planned regulatory inspection schedules,
- Significant changes made to a contractor/facility waste management program.

### **5.2.2 Assessment Planning**

The Master Assessment Plan will indicate the individual responsible for conducting the mixed waste storage area conformity reviews. The assigned individual may conduct the

~~OFFICE OF ENVIRONMENTAL RESTORATION~~

**TITLE: Mixed Waste Storage Evaluations**

**Number: ORPID 435.1**  
**Effective Date: May 22, 2000**  
**Prepared by: TOD/OSD**  
**Page: 4 of 6**

review themselves, obtain the services of others to conduct the review, or may enlist the assistance of others to conduct the review as a team. Members of TOD routinely conduct various assessment activities and should be considered as a possible resource.

Individuals assigned responsibility to conduct evaluations will perform the review in accordance with standard DOE surveillance or assessment processes. A typical process for these reviews is detailed in the DOE-ORP FRIs.

The individual responsible for conducting the reviews should prepare for the evaluation by conducting a review of applicable sections from the appropriate environmental regulations, and requirements, depending on the scope and types of activities being evaluated. One or more of the following source documents may be reviewed as appropriate:

- (a) 90 Day Accumulation Areas - Refer to WAC 173-303-200 (1).
- (b) Interim Status Storage Locations - Refer to WAC 173-303-400(3), 173-303-630 (3), 173-303-630 (7) 40CFR265 Subparts B, F through R, W, AA, BB, DD.
- (c) Final Status Storage Locations - Refer to WAC 173-303-600 through 680.
- (d) Dangerous Waste Portion of the Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste at the Hanford Facility, Permit Number WA7890008967, dated May 18, 1999.
- (e) Contractor facility specific implementing procedures associated with mixed waste management and storage.
- (f) Satellite Accumulation Areas - Refer to WAC 173-303-200(2).

### **5.2.3 Assessment Notification**

Individuals responsible for conducting the reviews shall notify contractor environmental and facility personnel of the planned evaluations.

### **5.2.4 Conducting the Evaluation**

Individuals responsible for conducting the reviews will use one or more of the following methods:

- Review contractor implementing procedures, work instructions, training records and other documentation for adherence to applicable regulations and requirements;
- Review contractor procedures and work activities for conformance with applicable regulations and requirements
- Performing visual inspection of the waste storage location(s);
- Directly observe contractor waste storage inspection activities;

~~OFFICE OF INVESTIGATION~~

**TITLE: Mixed Waste Storage Evaluations**

Number: ORPID 435.1  
Effective Date: May 22, 2000  
Prepared by: TOD/OSD  
Page: 5 of 6

- Interview appropriate personnel associated with waste management activities;
- Oversee contractor inspection and evaluation activities.

Personnel shall record the results of the reviews. Types of information identified below should be collected to aid preparation of the final report:

- (a) Identification of individuals, by position, interviewed ,
- (b) Identification of procedures, work packages, inspection data sheets and other documents that were reviewed,
- (c) Potential areas of concern or deficiencies.

The individuals conducting the evaluations should notify the contractor in a timely manner of potential issues discovered during the review.

#### **5.2.5 Debriefing Results**

At the completion of the review, the assessor should brief appropriate contractor management on the results, including detailed information on identified deficiencies.

#### **5.2.6 Documentation and Corrective Action Management**

The results of the evaluations will be documented in accordance with established procedures and processes. The reports will be formally transmitted to the contractor for corrective action as necessary. Corrective actions taken as a result of the reviews shall be tracked to completion in accordance with established procedures and processes.

#### **5.2.7 Records**

Records will be maintained in accordance with ORP procedures.

#### **5.3 References**

- a. U.S. Code of Federal Regulations 40 CFR 265, "Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities"
- b. Washington Administrative Code 173-303, "Dangerous Waste Regulation"

U.S. Department of Energy

~~OFFICE OF ENVIRONMENTAL RESTORATION~~

---

**TITLE: Mixed Waste Storage Evaluations**

Number: ORPID 435.1  
Effective Date: May 22, 2000  
Prepared by: TOD/OSD  
Page: 6 of 6

---

- c. State of Washington Department of Ecology letter to R.T. French, DOE, and K. A. Klein, DOE, from T. Fitzsimmons and C. Clarke, "Final Determination pursuant to the Hanford Federal Facility Agreement and Consent Order (HFFACO) regarding the U.S. Department of Energy's (DOE) compliance with Land Disposal Restriction (LDR) requirements of Washington State's *Hazardous Waste Management Act* (HWMA) and the federal *Resource Conservation and Recovery Act* (RCRA), DOE's annual Land Disposal Restrictions Report, and HFFACO milestone M-26-01," dated March 29, 2000.
  
- d. Dangerous Waste Portion of the Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste at the Hanford Facility, Permit Number WA7890008967, dated May 18, 1999.