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M-026 LDR Report Project Manager Meeting Minutes
Federal Building
Richland, Washington
October 29, 2015

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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.

Date: 16 November 2015
Michael S. Collins, Project Lead, DOE-RL

Date: 10 December 2015
Bryan Trimberger, TPA Lead, DOE-ORP

Date: 12/10/2015
Deborah Singleton, 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 - Actions and Workshop Items
Attachment 4 - Email from Elis Eberlein to Dalena Weyns, dated October 6, 2015
Attachment 5 - Email from Elis Eberlein to Dalena Weyns, dated October 12, 2015 providing Ecology's draft comments on CY2014 5-Year Full Report and LDR table for LDR Meeting/Workshop
Attachment 6 - Roster and Handout for October 13, 2015 LDR Workshop to address Ecology's major issues with CY2014 5-Year Full Report
Attachment 7 - Email from Elis Eberlein to Dalena Weyns, dated October 14, 2015 providing Ecology's reformatted and numbered draft comments on CY2014 5-Year Full Report

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

M-026-01Y M-026-01Z

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Weyns, Magdalena (Dalena)

From: Weyns, Magdalena (Dalena)
Sent: Thursday, November 05, 2015 4:55 PM
To: Collins, Michael S; 'eber461@ecy.wa.gov'; Trimberger, Bryan R; Turner, Michael J; Singleton, Deborah
Cc: Butler, Drusilla H; Farabee, Oliver A (Al); Dagan, Ellen B; Sinton, Gregory L
Subject: Draft October LDR PMM Minutes for Review
Attachments: M-026 - LDR DRAFT PMM MINUTES - 10-29-2015 for review.docx

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All –

Attached are the draft October LDR PMM Minutes for your review. Due to size, I have not included the comments that were requested to be attached to the minutes and submitted to the AR. I will bring a hard-copy of the comments to the next PMM with the minutes for final review and signature. If you would like to see them sooner, please let me know and I will forward separately. Thanks!

Thank you,
Dalena Weyns
Site-Wide Permits, Policy, and Reports
(509) 376-9304

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Attachment 1

Meeting Minutes

1. CY2014 M-026-01Y LDR Report Status

   - Mike Collins indicated DOE-RL had received 300 plus comments from Ecology and needed to figure out how to deal with them. Deborah Singleton and Mike agreed to cover the remaining agenda items, then come back to the discussion on the comments.

2. Storage Assessments/Data Gap Plans provided to TPA Lead Regulatory Agency Project Managers and updates of ongoing assessments

   - Elis Eberlein indicated Ecology has not had time to review the handout on "Existing Data for LDR Storage Assessments on IMUSTS"

3. Action Item Status -

Action Item Status from September Meeting

Action #	Responsible Party	Description	Status
1	DOE	DOE will determine DOE ownership of IMUSTs and whether they are assessable.	**In-Progress**
2	DOE-RL	Determine status of DOE-RL storage assessment procedure; if current, provide Ecology a copy.	**In-Progress**
3	DOE-RL	DOE-RL will set up a workshop with Ecology to discuss resolution of major issues with LDR Report.	**New**

Action 1: The status remains In-Progress.

Action 2: The status remains In-Progress.

Action 3: Status changed to In-Progress; re-word to state: "DOE-RL will ~~set up a~~ hold workshops with Ecology to discuss resolution of major issues with LDR Report.

New actions: 4) DOE-RL will provide to Ecology a schedule for resolution of comments on the CY2014 5-Year Full Report by November 17,

2015.

5) DOE-RL will hold an ad-hoc meeting with Ecology on November 3, 2015 to discuss identified potential impacts of comments to CY2015 Summary Report and provide schedule for preparing Summary Report.

4. General Discussion

- The handouts from the October 13th LDR Workshop will be attached to the meeting minutes and submitted to the AR, along with the draft comments provided by Elis to Dalena Weyns via email. A discussion was held between Deborah, Elis, and Mike that the comments received were only draft and had not formally submitted comments, but would need to be formally transmitted in a letter to DOE-RL. Dalena stated she thought Elis indicated his intent in submitting the draft comments informally was to resolve a number of them during the workshop(s) and not have to address them formally as part of TPA process, citing Eli's email discussing the October 13 LDR Workshop.

5. Documents to be submitted to the Administrative Record

- Email from Elis Eberlein to Dalena Weyns, dated October 12, 2015 providing Ecology's draft "minor" comments on CY2014 5-Year Full Report and LDR table for LDR Meeting/Workshop

- Roster and Handout for October 13, 2015 LDR Workshop to address Ecology's major issues with CY2014 5-Year Full Report

- Email from Elis Eberlein to Dalena Weyns, dated October 14, 2015 providing Ecology's reformatted and numbered draft comments on CY2014 Full Report

- September 24, 2015 LDR PMM minutes (after reviewed and signed by Ecology)

6. Next meeting: December 10, 2015 at 10:30 AM.

- A PMM will not be held in November.

7. Discussion on comments/major issues with CY2014 LDR Full Report

- Deborah requested a schedule from DOE to resolve comments, along with a schedule to revise the CY2014 5-Year Full Report and a schedule to prepare the CY2015 Summary Report. Mike stated ad-hoc meetings/workshops could be held as needed outside (PMMs) to address the eight major issues. Deborah stated that most of the comments could be addressed by resolving the eight major issues.

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- Mike indicated that without resolving the small issues (i.e., the other comments), he couldn't resolve the big issues. He considered the biggest issue was the treatability groups and requested from Ecology what new treatability groups they wanted. He indicated that in some cases characterization data does not exist and wouldn't exist until the CERCLA or RCRA Corrective Action process.
- Elis indicated he thought the biggest issues was schedule and that Ecology legal (Andy Fitz) had 3 options:
    1. Permit document has schedule
    2. CERCLA ROD has schedule (and may be covered by TPA milestone)
    3. TPA milestone has schedule
- Elis also indicated there are too many gaps in schedule information. Ecology's lawyers have advised that the schedule information should not be too low of a level with treatability groups; rather that a high level document should be identified for schedule information for every waste stream.
- Mike questioned if citing Milestone M-015 or M-016, would be adequate? Elis indicated that would be ok, and that it would be ideal to relay on the RCRA clock for treating waste within one year. Elis stated there are too many "TBDs" in the 2014 report indicating no thought behind treatment.
- Mike used the example of SW2 (Solid Waste CERCLA Operable Unit #2) where a decision hasn't been made on how or if it will be treated. Deborah responded the information to report for that example is that the SW2 Work Plan is currently being developed. Elis and Deborah both indicated that even if a milestone is not finalized, it is ok to reference it.
- Deborah asked if Mike had a schedule for responding to comments. Mike stated he did not have a schedule yet. Deborah asked Mike to prepare a schedule for DOE and the contractors to resolve comments. Mike asked if the schedule would be binding on Ecology. Deborah indicated the summary report cannot move forward without comment resolution. Dalena indicated inputs were needed to MSA by November 17th to not impact kick-off of the 2015 Summary Report.
- Deborah asked Mike to meet on Tuesday, November 3rd to address Ecology's eight major issues and identify which comments had a potential impacts to the 2014 Report schedule. She asked Mike to develop a draft schedule for resolution of the comments on the 2014 5-Year Full Report by November 17th.
- A discussion was held on when Ecology's comments were received. Deborah indicated DOE-RL had the comments for a month. Dalena indicated the draft "minor" comments were received on October 12th. Deborah indicated the major issues had been identified in a letter to DOE-RL in August and remaining comments had been provided a month ago at September PMM. No resolution was reached with this discussion during the meeting. (Note: The emails from Elis providing the draft "minor" comments are attached and dated October 12, and October 14, respectively.)

8. Meeting adjourned

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Attachment 2

Attendance List

Name	Organization
Dalena Weyns	MSA
Michael Collins	DOE-RL
Michael Turner	MSA
Robert Hynes	WCH
Brett Barnes	CHPRC
Greg Sinton	DOE-RL
Andrea Prignano	WRPS
Bryan Trimberger	DOE-ORP
Elis Eberlein	Ecology
Deborah Singleton	Ecology
Barry Vedder	WCH
Rick Engelmann	CHPRC
Dru Butler	MSA

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Attachment 3

Actions and Workshop Items

Actions Carried Over and/or Assigned During October PMM

Action #	Responsible Party	Description	Status
1	DOE	DOE will determine DOE ownership of IMUSTs and whether they are assessable.	**In-Progress**
2	DOE-RL	Determine status of DOE-RL storage assessment procedure; if current, provide Ecology a copy.	**In-Progress**
3	DOE-RL	DOE-RL will hold workshops with Ecology to discuss resolution of major issues with LDR Report.	**In-Progress**
4	DOE-RL	DOE-RL will provide to Ecology a schedule for resolution of comments on the CY2014 5-Year Full Report by November 17, 2015.	**New**
5	DOE-RL	DOE-RL will hold a meeting with Ecology on November 3, 2015 to discuss identified potential impacts of comments to CY2015 Summary Report and provide schedule for preparing Summary Report.	**New**

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Attachment 4 –

Email from Elis Eberlein to Dalena Weyns, dated October 6, 2015 regarding Documents for Workshop/Meeting to be held Tuesday October 13, 2015

Weyns, Magdalena (Dalena)

From: Eberlein, Elis (ECY) <eber461@ecy.wa.gov>
Sent: Tuesday, October 06, 2015 11:23 AM
To: Weyns, Magdalena (Dalena)
Subject: Documents for meeting

Dalena,
In response to your voice mail.
Yes, I would be great if we can display the large table I have during the meeting. However, I might not send it over to you until Monday as I will be working on it until then. I might also send over some of our comments. I am trying to sort the comments into two stacks.

1. Comments that refer to the treatability groups and appendix B. Those are the ones that we will work on during the meeting(s). I am hoping they will become irrelevant after the meeting(s).
2. The "regular" comments that we will have to submit formally as part of the TPA process.

So on Monday I might as well send over the working comments under 1.

Thanks,

Elis Eberlein, PhD
Washington State Department of Ecology
Nuclear Waste Program
Waste Management Section
Email: eber461@ecy.wa.gov
Office phone: 509-372-7906
Cell phone: 509-539-3494

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Attachment 5

Email from Elis Eberlein to Dalena Weyns, dated October 12, 2015 providing Ecology's draft comments on CY2014 5-Year Full Report and LDR table for LDR Meeting/Workshop

Weyns, Magdalena (Dalena)

From: Eberlein, Elis (ECY) <eber461@ecy.wa.gov>
Sent: Monday, October 12, 2015 4:11 PM
To: Weyns, Magdalena (Dalena)
Subject: LDR comments and table
Attachments: Combined RCR-2014 LDR report DOE-RL-2015-08 Rev 0.docx; LDR table.xlsx

Dalena,
I have attached the LDR table that I developed and also the comments. Deborah and I tried to divide up the comment in two groups so that we would be able to start with the issues related to tables in the report and schedule. However, we didn't succeed with this division, so these are all the comments that we have. We will have to decide later if and how we submit formal comments.

See you tomorrow.

Elis Eberlein, PhD
Washington State Department of Ecology
Nuclear Waste Program
Waste Management Section
Email: eber461@ecy.wa.gov
Office phone: 509-372-7906
Cell phone: 509-539-3494

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Attachment 6

Roster and Handout for October 13, 2015 LDR Workshop to address Ecology's major issues with CY2014 5-Year Full Report

M-026-01Y CY 2014 LDR Full Report Workshop
Federal Building
Richland, WA

Attendance Roster

Date: October 13, 2015

Name	Representing	Phone Number
Michael Collins	DOE-RL	376-6536
Elis Eberlein	ECY	372-7906
Michael Turner	MSA	376.2872
Bryan Trimberger	DOE-ORP	376-2674
Brett M Barnes	CHPRC	376-3640
Andrea L. Prignano	WRPS	376-9709
Darena Weyns	MSA	374-9304
Kaylin Burnett	DOE-ORP	372-0622
Deborah Singleton	Ecology	372.7923

LDR Workshop

October 13, 2015

Purpose:

Address Ecology's Major issues with the Calendar Year 2014 Hanford Site Mixed Waste Land Disposal Restrictions (LDR) Full Report

Specifically, Ecology has identified the following list of major issues:

- **Treatment**

1.
   - Treatability Groups must be specific to each waste stream with common treatment and disposal requirements; i.e., broad Treatability Groups that combine multiple treatment and disposal needs and requirements are inadequate.

2.
   - All Treatability Group information should be based on waste stream characterization.

3.
   - The Report must document specific projected waste volumes of waste streams to be treated during the next 5-year period.

- **Treatment Schedules**

4.

- Milestones and Interim Schedules for all waste streams must be provided.

5.

- All treatment completion dates by individual waste streams and technologies must be included.

6.

- Limit use of "Treatment not yet selected."

a.

- If treatment hasn't been selected, there must be a schedule to characterize the waste and develop and select the treatment technology.

b.

- If treatment hasn't been selected, there must be a schedule to characterize the waste and develop and select the treatment technology.

- **Storage**

7.

- Storage assessments must be completed and documented for all potential mixed waste.

8.

- Complete Section 2.2 detail for all Location-Specific Data Sheets (LSDS) to identify where wastes are located at the sites; e.g., building locations and amounts of waste.

Group name		TGDS			LSDS			
26-Aug-15	Documents	Treatment milestone or schedule	Treatment Acquisition milestone or schedule	Treatment evaluation milestone or schedule		Storage milestone	Storage documents	NOTES
221-T Containment Building		2035 (Table 14-1); treatment through permit closure plan;		future M-016 or M-085?				Needs milestone or permit schedule
					221-T Containment Building	N/A		
221-T Tank System		2035 (Table 14-1); treatment through permit closure plan;		being evaluated; future M-016 or M-085?				Needs milestone or permit schedule
					RCRA Tank System	N/A		
222-S Laboratory Complex		continuous offsite treatment (until 2035, table 9-8; until 2042, table 14-1);						
					Containerized Mixed Waste; Permitted storage in SAA, 90-day areas and DWMU <1 year.	N/A		
					Mixed waste from 616	N/A		
222-S T8 Tunnel		2047 (table 14-1); Building disposition under M-016 or M-085.		being evaluated; under future M-016 or M-085?				Needs research to determine if pipes are mixed waste. Research is under way. If they are mixed waste, they need a DWMU and a closure plan schedule.
					T8 Tunnel RH-MLLW		approval letter	
241-CX Tank System	DOE/RL-2002-14 (SAP); DOE/RL-2008-51 (Closure Plan)	M-037; Permitted Closure together with 200-IS-1;		being evaluated under M-037; Permitted Closure together with 200-IS-1;				M-037 is a new milestone. Milestone negotiations need to finish and include milestones for HSTF, 241-CX and 400 Area WMU (Conex Box).
					CX Tank System	M-015-90 (2011) and -92B (2014) for 200-IS-1 (table 13-1)		
324 Building REC Waste	DOE/RL-96-73 Rev 3.	M-094-00 (2015)		M-089-06 (2016)				
					Radiochemical Engineering Cells			M-089-06-T01 fulfilled.
325 HWTU		Onsite & offsite permitted treatment through 2028 (table 14-1);						325 needs a schedule for waste disposition. This is related to need for schedule for waste generated after June 30, 2009.
					325 HWTU		A&E-DWR-02-004	Is waste stored more than 1 year?

Group name		TGDS			LSDS			
26-Aug-15	Documents	Treatment milestone or schedule	Treatment Acquisition milestone or schedule	Treatment evaluation milestone or schedule		Storage milestone	Storage documents	NOTES
400 Area WMU			M-092-09 (2018); Permitted onsite treatment;					Close SSA area. Milestone negotiations need to finish and include milestones for HSTF, 241-CX and 400 Area WMU (Conex Box).
					Mixed waste			
B Plant Cell 4		M-085-00 (TBD); M-085-01(2022)		being evaluated				
					Cell 4	M-085-00 (TBD)	A&E-00-ASS-075	
B Plant Containment Building		M-085-00 (TBD); M-085-01(2022)		being evaluated		M-085-00 (TBD)		
					Containment building Storage		A&E-00-ASS-075	
Cs and Sr Capsules		Closure and treatment through Permit Closure Plan		M-092-05 (2017)				
					Cs and Sr Capsules		A&E-SEC-02-002; ltr#02-A&E-0043	
DST Waste		M-045-70 (2040); M-042 (2052, table 13-1); M-090 (?) (Table 14-1); permitted treatment onsite 2018-2047 (table 14-1)						
		Continuous onsite treatment at 219-S through permit.			222-S Bulk Aqueous Liquids		A&E-SEC-01-018	
					DST System		A-01-EMD-TF-09	
					204-AR Aqueous Mixed Waste			Is this facility ever used?
ERDF-Treatment		CERCLA ROD, Onsite (completed 2035, tables 9-5 and 14-1)						
					CERCLA Waste			
					CS&I hazardous debris			
					PFP D&D hazardous debris		PFP Env Compliance Assess; Ltr #01-A&E-129	
					Tank Farms hazardous debris			
					WSCF Lab Hazardous Debris			No longer a source of waste.
HSTF	Closure Plan DOE/RL-2008-51	M-037; treatment through Permit Closure Plan		Being assessed with schedule in 200-IS-1				New milestone. Milestone negotiations need to finish and include milestones for HSTF, 241-CX and 400 Area WMU (Conex Box).

Group name		TGDS			LSDS			
26-Aug-15	Documents	Treatment milestone or schedule	Treatment Acquisition milestone or schedule	Treatment evaluation milestone or schedule		Storage milestone	Storage documents	NOTES
					HSTF 276-S-141/142	M-015 for 200-IS-1	Closure Plan, DOE/RL-2009-112	
LERF/ETF Liquid Waste		2032; Continuous treatment onsite through Permit (tables 9-6 and 14-1)		M-026-07D (2019, tables 9-6 and 14-1) for tritiated water;				
					242-A Process Condensate		A&E-00-ASS-073	
					LERF Wastewater		A&E-00-ASS-073; 01-A&E-004	
					T 31& 34 Leachate		A&E-SEC-02-003; JCS package 2X-11-07445	
					PFP Aqueous Waste			
					T Plant complex/2706-T Tank System		01-A&E-0-12	
LERF/ETF Solid Waste		Continuous treatment through Permit; or offsite treatment; or no treatment needed;						
					ETR Powder drums			
					LERF/ETF O&M waste			
MLLW-01 LDR compliant waste		No treatment required						Why is the group even in this report?
					CS&I Miscellaneous streams			
					CWC LDR compliant		A&E-SEC-02-001	
					T Plant LDR compliant		A&E-SEC-02-001	
					WRAP LDR compliant		A&E-SEC-02-001	
MLLW-02- Inorganic Non-Debris		M-091-42 (2017); Permit; treatment onsite, offsite, or evaluated.						Needs an inventory of wastes, and disposition schedule. M-091-42 only covers wastes in above ground storage before June 30, 2009 and in retrievable storage.
					CWC Solids and Labpacks		A&E-SEC-02-001	M-091-42 does not cover all this waste.
					T Plant		A&E-SEC-02-001	M-091-42 does not cover all this waste.
					WRAP Solids and Labpacks		A&E-SEC-02-001	M-091-42 does not cover all is waste.
					LLBG			M-091-42 does not cover all this waste.

Group name		TGDS			LSDS			
26-Aug-15	Documents	Treatment milestone or schedule	Treatment Acquisition milestone or schedule	Treatment evaluation milestone or schedule		Storage milestone	Storage documents	NOTES
MLLW-03-Organic Non Debris		M-091-42 (2017); Permit; Treated offsite						Needs an inventory of wastes, and disposition schedule. M-091-42 only covers wastes in above ground storage before June 30, 2009 and in retrievable storage.
					LLBG MLLW Retrieval		A&E-SEC-02-001	M-091-42 covers this waste?
					T Plant complex		A&E-SEC-02-001	M-091-42 does not cover all this waste.
					WRAP			M-091-42 does not cover all this waste.
					CWC		A&E-SEC-02-001	M-091-42 does not cover all this waste.
MLLW-04-Hazardous Debris		M-091-42 (2017); Permit; Treated offsite						Needs an inventory of wastes, and disposition schedule. M-091-42 only covers wastes in above ground storage before June 30, 2009 and in retrievable storage.
					CWC		A&E-SEC-02-001	M-091-42 does not cover all this waste.
					LLBG MLLW retrieval		A&E-SEC-02-003	M-091-42 covers this waste?
					T Plant complex		A&E-SEC-02-001	M-091-42 does not cover all this waste.
					WRAP		DE-AC06-96RL13200	M-091-42 does not cover all this waste.
					FFTF-440 pad			M-091-42 does not cover this waste.
MLLW-05-Radioactive Lead solids		M-091-42 (2017); Permit; treatment onsite, offsite, or evaluated.						No waste; M-091-42 only covers wastes in above ground storage before June 30, 2009 and in retrievable storage.
					CWC Elemental Lead		A&E-SEC-02-001	M-091-42 does not cover all this waste.
					T Plant Elemental Lead		01-A&E-0-12	M-091-42 does not cover all this waste.
					WRAP Radioactive Lead Solids		DE-AC06-96RL13200	M-091-42 does not cover all this waste.
MLLW-06-Mercury Wastes		M-091-42 (2017); M-091-01 (2016 and 2018); treatment offsite, or evaluated.						The inventory is supposed to be 0. But there is Hg in PUREX Tunnel #2, cars 7, 9, 11. M-091-42 is not valid for this waste.

Group name		TGDS			LSDS			
26-Aug-15	Documents	Treatment milestone or schedule	Treatment Acquisition milestone or schedule	Treatment evaluation milestone or schedule		Storage milestone	Storage documents	NOTES
					CWC Elemental Hg		A&E-SEC-02-001	M-091-42 does not cover this waste.
					WRAP Elemental Hg		DE-AC06-96RL13200	M-091-42 does not cover this waste.
MLLW-07-RH and Large Container		M-091-43 (2017); treatment onsite, offsite, or evaluated.						Needs an inventory of wastes, and disposition schedule. M-091-43 only covers wastes in above ground storage before June 30, 2009 and in retrievable storage.
					325 RH		A&E-DWR-02-004	M-091-43 does not cover this waste.
					CWC		A&E-SEC-02-001	M-091-43 does not cover all this waste.
					LLBG		A&E-SEC-02-001	M-091-43 does not cover all this waste.
					T Plant RH and Large container		01-A&E-0-12	M-091-43 does not cover all this waste.
					WRPS RH and Large Container			M-091-43 does not cover all this waste.
					WRAP		A&E-SEC-02-001	M-091-43 does not cover all this waste.
MLLW-08-Unique Waste		M-091-42 (2017); treatment offsite, or evaluated.		being evaluated				Needs an inventory of wastes, and disposition schedule for wastes stored after June 30, 2009.
					CWC		A&E-SEC-02-001	M-091-42 does not cover this waste.
					T Plant Mixed waste requiring special processing		01-A&E-0-12	M-091-42 does not cover this waste.
					WRAP		A&E-SEC-02-001	M-091-42 does not cover this waste.
MLLW-09- Radioactive batteries		M-091-42 (2017); Permit; treatment offsite						No waste; M-091-42 only covers wastes in above ground storage before June 30, 2009 and in retrievable storage.
					CWC Pb & Cd batteries		A&E-SEC-02-001	M-091-42 does not cover this waste.
					T Plant Radioactive batteries		01-A&E-0-12	M-091-42 does not cover this waste.
					WRAP Misc Heavy Metal Batteries		A&E-SEC-02-001	M-091-42 does not cover this waste.

Group name		TGDS			LSDS			
26-Aug-15	Documents	Treatment milestone or schedule	Treatment Acquisition milestone or schedule	Treatment evaluation milestone or schedule		Storage milestone	Storage documents	NOTES
MLLW-10- Reactive Metals		M-091-42 (2017);		being evaluated				Needs an inventory of wastes, and disposition schedule. M-091-42 only covers wastes in above ground storage before June 30, 2009 and in retrievable storage.
					CWC Alkali Metals		A&E-SEC-02-001	M-091-42 does not cover this waste.
					T Plant Reactive Metals		01-A&E-0-12	M-091-42 does not cover this waste.
PUREX Plant		M-085-00 (TBD); M-085-01 (2022); permitted treatment??		being evaluated				
					PUREX containment building	M-085-00(TBD) (table 13-1)		
PUREX storage tunnels		M-085-00 (TBD); M-085-01 (2022); permitted treatment??		being evaluated				
					Tunnel 1 and 2	M-085-00(TBD) (table 13-1)	A&E-SEC-01-016	
SST Waste		2018-2047 (Table 14-1); M-045-70 (2040); M-062-00 (2047); M-090-00; treatment onsite through the Permit;						
					SST system		FY2006-POPD-S-0313	
TRUM-CH Large container		M-091-44 (2030) and M-091-01 (2016, 2018); treatment offsite		being evaluated				Needs an inventory of wastes, and disposition schedule. M-091-44 only covers wastes in above ground storage before June 30, 2009 and in retrievable storage.
					CWC TRUM boxes		A&E-SEC-02-001	M-091-44 does not cover all this waste.
					LLBG TRUM retrieval boxes		A&E-SEC-02-003	M-091-44 covers this waste.
					T Plant complex TRUM box		01-A&E-0-12	M-091-44 does not cover all this waste.
					WRAP TRUM large container		DE-AC06-96RL13200	M-091-44 does not cover all this waste.
TRUM-CH Small Container		M-091 -46 (2017); treatment onsite or offsite (completed 2032, table 10-1)						Needs an inventory of wastes, and disposition schedule for wastes stored after June 30, 2009.

Group name		TGDS			LSDS			
26-Aug-15	Documents	Treatment milestone or schedule	Treatment Acquisition milestone or schedule	Treatment evaluation milestone or schedule		Storage milestone	Storage documents	NOTES
					325 HWTU TRUM-CH		A&E-DWR-02-004	M-091-46 does not cover this waste.
					CWC TRUM-CH	M-091	A&E-SEC-02-001	M-091-46 only cover some of this waste.
					LLBG TRUM-CH retrieval	M-091	A&E-SEC-02-003	M-091-46 cover this waste.
					PFP TRUM debris		PFP Env Compliance Assess; Ltr #01-A&E-129	M-091-46 does not cover this waste.
					T Plant TRUM-CH	M-091	01-A&E-0-12	M-091-46 only cover some of this waste.
					WRAP TRUM-CH	M-091	DE-AC06-96RL13200	M-091-46 only cover some of this waste.
TRUM-RH		M-091-44 (2030); M-091-01 (2016, 2018); treatment onsite, or evaluated.						Needs an inventory of wastes, and disposition schedule for wastes stored after June 30, 2009.
					325 HWTU TRUM-RH		A&E-DWR-02-004	M-091-44 does NOT cover this waste.
					CWC TRUM-RH		A&E-SEC-02-001	M-091-44 only cover some of this waste.
					LLBG TRUM-RH	M-091	A&E-SEC-02-003	M-091-44 only cover some of this waste.
					T Plant TRUM-RH		01-A&E-0-12	M-091-44 only cover some of this waste.
					WRAP TRUM-RH		DE-AC06-96RL13200	M-091-44 only cover some of this waste.
WTP Lab Complex				being evaluated				no waste
					WTP Lab Spent Ion Exchange Resin			
					WTP LaB Spent Chemicals/Reagents			
					WTP Lab Spent Misc Compactable Debris			
					WTP Lab RLD			
Other issues								1. There needs to be a summary report showing milestones or other dates, by location.
								2. The M-16-93 Project Management Plan needs a schedule for disposition of CERCLA wastes. Then, that PMP could be referenced in this M-26 Report.

Weyns, Magdalena (Dalena)

From: Eberlein, Elis (ECY) <eber461@ecy.wa.gov>
Sent: Wednesday, October 14, 2015 4:59 PM
To: Weyns, Magdalena (Dalena)
Cc: Collins, Michael S
Subject: RE: LDR comments and table
Attachments: Combined RCR-2014 LDR report DOE-RL-2015-08 Rev 0.docx

Dalena,
I reorganized the comments again as I promised. I also added a number column and a response column as we will need that anyway.

-Elis

From: Weyns, Magdalena (Dalena) [mailto:Magdalena_I_Weyns@rl.gov]
Sent: Tuesday, October 13, 2015 7:05 AM
To: Eberlein, Elis (ECY) <eber461@ecy.wa.gov>
Cc: Collins, Michael S <michael.collins@rl.doe.gov>
Subject: RE: LDR comments and table

Elis –

Thank you. I will try to get access to the conference room before our meeting and have it set up on the overhead.

Dalena

From: Eberlein, Elis (ECY) [mailto:eber461@ecy.wa.gov]
Sent: Monday, October 12, 2015 4:11 PM
To: Weyns, Magdalena (Dalena)
Subject: LDR comments and table

Dalena,
I have attached the LDR table that I developed and also the comments. Deborah and I tried to divide up the comment in two groups so that we would be able to start with the issues related to tables in the report and schedule. However, we didn't succeed with this division, so these are all the comments that we have. We will have to decide later if and how we submit formal comments.

See you tomorrow.

Elis Eberlein, PhD
Washington State Department of Ecology
Nuclear Waste Program
Waste Management Section
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Ecology Comments on 2014 Hanford Site Mixed Waste Land Disposal Restrictions Full Report. DOE/RL-2015-08, Rev. 0.				
#	Page / Section	Text	Comment	Response
1	General (Comp)		Since the LDR report is a TPA primary document, the document itself may contain the enforceable schedule. So if at TPA milestone does not exist the LDR report can specifically include the enforceable schedule.	
2	Throughout (Comp)	Use of the terms, "sufficient" or "sufficiently"	Indeterminate language is unenforceable. Revise the text to describe actualities.	
3	Throughout (Comp)	Use of the term, "generally"	Indeterminate language is unenforceable. Revise the text to describe actualities.	
4	Throughout (Comp)	Use of the term, "typically"	Indeterminate language is unenforceable. Revise the text to describe actualities.	
5	General (KAC)	Treatability Group	For the purposes of this LDR Plan and identifying and describing the mixed waste at Hanford, I do not understand what this means. For example, table 1-1 Treatability Groups, 222-S T8 Tunnel could be classed as a treatability group because it is safe to say that the waste stored in the tunnel is same. However, to list the 222-S Lab complex as a treatability group is the complete opposite and its many waste streams will need more description and per DWMU/waste stream. Define treatability group and provide its function for this report. Reviewing the requirements for the LDR Plan, treatability group(s) is not part of it.	
6	General (KAC)	Report Structure and Content	I find the overall report too opaque for a critical review to determine a complete approval. It lacks specific details necessary to assess compliance. Requirements are not identify clearly. Terminology is inconsistent with the final determination direction. Verifying that the LDR Plan requirements are included and complete is extremely time consuming and difficult.	
7	p. 1-1, Section 1.1 (EPA)	...or the waste is managed at a Hanford Site location managing mixed waste	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	

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		pursuant to the CERCLA off-site rule (40 CFR 300.440, "Procedures for Planning and Implementing Off-site Response Actions").	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.	
8	p. 1-1, Section 1.1 (KAC)	Sources and Organization of Waste Storage Data- what the report does...	The LDR Report does the following: 1) Provide an inventory and projected generation of mixed waste subject to LDR; 2) Provide an assessment of how these wastes are stored; 3) Provides an identification of the treatment capacity necessary for these wastes; 4) Provides plans and schedules for developing and acquiring needed treatment capacity not currently available, and for treating the current and projected waste inventories. Based on the Director Final Determination, this is what the report does and the above language needs included. Add it to the introduction or 1-1.	
9	p. 1-1, Section 1.1 (KAC)	"a result of discussions among DOE, Ecology, EPA"...	Unless there is a referenced signed document verifying these discussions, delete this. How is this relevant and what was the discussion? Report is based on a director determination and TPA milestones.	
10	p. 1-1, Section 1.1 (KAC)	"mixed waste that meets LDR treatment stds"	The report is for: 1) Provide an inventory and projected generation of mixed waste subject to LDR; If a waste meets the LDR treatment stds, why is it on this report? Please explain.	
11	p. 1-2, Section 1.1 (KAC)	Per agreement with Ecology.....PMM meeting minutes...	Not reporting this type of waste stream may seem reasonable however, provide the signed document that authorized this change. Is doc part of the TPA/LDR record?	
12	p. 1-2, Section 1.1 (KAC)	Storage Report	Provide me the section (s) or language in your report that complies with these requirements of the Storage Report in this LDR Plan:	

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			"For those wastes covered in the Storage Report, the LDR Plan will include a Treatment Report, identifying : *a-treatment and disposal technologies and treatment capacity needed to manage these LDR wastes, assuming current waste generation rates;* *b- commercial treatment technologies and extent of capacity currently available to manage these LDR wastes;* *c- DOE treatment technologies and extent of capacity currently available to manage these LDR wastes;* *d- whether any new commercial or DOE treatment capacity is scheduled to be available to manage these LDR wastes, and an assessment of when such new capacity will be available; and* *e. - alternate technologies which are in development and which may be used to manage these LDR wastes, and an assessment of when such alternate technologies may become available.* *f- for d. and e. above, identification of the basis and assumptions utilized in forming the response and in making the assessments, and any foreseeable contingencies (including permit reviews) which may affect the assumptions."*	
13	p. 1-2 Section 1.1 (EPA)	General	The concepts of "treatability group," "waste stream" and "waste" are confusing and difficult to understand. The LDR report needs to have clear, understandable definitions of each term that reflect how the terms are used to classify wastes and associate wastes with treatment technologies and schedules, and have clear and consistent use of the terms. Section 1.1, for example, states "This storage report provides aggregate waste stream data based on a set of waste treatability groups." This implies that treatability groups consist of a set of one or more waste streams. However, text in the TGDSs in Appendix B is less clear. For example, under Section 1.0 "Waste Stream Identification," section 1.2 reads "Description of waste (list WSRd numbers for this waste stream, as applicable." Suggesting that waste stream and waste are interchangeable. Are waste streams and what is described in LSDS the same?	

			See comments on Section 8.0.	
14	P. 1-2, Section 1.1 (Comp)	Mixed waste is reported here as projected waste when the waste meets either of the following criteria: The waste has not been generated and therefore is not subject to the storage prohibition. The waste is managed in either a satellite accumulation area, a 90-day accumulation area, or is CERCLA mixed waste destined for treatment at ERDF.	Why is waste managed in a 90-day being considered as projected waste?	
15	p. 1-4, Table 1-1, entry for "MLLW-06 – Mercury wastes" (EPA)	Various forms of mercury (elemental and amalgamated) from various locations.	In at least one instance (PUREX storage tunnels), there are wastes that contain elemental mercury (equipment with elemental mercury in thermo wells). Unless all sources of elemental mercury are identified in the LDR report inventory, the LDR report cannot effectively function as a planning document for identification and acquisition of necessary treatment capacity. All treatability groups should be carefully reviewed for similar issues. Presumably, all mercury within this treatability group is contaminated with radioactive material, such that they fit into the D009 treatability group for elemental mercury contaminated with radioactive materials. The MLLW-06 treatability group description should be amended to clarify this point. If true, then at least some wastes, those that are already amalgamated, already meet the applicable LDR treatment standard, and should be included in the MLLW-01 - LDR Compliant Waste, not the MLLW-06 treatability group.	
16	p. 1-4, Table 1-1, entry for "MLLW-08 –	Waste stream consists of unique waste that requires special processing not	This treatability group seems like an excellent example that likely contains multiple individual wastes that require special processing distinct from the balance of the larger MLLW-08	

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	Unique Waste" (EPA)	typically employed for the other MLLW waste streams.	treatability group. Unless the larger treatability group is appropriately subdivided, it is essentially impossible to match specific quantities of waste with particular treatment requirements to the corresponding "special processing" treatment technology that is required. The description of MLLW-09, including mention of beryllium powder, PCB oils, aqueous wastes with PCBs, makes it abundantly clear that multiple and very distinct treatment technologies will be required for the various unique wastes lumped into this treatability group. All of the treatability groups in Table 1-1 should be critically reviews with respect to this point.	
17	p. 1-4, Table 1-1, entry for "MLLW-10 – Reactive Metals" (EPA)	Waste stream consists of unique waste that requires special processing not typically employed for the other MLLW waste streams.	This is another example of a treatability group that contains diverse wastes that are subject to distinct treatment requirements. As documented in Table 2-1, this treatability group includes water reactive alkali metals as well as cyanides/sulfides, which are typically not water reactive but do react with acids. It is unlikely that a single treatment technology could treat both alkali metal wastes and cyanide/sulfide. Therefore, to defensibly establish a planning basis for necessary treatment technologies, it will be necessary to separate this treatability group into subgroups, each of which contains wastes amenable to treatment via a common treatment technology. Again, this is a comment that may apply to multiple treatability groups.	
18	p. 1-5, Table 1-2 (EPA)	Various	This table includes four entries for "streams no longer applicable to report [sic]," but for which no Reason is provided. Please include the missing information. Also, while past history, it is not clear why Purgewater was "closed and not used in 2011." Given that purgewater continues to be generated, it is not clear why it is not included in the report.	
19	P. 1-5, Table 1-2 (Comp)	Significant amounts of alkali metal waste are no longer generated. This inventory is stored at the Central Waste Complex (CWC) and	Where is this waste being stored at CWC?	

		reported as part of that inventory.		
20	P. 1-6, T-Dragoff (EE)	"Waste was dispositioned and disposed".	As dispositioned and disposed is basically the same thing, do both need to be used in this sentence? Furthermore, my Webster considers disposition to be a noun only and not a verb.	
21	p. 1-7, Table 1-2 (KAC)	TRUM-PCBs	What is the physical location and method of storage of these wastes? Where in the M-91 settlement agreement does it explain this change?	
22	P. 1-7, Table 1-2 (Comp)	ERDF – Direct Disposal – No storage of mixed waste occurred for this treatability group.	If no storage occurs, why is this listed in the LDR report?	
23	p. 1-7, Table 1-2 (KAC)	Purgewater	Are you referring to modutank unit 1? The unit is no longer there but has not officially closed under an issued permit. There are other modutank units (2, 3 ,4) that currently accept and store purgewater. Update this section to specifically identify and describe Hanford purgewater.	
24	p. 1-7, Table 1-2 (KAC)	Blank in "Reason" column	Provide a reason why stream is no longer applicable.	
25	p. 1-9, Section 1.3 (KAC)	Annual report revisions	What is the approved document reference and number that verifies this bullet list and final determination for the annual LDR reports?	
26	p. 1-9, Section 1.3 (KAC)	Schedule of LDR Report	Delete the 2 sentences that begins with "Third option... ends with work scope in question"	
27	P. 1-9, paragraph starting with "Changes..." (EE)	"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?	
28	P.1-10 – 1-11, Section 1.5 (Comp)	Ecology and DOE Richland Operations Office (DOE-RL) initiated M-091-45	Replace the language in the prior column, with this language, "On June 8, 2015 the Hanford Tri-Parties provided advance notice of a 45-day public comment period on proposed	

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		negotiations on September 8, 2009, to reach an agreement on adjustments in work scope and milestones consistent with the shift of resources to the River Corridor and other higher priority Hanford Site cleanup tasks. The Parties agreed that it was prudent to expand the scope of the negotiations to encompass all of the M-091 series milestones and to simplify the M-091 language, both in response to public comments that the milestones were difficult to read and understand. In September 2009, a Tri-Party Agreement milestone change request (M-091-01) modifying the M-091 series of milestones, was signed and approved by DOE and the regulators, with a due date to be established pursuant to milestones M-091-01A and M-091-01B. This M-091 change request provided a comprehensive, easily understood series of milestones to measure progress on the safe and stable processing and shipping of Hanford Site wastes. The change also	changes to the Tri-Party Agreement concerning schedules for the management of Hanford Site solid waste (M-091 milestone series). The milestones include retrieval, characterization, treatment, packaging, certification and shipment of waste that was stored underground in drums and boxes and is also called suspect-transuranic waste. The agencies will request public comment on these proposed milestone changes before they are finalized. A public comment period will begin in early July, and a public meeting may be held."	

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		included establishing enforceable milestones for the shipment of TRUM waste from the Hanford Site.		
29	p. 2-1, Section 2.0 (KAC)	Summary Inventory – "The treatability group breakout of retrievably stored waste is described in the PMP...	The Final Determination required information for this LDR report must be in this report. Also, given that a PMP has not been approved by Ecology currently (and could occur in the future) it cannot be used to satisfy these waste streams. Add this information to this report.	
30	P. 2-1, Section 2.1 (Comp)	Stored waste volumes are reported either by the actual waste volume or by the waste container volume.	It should be done consistently one way or the other throughout the document by all contractors.	
31	p. 2-1, Section 2.1 (EPA)	"The WTP is a new TSD unit..."	The WTP is NOT a "TSD unit." It is a collection of distinct dangerous waste management units. Please revise the cited text accordingly.	
32	p. 2-1, Section 2.3 (EPA)	Reference to RCRA past practice units.	The classification RCRA past practice unit, or RPP unit, no longer exist in the TPA. Most likely, this reference needs to be replaced with one to RCRA/CERCLA past practice unit, or R-CPP. It is essential that each and every submission of the LDR report be carefully edited to ensure it is true, accurate, and up-to-date.	
33	P. 2-1, Section 2.3 Potential Mixed Waste (Comp)	Past-practice waste is waste that was abandoned before the first effective LDR date in Washington State, August 19, 1987.	Example given, B Plant operated in support of WESF between 1990 and 1995. B Plant activities between 1995 and 1998 were in support of a disposition process, which was known as the Transition Phase. The Possibility of Mixed Waste generated and stored in Dangerous Waste Management Unit vessels is likely during these time frames. Sampling and inventorying efforts were made during the transition phase and even earlier. These efforts were documented in HNF-3208 and the B Plant Preclosure Plan. The Potential Mixed Waste Table needs to be re-evaluated for deletion of line items (e.g. B Plant and PUREX tanks) and inserted in applicable sections and tables required in the LDR report.	

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34	p. 2-2, Section 2.3 (EPA)	Past-practice waste is waste that was abandoned before the first effective LDR date in Washington State, August 19, 1987.	The term "abandoned" should be replaced with "disposed of." In some cases, such as waste "abandoned" in a tank system is still being actively managed under the dangerous waste program.	
35	P. 2-4, Table 2-1 (Comp)	221-T Tank System, Current Inventory (m^3)[2]: 1.7	Past years report 0 and .36 for the inventory with no projected generation. Identify the process used for collecting the data.	
36	p. 2-4, Table 2-1 Storage Volumes of Mixed Waste Generation Projections and Table 2-2 Treatability Group Summary Storage, characterization, and treatment Activities (Comp)		The Treatability Group Name needs to first reference the specific TSDF Unit Group that the Treatability group Name is associated. From reading the table, a general reader would have to do research to find what TSDF Unit Group where the wastes are located and in some cases the Unit Group associated with the waste cannot be found (e.g. ERDF Treatment – what Unit Group is holding this waste?). Please add the specific TSDF Unit(s) in the column where the Treatability Group Name is listed. (e.g., T-Plant - 221-T Tank System) or add a written description in this section to point to Appendix B Table B-1 for this information.	
37	p. 2-4, Table 2-1 (KAC)	Column Treatability Group Name 222-S Lab Complex 222-S T8 Tunnel	This is too vague and does not me the requirement of correctly identifying and describing each mixed waste. There are many WMU with different waste streams at each for the 222-S complex. Follow the correct process for the LDR plan and the storage report providing all the information required. 222-S T8 Tunnel is currently an illegal storage unit and is one more 222-S WMU which will be part of the Rev 9 permit.	
38	p. 2-5, Table 2-1, entry for B-Plant Containment Building (EPA)	Description section	While the building itself is legitimately under long-term S&M, whatever this plan is does NOT substitute for permit authorization to store mixed debris. Please revise accordingly.	

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39	P. 2-5, Table 2-1 (Comp)	ERDF – Treatment: This waste stream reflects mixed waste that requires treatment before disposal at ERDF. The waste is stored at the OU/facility, and is transferred to ERDF where the waste is treated and disposed. Generation Projections: 2015 (150.5 m^3), 2016 (137.5 m^3), 2017 (102 m^3), 2018 (102 m^3), 2019 (102 m^3)	DOE-RL-2014-17 Rev. 0 reports the following. Generation Projections: 2014 (52,947.396 m^3), 2015 (25,061.416 m^3), 2016 (25,036.112 m^3), 2017 (25,000.612 m^3), 2018 (25,000.612 m^3). What accounts for the significant change in projections?	
40	P. 2-5, Table 2-1 (Comp)	B Plant Cell 4 and B Plant Containment Building	This table does not include mixed waste from outside of the containment building at B Plant.	
41	p. 2-5, Table 2-1, entry for DST wastes (EPA)	Current inventory value of 101,009.105 cubic meters	Seriously, is the quantity of DST wastes known to nine significant figures? All data should be reported to a number of significant figures that reflects the accuracy and precision of the underlying data.	
42	P. 2-5, Table 2-1 (Comp)	DSTs - 33.000	The transfer of waste from the SSTs to the DSTs in done in campaigns, and it would seem that the generation projections would vary more.	
43	P. 2-6, Table 2-1 (Comp)	MLLW-01-LDR Compliant Waste, The waste either meets RCRA, and applicable State LDRs as-generated, or the waste has been treated to meet the LDRs. Additionally, the waste meets unit specific disposal requirements.	If the waste meets both the LDR treatment standards and the specific disposal requirements, why wouldn't it just be disposed rather than stored?	
[redacted]	[redacted]	Description section	This is an excellent example of a treatability group that contains distinct wastes subject to distinct treatment technologies (in this case, waste with a method of treatment LDR treatment standard and wastes with concentration-based treatment standards that can be treated via any applicable method. The LDR report must be structured such that plans	

			and schedules for particular technologies can be associated with the particular wastes requiring that technology, as well as schedules for same. Currently the LDR report lumps wastes needing to be treated with multiple distinct treatment technologies with treatment plans/schedules that often do not identify particular treatment technologies, or schedules that are not specific to any particular technology. Therefore, it is simply not possible to extract a defensible plan and schedule for a particular volume of waste and its particular LDR treatment standard. In this sense, the LDR report fails its core function and is therefore deficient.	
45	p. 2-7, Table 2-1, entry for MLLW-03 (EPA)	Text in the description section reading "...or thermal treatment is BDAT for meeting the applicable LDR treatment standards (concentration-based standards).	This does not accurately reflect LDR regulatory requirements. While EPA does establish concentration-based standards based on BDAT, but once established, any technology may be used to meet a concentration-based treatment standard. This is important in developing schedules, since actually applying a thermal treatment process may not be necessary for all wastes in the MLLW-03 treatability group. Consistent with comments on other treatability groups, MLLW-03 includes wastes that are likely to be subject to multiple distinct treatment technologies. For example, soils and labpacks are not likely to be amenable to treatment in the same treatment process based on significant differences in their chemical and physical form, even if both contain the general class of organic non-debris waste, particularly if alternate LDR treatment standards for labpacks is applied. Therefore, it is essential that both the treatability group and associated treatment plans and schedules clearly reflect these sorts of subsets within the existing treatability groups.	
46	P. 2-7, Table 2-1 (Comp)	MLLW-04 – Hazardous Debris, Generation Projection 2015-2019 $(m^3)^2$: 66.260 annually	These projections are up from last year's report which showed Generation Projection 2014-2018 $(m^3)^2$: 3.26 annually. What has contributed to the projections increased?	
47	p. 2-7, Table 2-1, MLLW-05, Radioactive	Current and projected inventory	These numbers don't make sense. Table 2-1 under B Plant Containment Building states that lead, including shielding, is stored in the B-Plant process cells. Presumably, this is radioactive and would require the same treatment as wastes	

	Lead Solids (EPA)		in the RLS treatability group. This points out a structural flaw in the LDR report – identical wastes can show up in different treatability groups. This can be problematic in two ways. First, by not accounting for the full inventory of identical wastes, defensible planning for the necessary treatment capacity cannot take place. Second, planning can be misleading – if planning on the current and projected inventory of zero without accounting for identical wastes in other treatability groups, the necessary treatment capacity might not be properly planned for. More generally, this comment highlights the need for treatability groups to have a more detailed level of granularity based on required treatment. For example, the B-Plant containment building treatability group would have a treatability subgroup for RLS. The inventory, and associated treatment plans and schedules for all RLS at the facility could then be comprehensively addressed.	
48	p. 2-8, Table 2-1, Entry for MLLW-06, Mercury Wastes (EPA)	Current and projected inventory	What about elementary mercury documented as being present in thermowells in equipment stored in PUREX tunnels? As with the RLS treatability group, this zero inventory is simply misleading, as there are clearly mercury wastes in storage requiring treatment. Also, the closure plan in the draft re-issue permit states that ancillary equipment for the HSTF tank systems includes an intact mercury manometer, presumably containing elemental mercury. This comment is highly parallel to that above for MLLW-05, Radioactive Lead Solids.	
49	P. 2-8, Table 2-1 (Comp)	MLLW-07 – RH and Large Container, Current Inventory (m^3)[2]: 69.783 Generation Projection 2015-2019 (m^3)[2]: 0 annually	CY 2013 Report had no Generation Projection 2015-2019 (m^3)[2]: 0 annually, yet the waste volume increased by ~20 m^3. What accounts for the increase if nothing was projected for generation?	
50	p. 2-9, Table 2-1, Entry for MLLW-10, Reactive	Description and inventory	As with the RLS and mercury treatability groups, there are in fact inventories of related waste in other treatability groups. For example, wastes included in another treatability group (400-Area WMU) also contain reactive metals in the form of	

	Metals. (EPA)		metallic sodium and NaK alloy. The organization of the LDR report needs to be reviewed to ensure it is transparent in identifying all wastes of similar character and treatment requirements, and that plans/schedules for such treatment account for all of the similar wastes. Also, cyanides/sulfides are not generally water reactive. Why are they include in a treatability group cited as containing water reactive wastes?	
51	p. 2-11, Table 2-2 (KAC)	Last column – "Projected Volume to be Treated"	This is an incorrect statement and wrong answer. It does not provide the volume of the waste to be treated. Remove this statement and provide the correct information.	
52	P. 2-11, Table 2-2 (Comp)	Processing of mixed waste will be performed in accordance with Tri-Party Agreement milestones, permit requirements, CERCLA RODs, and state Dangerous Waste Regulations (WAC-173-303).	Actual volumes in past years have been replaced by this generic phrase. Need to identify waste to be treated here in volumes or refer to where the volumes are.	
53	P. 2-11, Table 2-2 (Comp)	221-T Tank System, Current Inventory (m^3)[2]: 1.7	Past years report 0 and .36 for the inventory with no projected generation. Identify the process used for collecting the data.	
54	P. 2-11, Table 2-2 (Comp)	221-T Containment Building	There are no TPA milestones or CERCLA Rods associated.	
55	p. 2-11, Table 2-2, Entry for 221-T Containment Building (EPA)	Projected volume to be treated.	The highlighted text says absolutely nothing about the projected volume to be treated between 2015 and 2019, except by inference that absolutely no treatment will be occurring. If this inference is really factually correct, then this column should be clear and transparent by stating that the projected volume to be treated is zero. Given that the citation of the mechanisms under which treatment might occur covers essentially all possibilities, the highlighted text really coveys to the reader no useful information – the clear intent of the LDR report is to provide clear, detailed and specific schedules for treatment, not broad generalities with no specificity whatsoever. Further,	

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			wholesale application of this language throughout the entire table (and elsewhere in the LDR report) without any specificity as to the quantity of waste to be treated or any specificity as to the particular schedule elements applicable to the associated treatability group is a significant deviation from requirements of the 1990 LDR report requirements document. In this respect, the LDR report is deficient. In at least some treatability group entries, this language borders on the absurd – would any reasonable person believe that DST wastes to be processed in the WTP will be subject to a CERCLA ROD? In instances where the wastes are associated with permitted, operating dangerous waste management units, such as LERF/ETF Liquid Waste, there is little credible argument for not specifying a projected non-zero quantity of waste to be treated within the LERF/ETF complex in this table entry.	
56	p. 2-11, Table 2-2, Entry for 221-T Tank System (EPA)	Characterization Schedule	This is not entirely accurate. Given that the 221-T tank system is a dangerous waste management unit subject to closure, characterization must be done as part of, if not prior to, closure must be according to the approved closure plan in the permit. Thus, this language should read "Will be done pursuant to the approved closure plan, in coordination with T-Plant Complex Canyon Disposition." That said, a final decision on a closure plan for the 221-T tank system is not yet in place. This comment also applies to the parallel entry for the 222-S T8 tunnel.	
57	P. 2-11, Table 2-2 (Comp)	221-T Tank System	There are no TPA milestones or CERCLA Rods associated.	
58	p. 2-11, Table 2-2, Entry for 222-S Laboratory Complex (EPA)	Treatment process	The 222-S laboratory complex is correctly noted as generating wastes on a current, on-going basis. Further, the text says that commercial stabilization and thermal treatment processes will be used. If this is true (presumably so, since it is stated in a TPA primary document), why is there no projected volume to be treated cited, and why does the projected volume column say that treatment under CERCLA	

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			RODs will occur? CERCLA RODs seldom, if ever, apply to commercial treatment. This latter element of the comment also applies to similar text for the 325 HWTU treatability group. This entry also states that treatment will occur in the 222-S Laboratory Complex. Assuming this statement is exclusive of the 219-S tank system, which is separately considered as part of the DST treatability group, treatment cannot occur in any of the container storage units within the 222-S laboratory complex – see Addendum C in the draft re-issue permit. Therefore, it is not clear why "222-S Laboratory Complex" is cited as a treatment process.	
59	P. 2-11, Table 2-2 (Comp)	222-S Laboratory Complex	There are no TPA milestones or CERCLA Rods associated.	
60	P. 2-11, Table 2-2 (Comp)	222-S T8 Tunnel	There are no TPA milestones or CERCLA Rods associated.	
61	p. 2-12, Table 2-2, Entry for 324 Building REC Waste (EPA)	Projected Volume to be Treated 2015 through 2019	As an example of a constructive means of addressing the comment above under 221-T Containment Building, this entry for the 324 Building REC Waste might be "The entire 5.000 cubic meters of waste will be treated and disposed of within this period according to the closure schedule for324 Building DWMUs to be established in the Hanford dangerous waste permit."	
62	P. 2-12, Table 2-2 (Comp)	325 HWTU	There is no CERCLA Rod associated.	
63	p. 2-12, Table 2-2, Entry for 400 Area WMU (Note: the "400 Area WMU" is not a single waste management unit. Rather, it is two individual	Treatment Process	The various wastes being stored in the two 400-Area DWMUs are generally contaminated with metallic sodium (but not all - at least some contain NaK alloy), and it is very reasonable to conduct treatment via deactivation by reaction with water (or more likely, water vapor). The reaction product of this method of deactivation is, of course, sodium hydroxide. It is not likely, however, that the resulting sodium hydroxide can be feasible recovered for beneficial re-use from treatment of contaminated core component pots or the various sodium-contaminated debris stored in the outside storage area. The text "...and conversion to sodium hydroxide" can be read to suggest that this is the case. Please review and revise	

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	dangerous waste management units. Thus, "WMU" must be plural.) (EPA)		accordingly. Better text would be "Deactivation via reaction with water or water vapor."	
64	p. 2-12, Table 2-2 (KAC)	400 Area WMU – Treatment Process	Waste in the FSF and ISA is debris waste with some sodium. USDOE has provided no documentation (as requested by Ecology) that it will And can be recovered as sodium hydroxide to be used as product. This has been documented in NWP compliance inspection report and findings. What is the complete treatment process for this waste? How was the waste generated? What are the LDR treatment standards for this waste? What are the results of DOE's assessment of compliance status of the storage methods per state requirements?	
65	p. 2-14, Table 2-2, Entry for LERF/ETF Solid Waste (EPA)	Planned Characterization Schedule	On the face of it, characterization of this waste is very much required – it is very confusing to state that either characterization or a characterization schedule is not required. It would make far more sense to use the entry "Ongoing" included for the LERF/ETF Liquid Waste treatability group.	
66	p. 2-14, Table 2-2, Entry for MLLW-02 – Inorganic Non-Debris (EPA)	Planned Characterization Schedule	The cited M-091-42 milestone addresses only completion of treatment. It is not clear what this means in terms of a characterization schedule - is there characterization that needs to be completed prior to treatment (as might reasonably be the case for MLLW-03), or is it implied that the planned characterization schedule is implicit in the cited completion of treatment. If the latter, it is probably not enforceable, as the only firm date is the milestone completion date, and figuring out whatever prior schedule for characterization would be highly subjective. This comment applies to all table entries citing the M-091-42 milestone. Also, it seems odd to cite a treatment milestone for the characterization schedule. What about information that may be needed during storage of the waste to ensure it is safely	

			and properly managed (e.g., sufficient characterization of the waste to ensure it is compatible with other wastes and with the container in which it is stored)? Based on these points, the LDR report is deficient with respect to the content of the 1990 LDR report requirements document applicable to waste characterization.	
67	p. 2-14, Table 2-2, Entry for MLLW-02 – Inorganic Non-Debris (EPA)	Treatment Process	Table 2-1 states that wastes in the MLLW-02 treatability group contain wastes that have particular methods of treatment as the required LDR treatment standard. It is not at all clear whether the stated treatment process of stabilization/neutralization will satisfy specified methods of treatment for all wastes within this treatability group. On this point, the LDR report is deficient. See the 1990 LDR report requirements document, Section 5, which requires the Treatment Plan "to establish, for each LDR waste, milestones and schedules for the development and implementation of treatment technologies...." Satisfaction of this requirement must be based on the LDR report comprehensively considering all treatment technologies associated with wastes subject to the report.	
68	P. 2-14, Table 2-2 (Comp)	MLLW-02	M-091-42 covers waste in above-ground storage as of June 30, 2009 and in retrievable storage. How does it cover projected waste?	
69	P. 2-14, Table 2-2 (Comp)	MLLW-03	M-091-42 covers waste in above-ground storage as of June 30, 2009 and in retrievable storage. How does it cover projected waste?	
70	P. 2-14, Table 2-2 (Comp)	MLLW-04	M-091-42 covers waste in above-ground storage as of June 30, 2009 and in retrievable storage. How does it cover projected waste?	
71	p. 2-14, Table 2-2, Entry for MLLW-05, Radioactive Lead Solids (EPA)	Treatment Process	This is not correct - pursuant to 40 CFR 268.40, incorporated by reference by WAC 173-303-140, the applicable LDR treatment standard is the method of treatment MACRO. Macroencapsulation is a debris-rule treatment technology which is not applicable to RLS for which the MACRO method of treatment is required.	

72	p. 2-15, Table 2-2, Entry for MLLW-08 – Unique Waste (EPA)	Planned Characterization Schedule and Treatment Process	This is an excellent example of why an explicit characterization schedule is necessary. If the treatment process is to be evaluated on a container-by-container basis, which implies the need for container-specific characterization data, then there needs to be a separate characterization schedule specific to each unique waste (not just the treatability group as a whole) that ensures the needed data are available sufficiently in advance of the cited treatment milestone in order to design and implement the needed treatment according to the treatment milestone. Citing a treatment milestone in this context will do little more than set up the entire process for failure as characterization will not be required to be completed until the due date for treatment to be completed.	
73	p. 2-15, Table 2-2, Entry for MLLW-09, Radioactive Batteries (EPA)	Planned Characterization Schedule	Is it really necessary to have a compliance schedule for characterization of batteries? What characterization information is needed other that what can be obtained by reading the label on the battery?	
74	P. 2-16, Table 2-2, PUREX Storage Tunnels (EE)	Under Treatment process is says that "not yet determined".	This might be correct, but it should also mention that some of the waste is TRUM waste that needs to be disposed at WIPP. So any treatment process must include retrieval of waste, and not just in-situ treatment. Add this information.	
75	p. 2-16, Table 2-2, Entry for PUREX Plant (EPA)	Treatment Process	Given that this waste stream is described as "Concrete rubble contaminated with trace chromium as a corrosion product," it is hard to imagine that this waste will be treated via other than stabilization. For purposes of documenting necessary treatment technologies and their capacities, stabilization should be identified as the applicable treatment technology. As a general rule, the LDR report should not cite "Not yet determined" when there is a presumptive treatment process that is likely to be successfully applied to the subject waste. In this instance, stabilization is very likely to be successfully applied to the wastes as described in the LDR report.	
76	p. 2-16, Table 2-2, Entry for TRUM-CH	Treatment Process	The M-091-01 milestone only establishes a due date (as yet unspecified) for "Complet[ion] the acquisition of new facilities, modification of existing facilities, and modification of planned	

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	Large Container (EPA)		facilities necessary for retrieval, storage, and treatment/processing, of all Hanford Site *RCRA* TRUM waste." This milestone does NOT identify any particular treatment technology. According to the 1990 LDR report requirements document, however, the LDR Plan "shall include a Treatment Report, identifying: a. treatment and disposal technologies..." Therefore citation of the M-091-01 milestone does not reflect compliance with the content requirements of the LDR report. Similarly, a broad statement that the treatment process may include "and/or off-site" totally fails the test of identifying specific treatment and disposal technologies required by the 1990 LDR report requirements document. Perma-Fix NW is a candidate off-site facility that is being or has been considered for treatment of wastes in this treatability group. Using PFNW as an example, the LDR report should include specific dates and actions for any permitting needed by PFNW to modify its facility to accept large container waste, as well as schedules for completion of the treatment.	
77	p. 2-16, Table 2-2, Entry for TRUM-CH Small Container (EPA)	Treatment Process	This table entry specifies the general location where treatment may occur, but is silent on the particular treatment and disposal technologies required. While it may well be the case that the various DWMUs within the WRAP and T-Plant complexes have the necessary treatment technologies, the whole point of the LDR report is to ensure objective documentation of the waste inventory (current and projected), necessary treatment, and availability of specific treatment technologies (and the need to develop same if not already available) and plans and schedules to complete necessary treatment. Unless specific technologies are identified for the entire TRUM-CH small container treatability group (including prohibited items), it is not possible for the LDR report to satisfy its intended function and ensure that there are no orphan wastes for which treatment is not available or planned for.	

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78	P. 2-16, Table 2-2 (Comp)	TRUM-CH Small Container	M-091-46 covers waste in above-ground storage as of June 30, 2009 and in retrievable storage. How does it cover projected waste?	
79	P. 2-17, Table 2-2 (Comp)	TRUM-RH	M-091-44 covers waste in above-ground storage as of June 30, 2009 and in retrievable storage. How does it cover projected waste?	
80	p. 2-17, Table 2-2, Entry for WTP Lab Complex (EPA)	Planned Characterization Schedule	Characterization schedules are certainly appropriate for legacy, back-log wastes. Why is a characterization schedule contemplated for wastes that will be current as-generated wastes once the WTP laboratory complex is operational? Shouldn't these wastes be designated at the time of generation, and information required by the LDR program, to be obtained as part of compliant generator activities?	
81	p. 2-17, Table 2-2, Footnote 1 (EPA)	The stored volume reported contains uncertainty as to the actual volume (Klein 2005)	With the understanding that some degree of inventory uncertainty is to be expected, but that inventory uncertainty is to be minimized to the extent possible (and further minimized over time through additional characterization and assessment work), how is inventory uncertainty reflected in plans and schedules for treatment? The cited inventory numbers should be presented in a way that defensibly reflects the actual uncertainty in the inventory value. For example, the inventory of DST wastes is reported to nine significant figures, or approximately 100 cubic centimeters, or 1/3 of a cup. Clearly, the knowledge of the DST tank system contents isn't anywhere close to being that precise.	
82	p. 2-17, Table 2-2, Footnote 3 (EPA)	Characterization and Treatment will be performed in accordance with applicable M-091 milestones. See the M-091 milestones to determine what portion of the total volume requires treatment under those milestones.	The plain language of TPA milestone M-091-042 makes no mention of characterization. As noted in a previous comment, the M-091-042 milestone implies that characterization required to complete treatment is implied in the treatment milestone. However, characterization is NOT directly driven by this milestone. Given that the express intent of the characterization schedule requirement in the LDR report is to establish specific plans and schedules to conduct characterization activities, lack of a clear, complete and transparent enumeration of characterization requirements associated with the cited milestones supports a conclusion	

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			that the LDR report is deficient in this regard. For example, the 1990 LDR requirements document states "The Waste Characterization" portion of the LDR Plan shall include the steps necessary to "confirm which wastes and which waste streams are subject to the LDR." A reference to the M-091 milestone fails to provide the required enumeration of necessary characterization steps. In the case of M-92-044 and -046, WIPP certification is the likely compliance option. Since WIPP certification is fundamentally based on characterization as necessary to demonstrate compliance with the WIPP WAP, the highlighted text makes more sense.	
83	p. 3-1, Section 3 (EPA)	Entire section	The fundamental problem with the entire compliance assessment section of the LDR report is that it solely cites what assessments were done and when. The 1990 LDR report requirements document is very clear that the Storage Report must contain "the Department of Energy's (DOE) assessment of the compliance status of the storage method pursuant to applicable State and Federal standards. The LDR report fails to include any result of the assessments, as required by the 1990 LDR report requirements document. With respect to this requirement, the LDR report does not satisfy the requirements of the M-26 milestone. It is absolutely essential that the LDR report document not only the results of compliance assessments, but that these results fairly, accurately and completely reflect the compliance status of all storage locations as of the date of the LDR report.	
84	p. 3-1, Section 3.0 (KAC)	Compliance Assessments – LDR storage assessments provide.....	What is this and how does it relate to the required compliance assessment to be conducted for compliance status of storage methods pursuant to applicable state and federal requirements? Explain and provide your procedure for conducting with compliance assessments per the final determination. How do you assess compliance with state and federal standards for the LDR report?	

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85	p. 3-1, Section 3.1 (KAC)	Introduction	Explain this statement and what it means. How does it relate to the required compliance assessment of for status of storage methods pursuant to applicable state and federal requirements? There are compliance issues with LDR at Hanford documented in EPA and NWP inspection reports. *Final Determination: Within sixty (60)-days of issuance of this Final Determination, DOE will provide written notification of specific organizational units tasked with the responsibility to perform these required storage method compliance assessments. This notification will include specific schedules for the performance of these assessments at each (mixed waste) storage location, and a copy of DOE's written procedure to be used in assessing the compliance status of mixed waste storage methods (e. g., satellite storage, ninety (90)-day storage, interim status storage, and final status facility storage) per State and Federal regulations and Section 1.d. of the Requirements for Hanford LDR Plan. This procedure will include, but is not limited to, WAC 173-303 requirements for storage (as a generator, interim status facility, or final status facility), including by reference, WAC 173-303-400 and interim status storage requirements set forth in 40 CFR Part 265. In developing these schedules and procedures, DOE will provide Ecology review and comment opportunity.* *These requirements are necessary to assure Ecology that DOE has a reasonable basis for assessing storage facility compliance or noncompliance.* *DOE's LDR Reports, beginning with its year 2001 Report, will include the results of all of these storage method compliance assessments (See also requirements for DOE's year 2000 LDR Report).* KAC	
86	p. 3-1, Section 3.0,	In addition, daily, weekly, monthly, quarterly, and	The 1990 LDR report requirements document requires that the storage assessment be conducted "pursuant to applicable	

	first paragraph (EPA)	annual contractor assessments and inspections are conducted at Hanford Site mixed waste storage areas in accordance with company policies, DOE requirements, permit conditions, and other LDR storage obligations.	State and Federal standards." Company policies are not a state or federal standard. While DOE-RL may require assessments according to company policies as a matter of contract administration, company policies should not be cited as a means of demonstrating compliance with the required content of the LDR report.	
87	p. 3-1, Section 3.1, Introduction (EPA)	No indicators requiring global actions for LDR reporting were identified in the activities associated with assessments in CY 2014.	What does this mean? What criteria were applied to making this decision (what are the indicators not identified)? Does the lack of "global actions" suggest that there are numerous local actions that are necessary? Does this statement fairly reflect the findings of EPA and Ecology compliance actions as of the date of the LDR report?	
88	P. 3-1, section 3.2. (EE)	"No additional DOE-RL assessments are currently scheduled."	I don't know about "scheduled" but Ecology requested additional IMUST assessments just a few weeks ago to be added to list in table 3-2. This table says they are "In Progress" since 2006. Please fix the text and the table so that they say the same thing and is correct.	
89	P. 3-1, Section 3.2 (NM)	Table 3-1 lists IMUSTs as having continuing assessments.	Please add verbiage describing the type of continuing assessments and on what schedule.	
90	p. 3-1, Section 3.2, second paragraph (EPA)	However, Ecology determined that inactive miscellaneous underground storage tank (IMUST) assessments shall remain on the assessment list because of their complex storage conditions and, therefore, they are listed on Table 3-2 for further assessment. No additional DOE-RL assessments are currently scheduled. Any additional DOE-RL assessments will be	Absolutely. DOE's expectation of what the assessments might reveal is not controlling - the final determination and the FFCA require the assessments. Have the results of these assessments been reflected in permit documentation? One of EPA's comments on the draft SST permit chapter is that IMUSTs, when they meet the definition of a dangerous waste management unit (as opposed to a past-practice unit) must be addressed by the permit (past practice IMUSTs are arguably already addressed by the permit by dint of Permit Condition II.Y). It would seem that the results of storage assessments would provide useful information for Ecology to develop corresponding permit and closure requirements.	

		negotiated with Ecology in LDR Project Manager Meetings (PMMs) and documented in related meeting minutes.		
91	p. 3-2, Table 3-2 (EPA)	Table content indicating a start date of 2006, and Assessments for Calendar Years 2015 through 2016 "in progress."	This language seems quite clear that IMUST compliance assessments will take more than nine years to complete. This seems to be an entirely unreasonably long period to complete these assessments, and should not be considered acceptable means of satisfying the 1990 LDR report requirements document item 1.d.	
92	p. 3-2, Table 3-2 (KAC)	Assessments	What are these DOE statements in reference to? What does "N/A" refer to? The LDR Plan requires DOE assessments and it is a requirement of the Storage Report and complete information on mixed wastes.	
93	p. 3-2, Section 3.2 (EPA)	LDR assessments will be completed in the future when the need arises.	What criteria apply to the concept of "when the need arises?" This seems like a highly ambiguous and highly subjective criteria. Even if criteria do exist, who decides? Specific criteria need to be included in the LDR report to ensure that assessments are current as of the date of the LDR report.	
94	P. 4-1, Section 4.1.2 (Comp)	The DST system is designed to receive and safely store liquid waste from the SST system, and to a lesser extent, wastes from other Hanford Site facilities.	Lacks enforceability. Restate to show the DST system can receive waste from ... (list facilities).	
95	p. 4-1, Section 4.1.2 (EPA)	The waste stored in the B Plant Complex and the PUREX Plant is with lead regulatory agency approval of the specific long-term S&M plans in accordance with Section 8.0 of the Tri-Party Agreement Action Plan. The S&M plans do not allow for storage of any additional waste in these TSD units.	An S&M plan does NOT reflect required approval under the Hanford DW permit for storage of these mixed wastes, or approval through the permit of an extended schedule for closure. While the S&M plans may well not allow for storage of any additional waste, it is only the permit that has legal authority to authorize (or not authorize) storage of regulated waste in dangerous waste management units.	

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96	p. 4-1, Section 4.1.2 (EPA)	Other TSD unit storage exists for units managed by the CHPRC, but these TSD units typically process and treat waste without the intent of long term storage.	This language is very subjective. What does "typically" mean? Are their exceptions that need to be documented? What role does "intent" have in determining whether or not wastes in these "Other TSD units" needs to be included in the LDR report? The 1990 LDR report requirements document does not establish intent as a criterion for determining whether or not a waste and its associated storage location must be included in the LDR report.	
97	P. 4-1, Section 4.1.3 (Comp)	CHPRC long-term storage areas include mixed waste at the T Plant Complex, B Plant Complex, the PUREX Storage Tunnels, the PUREX Plant, the CWC, the 600 Area Purgewater Storage and Treatment Facility, the 241-CX Tank System, and HSTF.	WRAP also has MW in storage.	
98	P. 4-1, Section 4.1.3 (Comp)	The waste stored in the B Plant Complex and the PUREX Plant is with lead regulatory agency approval of the specific long-term S&M plans in accordance with Section 8.0 of the TPA Action Plan.	EPA rescinded their approval of the S&M plan.	
99	p. 4-2, Section 4.2 (EPA)	No storage issues were identified for CY 2014 reporting. Storage capacity issues identified and resolved in the future will be reported in the year following their resolution.	Interesting - given the number of compliance/ enforcement actions related to waste streams and units covered by the LDR report, this statement seems strange. What is missing? As a more general comment, the compliance status of dangerous waste management units can change with time. Given that existing assessments were mostly conducted years ago, it simply is not defensible to assume that past assessments reflect the current compliance status of various DWMUs.	

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			"Storage issue" need to be reported in the LDR report associated with the date that the issue is first identified, regardless of when the issue is resolved. Of course, resolution of "storage issues" also needs to be timely reported in the LDR report.	
100	p. 4-2, Section 4.3 (EPA)	Title and entire section	The cited site-specific treatability variances have to do with treatment, not storage. Why are they cited in a section related to planned variances/exemptions for storage?	
101	P. 6-1, section 6.0 (EE)	The Hanford Site Pollution Prevention and Waste Minimization Program Plan...	Add that this also keeps the site compliant with the requirements in WAC 173-303-380(1)(q).	
102	p. 7-1, Section 7.0 (EPA)	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.	This seems like a rather subjective statement that doesn't seem to reflect actual practice. For example, 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 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?	
103	p. 7-1, Section 7.1 (EPA)	For the existing processes, Hanford Site schedules can be determined based on anticipated budgets and overall on-site needs.	This mechanism does not reflect the mechanism established in the TPA, which is that work schedules are first established, followed by budget requests based on compliance with the established milestones. It is interesting to note that Figure 7-1 below suggests that funding needs follow from schedules, which is consistent with existing TPA requirements, but contradicts the cited text.	
104	p. 7-3, Figure 7.1 (EPA)	Text box reading "Define Treatment Requirements per: (1) EPA (2) Ecology (3) DOE (4) Technology requirements	Given that the entire point of the LDR report is to establish plans and schedules necessary to achieve compliance with treatment standards under Ecology's authorized Land Disposal Restriction program regulatory requirements, it is not clear why the various agencies are listed as the source of treatment requirements. This text box should read "Define treatment requirements pursuant to 40 CFR Part 268, incorporated by reference by WAC 173-303-140." What are technology	

			requirements? Are they separate or distinct from LDR treatment requirements under the cited regulations?	
[redacted]	[redacted]	Each waste treatability group is or will be assigned to a specific treatment process. These assignments are based on the treatment and/or characterization requirements of the treatability group and the treatment process capability.	At least in theory, this approach to defining a 1:1 relationship between treatability groups and specific treatment processes is very defensible. However, this does not seem to be how wastes/waste streams are assigned to treatability groups. For example, the 222-S Laboratory treatability group description reads: "This waste stream consists of many different inorganic and organic solids and liquids that are RCRA regulated or have been contaminated with inorganic and organic regulated dangerous waste constituents, including PCBs. This waste stream also includes hazardous debris." It is not reasonable to presume that all wastes within this treatability group are amenable to a single treatment process. Rather, in this example the relationship between wastes assigned to this treatability group and the assigned treatment processes is almost certainly many-to-many, not 1:1 as suggested by the cited text. This issue is a fundamental flaw in the LDR report, which significantly and adversely affects the ability of the report to establish plans and schedules for treatment of specific wastes by specific treatment processes.	
[redacted]	[redacted]	Treatment is not planned for waste requiring processes not yet defined; however, additional characterization might occur as part of the design and development of the proposed treatment units.	The set of wastes for which treatment is not planned on the basis that treatment processes have not yet been defined seems to be a mix of wastes where there is a legitimate need for additional data or significant decisions to define the treatment pathway and associated technologies (e.g., Cs/Sr capsules) and wastes that are well-characterized with respect to identification of LDR treatment requirements but DOE-RL has simply not made a treatment decision (e.g. 222-S T8 tunnel). The LDR report should clearly distinguish between these two classes of wastes. Further, the 1990 LDR Report requirements document clearly contemplates that where an LDR treatment technology does not yet exist, the LDR report must include plans and schedules for whatever work is necessary to develop or define the necessary treatment	

			technology. The current LDR report at best points to very general milestones that require treatment to be completed at some future date, or in connection with a particular facility decommissioning, but do not include the detailed or specific steps and schedules to complete characterization, identification or develop of necessary treatment technologies.	
107	P. 8-2, Figure 8-1. Correlation Between Mixed Low-Level Wastes and Treatment Facilities. (Comp)		Under current treatment processes, if there is no treatment needed for ERDF treatment (MLLW-01 and LERF-ETF) should not be included. Under characterization needed - no treatment yet defined, B Plant covers canyon only. 221-T Tank System does not cover 2706 tank system.	
108	P. 8-3, fig 8-2 (EE)	324 Building REC Waste	The 324 building does not contain any TRU or TRUM waste. All is potential MLLW debris that is pretty radioactive because of Sr and Cs content. This waste should be added to Fig 8-1, under "Treatment Technology not yet defined".	
109	p. 9-1, Section 9.0 (EPA)	Because the treatment plan for the remaining MLLW treatability groups is not well developed, a flowsheet for these groups is not included.	While the lack of a flow-sheet through disposal for certain waste streams is defensible, the LDR report must include plans and schedules necessary to fully develop a complete, defensible treatment plan for all wastes.	
110	P. 9-2, Fig 9-2 (EE)	"In Trench Treatment"	This needs to be removed from the figure as it is not allowed under LDR regulations. It should be noted that EPA's CERCLA office is seeking a variance to continue using in trench treatment at ERDF for large equipment. That is a different issue though.	
[redacted]	[redacted]	General	This section begins with text reading "This section generally describes each treatment process and provides information concerning the processes identified in Figure 9-1." However, the various subsections of Section 9.1 variously describe treatment processes (e.g., Commercial Macroencapsulation, thermal treatment of organics) and locations (T-Plant, 222-S) that are either not specific to any particular treatment process	

			or do not have treatment processes. This is very confusing. More specifically, the description of the T-Plant Complex in Section 9.1.4 does say "Commercial treatment of waste by stabilization and macroencapsulation to meet land disposal requirements could be supplemented or replaced by capabilities that exist within the T Plant Complex," but the description of two several dangerous waste management units (The T Plant Complex canyon, assumed to mean the 221-T canyon deck or containment building, and the 2706-T building) do not clearly document that stabilization or macroencapsulation are among the treatment technologies that exist within the T-Plant Complex. Section 9.1.8, which discusses the 222-S Laboratory Complex, is also very confusing, in that there are no treatment technologies within the three container storage dangerous waste management units within the 222-S Laboratory Complex (See the draft re-issue permit). Even more confusing is Table 9-8, which suggests that the 222-S Laboratory Complex with no treatment capacity can treat a diverse range of wastes associated with the 222-S Laboratory Complex treatability group in Table 2-1. Finally, the phrase "222-S Laboratory Complex" seems to be used interchangeably to refer to a treatability group and a treatment technology, further confusing things. Section 9.1 needs to be revised to address these points.	
112	p. 9-2 Section 9.1 (EPA)	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, T Plant Complex, Broad Spectrum contracts, etc. However, the exact distribution of treatment among these	The requirements for the content of the LDR report are very clear that there must be detailed and complete plans and schedules for LDR treatment of all wastes. The fact that DOE-RL's planning baseline does not specify the exact distribution of treatment among the various treatment processes does not provide a basis for not establishing LDR report plans and schedules. If anything, the LDR report should provide the basis for the planning baseline, not the other way around. Of course, nothing precludes changes to the LDR report plans and schedules (subject to Ecology approval through the TPA change process, of course) for purposes of optimization or to take advantage of national treatment contracts as they become available.	

		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.		
113	P. 9-2, third paragraph and p. 9-5, Table 9-2 (EE)	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.	
114	P. 9-2, Section 9.1 (Comp)	Contracts have been awarded to Perma-Fix Northwest, Materials and Energy Corporation located in Tennessee, Perma-Fix DSSI located in Tennessee, and EnergySolutions Clive Site located in Utah (EnergySolutions contract with CHPRC concluded in 2012).	Will contract be revived or why is it listed here?	
115	p. 9-3, Section 9.1.1 (EPA)	Existing commercial treatment contracts neither include all of the waste types nor all of the forecasted volumes. Therefore, additional contracts are expected to be placed with commercial treatment contractors. Also, similar text in Section 9.1.2 reading "Therefore, it is expected that some waste will be treated on the	The LDR report must include schedules for such additional contracts. See the 1990 LDR report requirements document, Section 5.	

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		Hanford Site, or that additional commercial contracts will be competitively awarded as required.		
116	P. 9-3, Section 9.1.1 (StL)	The second paragraph states "Existing commercial contracts neither include all of the waste types nor all of the forecasted volumes." Table 9-1, after the information type "Treatment capacity" states, "Sufficient capacity exists..."	Revise the statement in Table 9-1 to reflect the reality that the treatment capacity does not currently exist, or clarify.	
117	P. 9-3, Section 9.1.1 (StL)	Table 9-1, after the Projected volume ... Information type refers to TPA milestones, permits, CERCLA RODs, and state Regulations. This is vague, and the reader does not have this information at hand. I'm uncertain if the information is available.	Provide more specific reference citations so the reader can find the information, for this <u>and for the other treatment methods.</u>	
118	P. 9-3 and following pages, Section 9 Tables (Comp)	e.g. Projected volume of MLLW to be treated between CY 2015 and the end of CY 2019 Processing of mixed waste will be performed in accordance with TPA milestones, permit requirements, CERCLA RODs, and state Dangerous Waste Regulations (WAC-173-303).	Past year reports reference specific milestone series (e.g. M-091) or specific volumes for volumes treated. DOE-RL-2015-08 does not specify volumes treated in the Section 9 and Section 10 Tables.	

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119	P. 9-4, Section 9.1.2 (StL)	Third sentence of the 1st paragraph says "Existing contracts do not include all of the waste streams." Table 9-2 then states sufficient capacity exists to treat this volume...	This seems to pose an inconsistent message.	
120	P. 9-4, 2nd paragraph (StL)	The inapplicability certification used as a basis for not using thermal treatment is not cited.	Provide the citation to the certification.	
121	p. 9-7, Table 9-4 (EPA)	Mixed waste operations under interim status, Part A Permit Application, began August 19, 1987.	This is not correct - the various DWMUS within the T-Plant complex are operating under final status pursuant to Permit Condition I.A	
122	P. 9-8, Table 9-5 (Comp)	Projected volume of MLLW to be treated between CY 2015 and the end of CY 2019	What permit requirements are there for ERDF?	
123	p. 9-9, Section 9.1.7 (EPA)	Tri-Party Agreement milestones related to this treatability group M-016-00B	This milestone is for "Complete all interim 300 Area remedial actions." It is not at all clear what relevance a CERCLA remedial action milestone has to operation of a permitted dangerous waste management unit (or units...).	
124	P. 9-9, Table 9-7 (Comp)	The Tri-Party Agreement milestone related to this treatability group is M-016-00B. The treatment capacity is 14 m^3 / day and planned completion of treatment using this facility is 2028.	The milestone, doesn't directly relate to a schedule for treatment and disposition of 325 HWTU mixed waste.	
125	p. 9-10, Section 9.1.8 (EPA)	The 222-S Laboratory Complex is a RCRA permitted TSD unit...	The 222-S Laboratory Complex is NOT a permitted TSD unit. Rather, there are three container storage DWMUs within the complex. Language in the second sentence of the paragraph containing the cited text is much better.	

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126	p. 9-11, Section 9.1.9 (EPA)	MLLW-06 Mercury waste requires amalgamation as the BDAT treatment. Mercury can be present as a small-percentage waste component, but also can be present in high concentrations. Mercury present in concentrations >260 mg/kg requires RMERC. The Hanford Site inventory of mercury-bearing waste is currently zero.	The statement in the first sentence cited that MLLW-06 require amalgamation is correct, in that this waste stream is contaminated with radioactive materials. The following two sentences are confusing, however, in that they apply to different LDR treatability groups that do not apply to MLLW-06 wastes – MLLW-06 is limited to radioactive mercury. As noted in a previous comment on Table 1-1, it is assumed that the MLLW-06 treatability group contains only elemental mercury contaminated with radioactive materials. If so, the second two sentences appear inconsistent with the Table 1-1 treatability group description. Please review and revise accordingly so that this text and that in Table 1-1 are consistent. The evaluation will serve to establish a basis as to whether or not RMERC will be required. It is not clear that RMERC for radioactive mercury waste streams makes sense, unless part of a treatment train followed by AMALG. Finally, the last sentence in the cited text is not true. Thermowells in equipment stored in the PUREX tunnels contains mercury. By not including all elemental mercury at Hanford in the MLLW-06 treatability group, the LDR report cannot effectively establish plans and schedules for LDR treatment of all wastes at Hanford.	
127	p. 9-11, Table 9-9 (EPA)	Alternatives for treatment of this waste Alternatives are under evaluation. An LDR treatability variance is planned for some waste in this treatability group.	At least based on the MLLW-06 treatability group description in Table 1-1, it is not clear why alternatives or a TV would be necessary for a waste stream consisting of elemental and amalgamated mercury. Please review Table 1-1 and the cited text to ensure that they are not inconsistent.	
128	p. 9-13, Table 9-10 (EPA)	Alternatives for treatment of this waste Alternatives are under evaluation. An LDR treatability variance is planned for some waste in this treatability group.	This is a fair statement. However, consistent with Section 5 of the 1990 LDR Report requirements document, the LDR report must contain specific plans and schedules for the evaluation documented in the cited text.	
129	p. 9-13, Table 9-10 (EPA)	Treatment capacity To be determined based on design reports.	This is confusing. Treatment capacity should be as necessary to treat the inventory documented in the LDR report. Of course, there is a relationship between the treatment rate of a	

			treatment process and the schedule for completion of treatment for a given volume of waste. Please revise to better articulate how the LDR report waste inventory, treatment capacity and treatment schedules relate. This comment applies to all similar instances of the cited language.	
130	p. 9-13, Table 9-10 (EPA)	- Submittal of RCRA permit application To be determined during design, as applicable.	This is not consistent with the 1990 LDR report requirement, which states that the LDR report must contain dates for submission of permit applications for required treatment processes. While there is no doubt that submission of a permit application logically follows completion of the process design, the cited TPA milestones establish fixed dates for completion of conceptual and definitive design reports. There is no reason that a specific date for submission of permit application materials cannot be specified in the LDR report a reasonable length of time following the M-091-01B milestone. This comment applies to all similar instances of the cited language.	
131	p. 9-13, Section 9.2.2 (EPA)	Currently, there is no MLLW-10 waste in storage and none planned to be generated in the next five years.	There are reactive metals in the current Hanford mixed waste inventory, but it is included in the 400-Area treatability group. Therefore, misleading conclusions are drawn from this means of organizing wastes in the report.	
132	p. 9-13, Table 9-11 (EPA)	- Current regulatory status N/A	Why is the regulatory status of a commercial facility or capacity that needs to treat regulated waste Not Applicable? Seems like the regulatory status of such capacity is an essential piece of information that needs to be included in the LDR report. If the commercial capacity is not currently permitted, the 1990 LDR report requirements document specifies that the LDR report needs to include plans and schedules for ensuring the commercial capacity is permitted. Unless the regulatory status of commercial capacity is clearly documented, it is not possible to evaluate whether or not the LDR report is complete and reflects compliance with the 1990 LDR Report requirements document.	

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133	p. 9-15, Section 9.3.2 (EPA)	In the resolution negotiations for the Notices of Deficiency for the 222-S Laboratory Complex Part B permit application, Ecology approved the 222-S T8 Tunnel waste to remain in the 222-S Laboratory Complex until closure.	Ecology lacks the legal authority to make such an approval other than through the permitting process, which has NOT occurred to date. Ecology may have agreed to propose a draft permit that includes permit authorization to store these wastes, but proposal of a draft permit does NOT constitute approval. Only a final effective permit can do that.	
134	p. 9-15, Section 9.3.2 (EPA)	General	This section states that for some treatability groups, treatment technologies have not been selected. While this is legitimate for some of the enumerated treatability groups, it is not for others. For example, the mixed debris in the 222-S T-8 tunnel is a classic example of mixed debris that can be successfully treated via size reduction and debris-rule macroencapsulation. The fact that DOE-RL has not selected a technology does not provide a legitimate basis to establish plans and schedules for treatment of this mixed debris in the LDR report base on a presumptive treatment process that has a very high probability of being perfectly acceptable. A similar argument can be made for the chromium-contaminated concrete chips in the B-Plant Cell 4. Finally, it is highly likely that all of the reactive metal wastes in the 400-Area WMU treatability group can be treated by water (or water vapor) deactivation, recognizing that some degree of process development may be necessary to adapt this technology for the unique core component pots.	
135	P. 9-15, Section 9.3.2 (Comp)	The wastes included in the B Plant Cell 4 and B Plant Containment Building treatability groups are stored in a facility managed under a regulator-approved long-term S&M plan, DOE/RL-99-24, *Surveillance and Maintenance Plan for the 221-B Facility (B-Plant).*	EPA rescinded their approval of the S&M plan.	

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136	P. 9-16, Table 9-12 (Comp)	Projected volume of MLLW to be treated between CY 2015 and the end of CY 2019	There are no TPA milestones or CERCLA Rods associated.	
137	P. 9-16, Table 9-12 (Comp)	None, residues to be handled with canyon disposition, in accordance with letter 01-RCA-192, "Request to Formalize 221-T Tank System Closure Agreement," (Hebdon, 2001)	This is not documentation of an approval by Ecology, but rather documentation of DOE's request to Ecology to formalize agreement.	
138	P. 9-16, Table 9-12 (Comp)	Estimated completion date for treatment of treatability group with the assumption of available funding – with canyon disposition.	There is no milestone for T Plant canyon disposition.	
139	p. 9-16, Table 9-12 (EPA)	- Characterization needed defined Unknown until the treatment capability is defined. This waste might change radioactivity categories from low-level mixed waste to TRUM through evaporation.	This is not entirely defensible. At least in part, baseline characterization of a waste/waste stream is needed in order to start the process of identifying candidate or required treatment. From a practical standpoint, it may well be that characterization and treatment requirements need to be developed in parallel. However, it is NOT entirely the case that characterization information is fully unknown until treatment capability is defined.	
140	p. 9-16, Table 9-12 (EPA)	- Treatment milestones None, residues to be handled with canyon disposition, in accordance with letter 01-RCA-192, "Request to Formalize 221-T Tank System Closure Agreement," (Hebdon, 2001).	This is not exactly correct. As dangerous waste management units, the residues must be handled in accordance with the approved closure plan in the permit. While the closure plan itself may be developed in coordination with canyon disposition, this is very different that the closure of the tanks and the associated residue "handling" being done under the canyon disposition process. Also, given that a permit modification request was submitted October 18, 2013, why is 01-RCA-192 cited? Shouldn't the 2013 submission supersede the 2001 document?	
141	P. 10-1, Fig 10-1 (EE)	WRAP and 221-T listed as existing capabilities	I think this is a misrepresentation of the situation. WRAP is not ready to process anything of the M-091 waste and is	

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			planned to be shut down. 221-T has potential to process large and RH containers, but does not possess that capability right now.	
142	P. 10-1, Fig 10-1 (EE)	The figure shows 221-T as the only TRUM-RH facility.	The PUREX Tunnels need to be added to this group.	
143	P. 10-2 and 10-3, Section 10 Tables (Comp)	e.g. Projected volume of MLLW to be treated between CY 2015 and the end of CY 2019 Processing of mixed waste will be performed in accordance with TPA milestones, permit requirements, CERCLA RODs, and state Dangerous Waste Regulations (WAC-173-303).	Past year reports reference specific milestone series (e.g. M-091) or specific volumes for volumes treated. DOE-RL-2015-08 does not specify volumes treated in the Section 9 and Section 10 Tables.	
144	p. 10-2, Table 10-1 (EPA)	Processing of mixed waste will be performed in accordance with TPA milestones, permit requirements, CERCLA RODs, and state Dangerous Waste Regulations (WAC-173-303).	This is very misleading, in that both WRAP and T-Plant canyon facility DWMUs are essentially shut down. Not only is the highlighted text so generic as to be meaningless, it is also misleading by not reflecting the current state of capacity with respect to CH-TRUM wastes. Please revise accordingly.	
145	p. 10-2, Table 10-1 (EPA)	Treatment capacity Permitted capacity is 13 m3/day.	Is there any evidence to suggest that this level can be, or has ever been achieved for processing of TRUM? If not, permit authorization notwithstanding, it is simply misleading to cite this number.	
146	p. 10-2, Table 10-1 (EPA)	- Current regulatory status Operating under interim status; transition to final status is pending.	This is factually incorrect - both T-Plant and WRAP DWMUs are operating under final status authority through the permit. It is true that the WRAP and T-Plant DWMUs are operating according to interim status technical standards, but that is a very different statement than the various DWMUs operating "under interim status."	
147	p. 10-3, Table 10-2 (EPA)	Tri-Party Agreement milestones related to these	Should the milestone "M-09-44" be "M-091-44?"	

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		treatability groups M-09-44 and M-091-01		
148	p. 10-3, Table 10-2 (EPA)	- 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?"	
149	p. 10-3, Table 10-2 (EPA)	Budget status for design, construction, and operations Funding will be requested to support the M-091 milestones resulting from the current negotiations.	The Department of Energy is obligated to seek funding for current enforceable milestones. By being silent on current funding request obligations, and instead speaking only to projected but not yet approved milestones, this report suggests that Energy is not intending to maintain compliance with current enforceable milestones.	
[redacted]	[redacted]	Estimated date of processing completion of treatability groups with the assumption of available funding. To be determined.	What does this mean? There are enforceable milestones in place for completion of at least the TRUM-CH and TRUM-RH wastes - why would this report say the dates of currently enforceable milestones with actual dates are "To be determined?"	
151	p. 10-3, Section 10.3 (EPA)	Text indicating that the processing technology for the 324 REC has not been selected.	Aren't the current plans to dispose of the cells and wastes in them in ERDF, not WIPP?	
152	P. 10-3, section 1-3 bullets (EE)	324 building REC waste	The 324 building does not contain any TRU or TRUM waste as commented on earlier on page 8-3. All planning for disposition of this facility assumes LLW and MLLW. This information needs to be moved to section 9.3.2.	
153	p. 10-4, Section 10.3.1 (EPA)	The PUREX Storage Tunnels are a RCRA-regulated storage unit	This is not correct. There are two storage tunnels, each of which is an individual dangerous waste management unit.	
154	p. 10-4, Section 10.3.2 (EPA)	The waste included in the PUREX Plant treatability group is stored under a regulator-approved long-term S&M plan.	This is neither accurate nor appropriate - the "regulator-approved long-term S&M plan" simply cannot authorize storage of wastes subject to the dangerous waste regulations. Only the permit can provide authorization for storage of dangerous/mixed wastes.	
155	P. 10-4, section 10.3.3 (EE)	324 building REC waste	Move entire section to chapter 9.	

156	P. 11-2, table 11-1 (EE)	Date complete hot commissioning: 2018	Edit to align with reality.	
[redacted]	[redacted]	Treatment capacity To be determined by final design.	Given clear knowledge (to nine significant figures) of the volume of DST and SST waste and the enforceable schedules in the TPA and the Consent Decree, the necessary capacity of HLW treatment is clearly defined. Why does this entry say that capacity will be determined by the final design? If anything, the required treatment capacity should be an input to the final design, not something derived from it.	
158	P. 12-1, Section 12 Treatment of Potential Mixed Waste (Comp)		Since the Potential Mixed Waste has not been specifically identified it is difficult to comment on Section 12.	
159	p. 12-1, Section 12.0 (EPA)	Treatment plans for these waste streams will be defined further when the streams are determined to be mixed waste.	This is a fair statement for those potential mixed waste where existing data are insufficient to support a conclusive or likely determination that, when generated, the waste will designated as mixed waste. However, not all wastes in the potential mixed waste table fit into this category. For example, the potential mixed T Plant Canyon Cell 11-L clearly states that wastes in the canyon cell designates as mixed waste. Thus, this particular waste must be included in plans and schedules for treatment to LDR standards in the LDR report. More generally, any potential mixed waste that where there is a reasonable basis that it does designate or is likely to designate when generated must be included in LDR report treatment plans and schedules.	
160	P. 13-1, Section 13.0 (Comp)		There is no milestone to support delaying T Plant Complex Canyon characterization and treatment. The characterization and treatment schedule for the 221-T Tank System must be provided.	
161	P. 13-1, Section 13.0 (Comp)		2706-Tanks are not located in the Canyon, and must be characterized separately from the 221-T Tank System. The characterization and treatment schedule for the 2706-T Tanks must be provided.	

162	p. 13-1, Section 13 (EPA)	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. However, information about a waste cannot be used to establish unit-specific waste acceptance criteria. Rather, unit-specific waste acceptance criteria depend on the nature and capability of the receiving unit. Please edit accordingly.	
163	P. 13-1, Table 13-1 (Comp)	221-T Tank System, will be done in conjunction with T Plant Complex Canyon disposition.	There is no milestone for T Plant canyon disposition.	
164	p. 13-1, Table 13-1 (EPA)	Additional characterization might be required to support waste treatment. Will be done in conjunction with T Plant Complex Canyon disposition.	The 1990 LDR plan requirements document is quite clear that the LDR plan "shall include a comprehensive Waste Characterization Plan, that includes a plan and schedule to characterize all waste stored at Hanford and all waste streams generated at Hanford, and to report characterization results to EPA and Ecology." The Waste Characterization portion of the LDR Plan shall include the steps necessary to confirm which wastes and which waste streams are subject to the LDR." The cited text does not satisfy the cited requirements. Recognizing that there may be legitimate uncertainty as to characterization required for treatment, the LDR report should document a specific decisions point at which a final determination of whether or not additional characterization might be needed. The fact that there is some uncertainty in what additional characterization might be needed does not provide a shield from the requirement to include plans/schedules of some sort in the LDR report. If anything, the uncertainty makes careful planning even more necessary. This comment also applies to the table entry for the 222-1 T8 tunnel.	
165	p. 13-1, Table 13-1, entry for the 241-CX tank system. (EPA)		In this instance, characterization of Tank 72 the 241-CX Tank System as part of 200-IS-1 OU remedial action process is appropriate, and consistent with conceptual resolution of EPA comments on the draft re-issue permit. That said, what about the other two tanks in the system? Given the significant differences in the three tanks and their waste contents, the	

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			characterization activity analysis must be on a tank-specific basis, reflecting the different characterization needs. This description is silent on what, if any, additional characterization might be necessary for the 241-CX-70 and 71 tanks. Characterization should be identified on a unit-specific basis, recognizing that similar characterization requirement may apply to multiple units. It probably would be better to cite the M-15 milestone specific to the 200-IS-1, which is M-015-92B, in addition to the M-015-00 major milestone. The rationale for this recommendation is that the interim milestone is specific to submission of the CMS/proposed plan report, which should contain the results of the RI/FS and RFI/CMS characterization of the CX-72 tank. The M-015-00 is simply to complete the RI/FS and RFI/CMS work, which is appropriate, but stops short of submission of the actual report.	
166	p. 13-2, Table 13-1, entry for B-Plant Cell 4 Table 13-1, entry for B Plant Containment Building (EPA)	To be determined via Tri-Party Agreement Action Plan, Section 8.0. To be determined via Tri-Party Agreement Action Plan, Section 8.0.	Given the expected parallel approach for dealing with closure issues and schedules for DWMUs within the B-Plant and PUREX complexes, and language in TPA Action Plan Section 8.1.3 concerning the relationship between closure and facility transition, the language in the "Additional Characterization Activities" and "Planned Characterization Schedule" for PUREX Storage Tunnels should be reflected here.	
167	P. 13-2, Section, 13.0 (Comp)		M-085 covers only MW within the canyons of B Plant and PUREX. Any MW outside the canyon needs a schedule.	
168	p. 13-2, Table 13-1, entry for the HSTF (EPA)	Additional characterization will be performed, as necessary, to support removal of the tanks as part of 200-IS-1 OU activities Completed	The statements that "Additional characterization will be performed..." and "Completed" are inconsistent. Either the characterization is complete or is not.	

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169	P. 13-2, Table 13-1 (Comp)		Using the M-016-00B or M-094 long-term schedules is inappropriate for all 325 HWTU wastes. Interim schedules for 325 HWTU wastes should be proposed in the LDR report.	
170	P. 13-2, Table 13-1 (Comp)	B Plant Containment Building	There should be another treatability group identified to cover waste outside of the Canyon.	
171	p. 13-2, Table 13-1, entry for MLLW-02 –Inorganic Non-Debris (EPA)	As necessary to meet treatment facility waste acceptance criteria. M-091-42 M-091-42	The cited M-091-42 milestone reads "Complete the treatment of small container CH MLLW (in above ground storage as of June 30, 2009 and in retrievable storage) to meet applicable LDR treatment standards in compliance with WAC 173-303-140." This milestone at best implies completion of necessary characterization, but it does NOT satisfy the requirements of Section 3 of the 1990 LDR Requirements document for a comprehensive characterization plan, including the requirements "The Waste Characterization portion of the LDR Plan shall include the steps necessary to confirm which wastes and which waste streams are subject to the LDR." Citation of a final treatment milestone does not constitute a plan documenting the steps necessary for waste characterization. Also, characterization "as necessary to meet treatment facility waste acceptance criteria" is a different set of requirements than required of the LDR report characterization report, which is to document the steps necessary to confirm which wastes/waste streams "are subject to the LDR." Based on these points, the cited entry in this table do not reflect compliance with the 1990 LDR report document. This comment applies to the following table entries for MLLW-03 through -10, and the table entries for TRUM-CH and TRUM-RH entries below.	
172	P. 13-2, Table 13-1 (Comp)		M-091-42 covers the treatment of MLLW for small container CH MLLW in above ground storage as of June 30, 2009 and in retrievable storage. No other MW should be lumped under M-091-42.	
173	p. 13-3, Table 13-1, entry for PUREX		The footnote to Table 1-1 says that it is difficult to distinguish between TRU and TRUM for waste that has been in storage for an extended period. Based on this, the table entry	

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	Storage tunnels (EPA)		"Additional Characterization Activities" must clearly document the need to designate, or verify designation, of PUREX Storage Tunnel wastes in storage.	
174	P. 14-2- , Section 14.0 (Comp)		Section 14, Some of the planned treatment periods are discrepant with associated milestones. Some of the planned treatment periods associated with milestones are not specified in referenced milestones.	
175	P. 14-2, Table 14-1	This table provides information on the projected generation volume 2015 through 2019. It seems this information, where available, should be in the Tables in Section 9.	Provide the volume information in Section 9 tables also.	
176	P. 14-3, Section 14.0 (Comp)		The CERCLA document (ROD, work plan, design document, etc.) that is quoted for the schedule must have a definitive schedule listed in it. The location of the schedule dates in the CERCLA documents must be referenced in the LDR report.	
177	P. 15-1, Section 15.0 (Comp)		Using Tri-Party Agreement Milestones for which the due date was exceeded does not provide for compliance with any LDR requirements. Listed in this section are the following exceeded milestones: M-015-112; M-016-175; M-036-01E; M-045-61; M-045-86H; M-045-91M-T01; M-045-91F-T04; M-045-91G-T04; M-062-01AD; M-091-40L-044; M-091-40U-T01; M-091-40V-T01; M-091-40W-T01; N-091-44Z-005; M-091-46B-T01; M-091-46C-T02; and M-091-46D-T03.	
178	P. A-2, Table A-1 (Comp)	3-RCRA hazardous waste code	and "state only" waste designation(s).	
180	P. A-3, Table 1-A (Comp)	13-Physical location	The location specific data sheets have a table in Section 2.2 for reporting each building and room number location, but the data sheets are not providing this information for all locations.	
181	P. A-3, Table 1-A (Comp)	14-Method of storage	LSDS Section 2.2 has a table provided to show number of containers or tanks. However, not all location specific data sheets are recording this information. A very good example of a LSDS which shows the information according to the instructions can be found on P. B-45 for 222-S Labs. An	

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			example showing little information provided is MLLW-04, CWC on P. B-310.	
182	P. A-4, Table A-1 (Comp)	20-Identification of any releases	Add "of hazardous waste or hazardous constituents to the environment from these storage units.	
183	P. A-4, Table A-1 (Comp)	31-Treatment and disposal technologies	TGDS 3.3.2 does not discuss treatment and disposal technologies.	
184	P. A-5, Table A-1 (Comp)	32-Treatment capacity	TGDS 4.3 is a location to indicate treatment capacity available. However, individual LSDS do not identify availability.	
185	p. B-1, Text accompanying Figure B-1 (EPA)	...and give a glimpse of the waste's past and future.	What is "give a glimpse?" 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.	
186	p. B-1, Text accompanying Figure B-1 (EPA)	Unique information is included on LSDSs that is not reflected on TGDS.	What is "unique information?" 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.	
187	p. B-1, Text accompanying Figure B-1 (EPA)	The LDR report requires both to provide a clear picture of each waste stream.	Whatever may be "a clear picture" needs to be defined in terms of the FFCA, the FD and the 1990 document. Otherwise, "a clear picture" is entirely subjective, and it is difficult to evaluate compliance with the cited source requirements. For an example, "The combination of TGDS and LSDS provide the information required to be included in the LDR report by the 1990 LDR Report Requirements document." This comments pertains to language "present a complete picture" shown in Figure B-1 with the PUREX Storage Tunnels information.	
188	p. B-1, Text accompanying Figure B-1 (EPA)	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."	
189	p. B-2, Instructions for TGDS,	Note that the grouping of waste into a treatability group can be based on any of the following: proposed	This is curious. A treatability group seems to be a grouping of wastes or waste streams with common treatment and/or disposal pathway. It seems odd to consider storage location, as wastes in a particular storage location (for example, a CWC	

	Section 1.2 (EPA)	treatment technology, storage location, or waste source.	storage building) could have any one of a diverse range of treatment requirements. Given that most Hanford non-TRU wastes have land disposal as a final disposal pathway, using disposal pathway as a means of grouping wastes into a treatability group likely has limitations. In cases where the disposal pathway uniquely defines the treatment pathway, for example incineration, then the disposal pathway can be used as part of the definition of a treatability group. Is this distinction clear in the LDR report?	
190	p. B-3, Instructions for TGDS, Section 3.3.1 (EPA)	The choice indicates whether, under federal LDR requirements defined in 40 CFR 268.2, the waste stream is considered wastewater, non-wastewater, or is of an unknown type.	A generator responsibility is to identify applicable LDR treatment standards, which in turn requires determining whether the waste is a wastewater or non-wastewater. EPA agrees that for some legacy wastes generated prior to the effective date of LDR requirements, this determination might not be made. If the "unknown type" option is selected for wastes subject to other than state-only LDR requirements, the LDR report must include a plan and schedule for refining the waste's characterization to specify the LDR treatability group.	
191	p. B-4, Instructions for TGDS, Section 3.3.4 (EPA)	**Does this waste stream contain PCBs?** Lists three options, one of which must be selected regarding PCB content. The basis for the choice made can be process knowledge or laboratory analysis.	What decision criteria apply to "contain PCBs?" Is this any detectable quantity? By Aroclor or by individual PCB congener? What detection limits apply? Please ensure the LDR report contains documentation of these points.	
192	p. B-4, Instructions for TGDS, Section 3.3.4.1 (EPA)	Is waste stream subject to TSCA regulations for PCBs? Implies applicability as determined by TSCA regulations. Only answer this question when Section 3.3.4 is answered as "yes."	Why "implies?" Shouldn't a more affirmative determination be made? Of course, there should be an option "insufficient information," but absent insufficient information, merely implying seems to fall short.	
193	P. B-4, Section 3.3.5 (Comp)	What is the confidence level for the regulated constituents? Lists three	What is the value of this step? This question suggests that DOE does not necessarily know what their waste is.	

		options, one of which must be selected. This assigns a subjective rating to the accuracy of the information presented on regulated constituents.		
194	p. B-7, Instructions for LSDS, Section 2.1 (EPA)	Storage pursuant to the Tri-Party Agreement must be addressed by checking the appropriate boxes.	What does this mean? Assuming "storage" is intended to reference storage of mixed waste subject to dangerous waste requirements, only the Hanford dangerous waste permit can provide authorization to treat, store or disposal of mixed or dangerous waste. The TPA cannot be used to authorize storage of waste regulated under the dangerous waste program.	
195	p. B-8, Instructions for LSDS, Section 2.2 (EPA)	**Storage Inventory locations:** Lists the building and/or room number, as appropriate, with the number of storage containers/tanks for each storage location in a table format.	This probably should be worded "List the specific dangerous waste management units where	
196	p. B-9, Instructions for LSDS, Section 2.7 (EPA)	**2.7 DOE Storage Compliance Assessment information:**	The reference to the assessment document for completed assessments may be adequate, but it would seem essential to document the results of the assessment, specifically the applicable storage requirements and whether or not they are being complied with. Compliance assessments are not an end in themselves – they are intended to provide information necessary to ensure safe management until the waste is treated. In this sense, the results of the assessment are just as important as whether or not the assessments were completed.	
197	p. B-15, Table B-1 (EPA)	Column heading **"Unit/Plant."**	This probably should read, or include "unit group." That said, many of the "unit/plant" locations consist of multiple dangerous waste management units, each of which may have very different management capabilities and wastes that they managed. To fully meet the intent and clear requirements of the LDR report, location-specific data sheets	

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			need to identify specific dangerous waste management units (or groups of DWMUs when they are sufficiently similar that there is no	
198	P. B-16, LERF/ETF (EE)	Contractor: CHPRC	WRPS will be contractor when this report comes out. Edit.	
199	P. B-21 and following pages, TGDSs (Comp)	e.g. ...however, legacy waste currently stored is on hold until funding is allocated to treat the waste based on the overall site cleanup priorities.	Numerous Data Sheets don't have treatment schedule information or milestones that point to a specific date or refer to a document or process that does not specify a date.	
200	p. B-22, TGDS 221-T Containment Building, Section 3.3.2 (EPA)	Large equipment and/or debris.	This text is inconsistent with the description of wastes in Section 1.2 that states that the waste also include non-debris such as sandblast grit. Please revise to ensure consistency within the TGDS.	
201	p. B-22, TGDS, 221-T Containment Building, Section 3.3.2 (EPA)	Constituent concentration and basis column entries of "unknown" and "process knowledge."	The statement that the concentration range of constituents is unknown based on process knowledge does not make sense. If anything, this table should be stating that there is a lack of process knowledge to establish constituent concentrations. Also, it is curious that the table seems to suggest that, by dint of the waste being associated with numerous toxicity characteristic waste codes, the corresponding constituents are present at levels exceeding the toxicity characteristic levels, yet the concentration of the very same constituents is stated as "unknown."	
202	p. B-22, TGDS, 221-T Containment Building, Section 3.3.2 (EPA)	**LDR Treatment Concentration Standard or Technology Code**	Why are LDR treatment standards cited as "unknown?" 40 CFR 268.40 is explicitly clear for D004 wastes, for example, what the wastewater and non-wastewater treatment standards are. Given that this TGDS states that the physical form of these wastes are solid, there is no ambiguity as to what the LDR treatment standard is. Since the wastes are described as being in part mixed debris, it would be appropriate to identify debris rule macroencapsulation as an alternative treatment standard likely to be applied to at least some of the wastes in this treatability group.	

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203	p. B-22, TGDS, 221-T Containment Building, Section 3.3.2 (EPA)	LDR subcategory identified as "spent solvent" for F001-F005 waste codes	This is very confusing. There are four treatability subgroups for F001 wastes, all of which are for solvent wastes. Thus, this entry simply fails to distinguish which of the four F001 treatability subgroups apply to this treatability subgroup. It is simply not possible to identify what LDR treatment standard applies. By dint of the 6.0 mg/kg treatment standard for 1,1,1-trichloroethane, one can infer that the wastes fall into the first treatability group for F001 wastes.	
204	p. B-23, TGDS, 221-T Containment Building, footnote to Section 3.3.2 (EPA)	This waste will either be treated under M-091, macroencapsulated, or treated with other approved methods.	This enumeration of possible treatment pathways is so broad as to be meaningless. It is simply impossible to document a unique plan or schedule for treatment of specific wastes within this treatability group for treatment by a specific technology. In this sense, the LDR report fails its most basic function - this is a very significant global issue with the LDR report. Compounding the problem is that the "M-91" process does not even identify any specific treatment technology - therefore, it is not possible to verify that any of the M-91 treatment technologies are in fact capable of meeting applicable LDR treatment standards for this particular treatability group. Finally, it is curious why none of the concentration of each and every toxicity characteristic constituents is reported as being "unknown," whereas for PCBs, there seems to be sufficient information to state that the wastes have >50 ppm PCBs, and the "unknown" box for PCBs is not checked. Why the difference? While it is perfectly acceptable to assume that various dangerous constituents are present at regulated levels, the LDR report should clearly state that these levels are assumed in the face of "process knowledge" that says the concentration or range of concentrations is unknown.	
205	P. B-23, General on all TGDSs (Comp)		Grammatical Error was "$" instead of ">=" under section 3.3.4.2. *(This appears to have happened across the board on all LDR Report Treatability Group Data Sheets)*	
206	p. B-23, TGDS, 221-T Containment		Should the ""$" symbol in the middle check box be "≥?" This comment applies to all TGDSs.	

	Building, Section 3.3.4.2 (EPA)			
207	p. B-23, TGDS, 221-T Containment Building, Section 4.0 (EPA)	Entire section.	This section falls substantially short of meeting the requirements for a Treatment Report identified in the 1990 document "Requirements for Hanford LDR Plan," referenced by TPA Milestone M-026-01Y. The 1990 document includes the following very specific information requirements for treatment report element of the LDR report: a. treatment and disposal technologies, and treatment capacity, needed to manage these LDR wastes, assuming current waste generation rates; b. commercial treatment technologies and extent of capacity currently available to manage these LDR wastes; C. DOE treatment technologies and extent of capacity currently available to manage these LDR wastes; d. whether any new commercial or DOE treatment capacity is scheduled to be available to manage these LDR wastes, and an assessment of when such new capacity will be available; and e. alternate technologies which are in development and which may be used to manage these LDR wastes, and an assessment of when such alternate technologies may become available. f. for items d. and e. above, identification of the basis and assumptions utilized in forming the response and in making the assessments, and any foreseeable contingencies (including permit reviews) which may affect the assumptions. At least for this particular treatability group, none of the required information is provided. The end notes to Section 3.3.2 do state that macroencapsulation is one of the treatment options, but among highly non-specific options as "treated under M-91 (which itself is devoid of any specificity of any particular technologies that may be included in M-91 capacities), and "other approved methods." Further, no basis or assumptions are provided.	

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208	p. B-24, TGDS, 221-T Containment Building, Section 4.2 (EPA)	Treatment options still being assessed	One of the fundamental purposes of the LDR report is to establish plans and schedules for specific waste that will result in "LDR wastes being treated to the applicable treatment standard or otherwise managed in accordance with LDR requirements." The 1990 requirements document is quite clear that, while development of required technologies (e.g., feasibility analyses, bench and pilot scale testing, RD&D projects) are very much within the scope of the treatment report and treatment plan. However, simply stating that "Treatment options still being assessed" with absolutely no plans or schedules for whatever assessment steps are necessary to identify, acquire and conduct treatment is wholly inconsistent with the M-26 milestone requirements. In other words, while assessing treatment needs can be a legitimate element of the treatment plan, there must be specific steps and schedules that ensure that assessment is completed by a particular point in time through conduct of specific actions.	
209	p. B-24, TGDS, 221-T Containment Building, Sections 4.2 (EPA)		The sentence in Section 4.4 is difficult, if not impossible to parse or understand. Please revise to ensure it is clearly understandable. In essence, these sections say that there are no plans or schedules in place for treatment of wastes within this treatability group. Obviously, this is a significant deficiency.	
210	p. B-24, TGDS, 221-T Containment Building, Sections 4.9 (EPA)	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?	
211	p. B-24, TGDS, 221-T Containment Building, Section 5.0 (EPA)	Dependent upon M-91 as well as ongoing and future missions (e.g., K Basin sludge storage, etc.), and canyon/process cell cleanout.	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 to the stated question.	
212	p. B-25, LSDS, 221-T	F listed (F001 through F005) based upon process	How does this source explanation explain the presence of the various dangerous metals enumerated in the TGDS?	

	Containment Building, Section 1.3.3 (EPA)	knowledge from decontaminating of tank farms equipment		
213	p. B-25, LSDS, 221-T Containment Building, Section 2.1.2 (EPA)	This process is ongoing as T Plant Complex continues to prepare for current as well as future missions (e.g., K-Basin Sludge).	If on-going, why is there no projected generation information for the next five years? At least preparation for receipt of K-basin sludges should occur within the next five years.	
214	p. B-26, LSDS, 221-T Containment Building, Section 2.2 (EPA)	Building/Room Number, Number of Containers/Tanks 221-T Canyon (RR, Deck) (7L, 13R, 17R), deck, RR	How should this be read? That wastes associated with this LSDS are stored in the railroad tunnel (presumably what the reference "RR" means) or on the canyon deck? Are there actually any wastes in the railroad tunnel? If so, how does storage of wastes in the RR tunnel relate to use of the tunnel to move K-basin sludges into designated T-Plant canyon cells?	
215	P. B-29, 221-T Tank System, TGDS, Section 4.4 (Comp)		This is not a treatment schedule. A schedule needs to be proposed to cover the T Plant Canyon.	
216	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.	
217	p. B-30, TGDS, 221-T Tank System,	UHCs have not been determined for this waste stream.	If this is the case, it would seem that there is a need to include plans and schedules to complete characterization of wastes in this treatability group.	

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	Section 3.3.2 (EPA)			
218	p. B-31, TGDS, 221-T Tank System, Section 3.3.6 (EPA)	There is a potential for additional sampling to evaluate waste for long term storage and underlying hazardous constituents.	If additional characterization work is necessary, the characterization plans and schedules need to be documented in the LDR report. Lack of such characterization plans and schedules is a deficiency with respect to Item 3 in the 1990 LDR report requirements document. This comment also applies to Section 2.11.1 of the 221-T tank system LSDS.	
219	p. B-31, TGDS, 221-T Tank System, Section 4.4 (EPA)	Dispositioning of the 221-T RCRA Tank System has been accomplished and agreed to by Ecology through the Part B workshop process and reflected in the "Hanford Facility Dangerous Waste Permit Application, T Plant Complex," DOE/RL-95-36, Revision 1.	This statement is factually in error - dispositioning of the 221-T RCRA Tank System has NOT been accomplished. Although the permit applicants have submitted a permit application for the re-issue permit, and a closure plan for the 221-T tank system provided to Ecology on October 18, 2013. Neither the draft permit nor the submitted closure plan have been approved. Indeed, there are significant unresolved issues with closure requirements in both the draft permit and the October 18, 2013 submissions, including lack of schedules for closure. Thus, the highlighted text is at best misleading in that the permit application does not include information that can defensibly serve as plans or schedules for inclusion in or reference by the LDR report. This point is nicely reinforced by Section 4.5 of the TGDS which references no permitting actions. Thus, the LDR report is deficient in that no credible plans or schedules for treatment of this waste are included in the LDR report.	
220	p. B-32, TGDS, 221-T Tank System Section 5.0 (EPA)	NOTE: Discussions with Ecology regarding the waste within the 221-T RCRA Tank System have been concluded and the agreed upon pathway for managing this waste is documented in the "Hanford Facility Dangerous Waste Permit Application, T Plant	At least based on what Ecology proposed in the draft re-issue permit, which presumably reflects the content of the cited permit application component, there is absolutely no discussion of how waste within the 221-T tank system will be managed, other than a generic statement that wastes in storage will be removed to another on-site or off-site permitted TSD unit. Therefore, the LDR report lacks any identification of the technology required for treating 221-T tank system waste to meet LDR treatment standards, or any schedules for conducting this treatment.	

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		Complex," DOE/RL-95- 36, Revision 1.		
221	p. B-33, LSDS, 221-T Tank System, Section 1.3.1 (EPA)	Closure currently is planned for 2025.	This may be factually correct from a facility perspective, the fact remains that the actual closure schedule must be as established by Ecology in the approved closure plan, which has yet to happen. There needs to be a note stating that the actual schedule for conducting and completing closure activities will be as established in closure plan approved through the permitting process. Further, the 2025 date is not documented in the draft 221-T tank system closure plan dated October 18, 2013. Please resolve this discrepancy.	
222	P. B-33, LSDS, Section 1.3.1 (Comp)	NOTE: Discussion with Ecology regarding storage of existing waste within the 221-T-RCRA Tank System have been discussed with Ecology during the Part B workshop process and is documented in the Part B Closure currently is planned for 2025.	There is no documentation of Ecology approval. A closure plan needs to be developed for this DWMU.	
223	P. B-33, LSDS, Section 1.3.2 (Comp)	New tanks have been installed in 2706-T/2706-TA for newly generated waste. See the 2706-T location specific data sheet.	During a 2014 Ecology inspection of T Plant, facility representatives stated they were closing these tanks.	
224	P. B-33, 221-T Tank System, LSDS, Section 1.3.2 (Comp)	See the 2706-T location specific data sheet.	Where is the location-specific data sheet for 2706-T? These tanks should be separate from the 221-T Tank System, as they are not part of the same system.	
225	p. B-33, LSDS, 221-T Tank System, Section 1.3.3 (EPA)	Source of the regulated constituents: Waste treatment process, decontamination, facility or equipment operation and maintenance waste, and analytical laboratory waste.	At least based on laboratory wastes associated with the 222-S lab complex, it seems odd that only D005-D008 and F001-F005 dangerous waste numbers are associated with the 221-T tank system. Please verify.	

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226	P. B-34, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the 6 tanks.	
227	p. B-34, LSDS, 221-T Tank System, Section 2.5 (EPA)	Other Area(s) (list): Refer to DOE/RL Letter 01-RCA-192 for discussion on proposed management of this waste and the "Hanford Facility Dangerous Waste Permit Application, T Plant Complex," DOE/RL-95-36. Revision 1.	This text is inconsistent with language in the draft 221-T tank system closure plan that states "No liquid waste remains in the 221-T Tank System, and removal of solid waste residues is not anticipated." How can other areas be considered for management of this waste if the closure plan documents that the waste will not be removed from its current location?	
228	P. B-36, LSDS, Section 2.12 (Comp)	Negotiations on closure approach of the 221-T RCRA Tanks System have been accomplished with Ecology during the Part B workshop process. The disposition of the 221-T RCRA Tank System is document in "Hanford Facility Dangerous Waste Permit Application, T Plant Complex," DOE/RL-95-36, Revision 1.	There is no documentation of Ecology approval. A closure plan needs to be developed for this DWMU.	
229	P. B-39, TGDS, 222-S Laboratory Complex, Section 4.4 (Comp)	The goal of the 222-S Laboratory Complex is to treat waste off-site at commercial treatment facilities generally within one year. Waste that cannot be treated off-site will be shipped to CWC and will be subject to the schedules for treatment set forth in proposed TPA milestone M-091-42 (for contact-handled waste).	Language is too vague. If it is shipped off-site for treatment within one year, it is compliant. If the MW remains in storage longer than one year, it needs a schedule to be compliant. M-091-42 is only for CH MLLW that was in storage prior to 2009, or in retrieval trenches. Need to propose interim schedules for MW in storage over one year.	

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230	P. B-43, TGDS, Section 4.4 (Comp)	The goal of the 222-S Laboratory Complex is to treat waste off-site at commercial treatment facilities generally within one year. Waste that cannot be treated off-site will be shipped to CWC and will be subject to the schedules for treatment set forth in proposed TPA milestone M-091-42 (for contact-handled waste).	Any waste stored over 12 months needs to be included in the report. This waste does not meet the criteria for M-091-42. It is not retrievably stored waste.	
[redacted]	[redacted]		Needs a schedule. [redacted]	
[redacted]	[redacted] (Comp)	This waste was being staged in the shielded T-8 tunnel alcove per Ecology approval ("Request for Approval to Stage Out of Service Ancillary Drain Piping in the 222-S Laboratory Service Tunnels," dated October 10, 1997) until closure of the 222-S Laboratory Complex.	This is not documentation of Ecology approval.	
[redacted]	[redacted]		Needs a schedule. [redacted]	
234	P. B-71, TGDS, 324 building, section 4.5 and 4.6 (EE)	Information not up to date.	M-089-06-T01, 30% design was submitted and accepted. M-089-06, permit mod is due June 30, 2016. Section 4.5 should mention these milestones.	

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235	P. B-76, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the 6 tanks.	
236	P. B-77, LSDS, Section 2.8	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
237	P. B-81, TGDS, 325 HWTU (Comp)	Waste to be treated in the 325 HWTUs or at commercial treatment facilities will generally be treated and/or shipped as soon as practical but may be held over one year for various reasons. Waste shipped to CWC under an exemption will not be treated within one year; such waste will be subject to the schedules for treatment set forth in proposed TPA milestone M-091-42 (for contact-handled waste).	Language is too vague. If it is shipped off-site for treatment within one year, it is compliant. If the MW remains in storage longer than one year, it needs a schedule to be compliant. M-091-42 is only for CH MLLW that was in storage prior to 2009, or in retrieval trenches. Need to propose interim schedules for MW in storage over one year.	
238	P. B-81, TSDS - 325 HWTU (Comp)	Sections 3.3.1, 3.3.2, 3.3.3 show reduction achieved in 2014 as 2 m^3. Each year from 2015-2019, the projected reduction was 6 m^3. The assumptions are based on consolidation for shipment volumes and not a reduction in what was generated.	Reductions in volume were from consolidation and not treatment and disposition. How does this pertain to treatment and disposition of the mixed waste?	
239	P. B-85, TGDS, Section 4.4 (Comp)	Waste to be treated in the 325 HWTUs or at commercial treatment facilities will generally be	Any waste stored over 12 months needs to be included in the report. This waste does not meet the criteria for M-091-42. It is not retrievably stored waste.	

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		treated or shipped as soon as practical but may be held over one year for various reasons.		
240	P. B-93, TGDS, 400 Area WMU (Comp)		Need a schedule for continued storage. Section 2.7, "An assessment is not needed. The TSD unit is a new unit managed in compliance with WAC 173-303." This is incorrect. A compliance report was issued in 2014 stating that the TSD is not in compliance. Need a storage compliance assessment.	
241	P. B-94, TGDS, Section 3.3.2 (Comp)	***	No footnote identifying the significance of the asterisks. Identify the footnote for "***"	
242	P. B-96, LSDS, Section 2.1 (Comp)	Current Storage Methods	The containers in the 400 Area WMU are both covered and on a pad, but only "Container (Pad)" is marked.	
243	P. B-98, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement Milestones related to storage at this location: N/A	No Milestone, schedule, or dates identified.	
244	P. B-101, TGDS, B Plant Cell 4 (Comp)	B-Plant is under long term surveillance and maintenance in accordance with Section 8.0 of the Tri-Party Agreement Action, Facility Decommissioning Process.	Section 4.9 incorrectly identified a key assumption. EPA rescinded approval of this S&M plan. A schedule needs to be developed for this MW. In addition a compliance storage assessment needs to be performed to assess all MW storage areas outside of the canyon.	
245	P. B-103, TGDS, Section 4.5 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
246	P. B-111, TGDS, Section 2.1 (Comp)	Total Volume (cubic meters): 0.000	Should report 294,000 kg.	
247	P. B-111, TGDS, B Plant Containment	B-Plant is under long term surveillance and maintenance in accordance with Section 8.0 of the Tri-	Section 4.9 incorrectly identified a key assumption. EPA rescinded approval of this S&M plan. A schedule needs to be developed for this MW. In addition a compliance storage	

	Building (Comp)	Party Agreement Action, Facility Decommissioning Process.	assessment needs to be performed to assess all MW storage areas outside of the canyon.	
[redacted]	[redacted], TGDS, 204-AR Catch Tank (Comp)		Develop a schedule for treatment for 204-AR.	
249	P. B-113, TGDS, Section 4.5 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
250	P. B-139, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the 3 tanks.	
[redacted]	[redacted]		Why is this waste in this LDR report?	
252	P. B-242, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the building and room numbers where the waste is stored.	
253	P. B-243, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
254	P. B-259, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the building and room numbers where the waste is stored.	
255	P. B-260, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
256	P. B-310, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the building and room numbers where the waste is stored.	

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257	Pg-312, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
258	Pg-372, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the building and room numbers where the waste is stored.	
259	P. B-374, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
260	P. B-381, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the building and room numbers where the waste is stored.	
261	P. B-383, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
262	P. B-402, Section 2.2 (Comp)	Storage inventory locations	Identify the building and room numbers where the waste is stored.	
263	P. B-403, LSDS, Section 2-8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
264	P. B-451, TGDS, Purex Tunnels. (EE)	Waste is expected to contain a combination of TRU and TRUM.	Why is not this reflected in section 3.1 of the sheet describing "radiological characteristics"?	
265	P. B-451, TGDS, Section 3.1 (Comp)	Radiological Characteristics is marked as Low-Level; Section 1.2 states waste is TRU and TRUM.	Clarify which type of rad waste this group identifies.	
266	B-454, TGDS, PUREX Storage Tunnels (Comp)		Same comments as above.	

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267	B-471, TGDS, TRUM-CH large container (EE)	Waste is TRUM	Why is not this reflected in section 3.1 of the sheet describing "radiological characteristics"?	
268	P. B-471, TGDS, Section 3.1 (Comp)	Radiological Characteristics is marked as Low-Level; Section 1.2 states waste is TRU and TRUM.	Clarify which type of rad waste this group identifies.	
269	P. B-478, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the building and room numbers where the waste is stored.	
270	P. B-479, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
271	P. B-482, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the building and room numbers where the waste is stored.	
272	P. B-483, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
273	P. B-488, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
274	P. B-491, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the building and room numbers where the waste is stored.	
275	P. B-492, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
276	B-495, Appendix B, Group data	Waste is TRUM	Why is not this reflected in section 3.1 of the sheet describing "radiological characteristics"?	

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	sheet on TRUM-CH small container (EE)			
277	P. B-495, TGDS, Section 3.1 (Comp)	Radiological Characteristics is marked as Low-Level; Section 1.2 states waste is TRU and TRUM.	Clarify which type of rad waste this group identifies.	
278	P. B-504, LSDS, Section 3.1 (Comp)	Assessment date to be determined.	Perform assessment or propose a date for the assessment to be performed.	
279	P. B-505, LSDS, Section 1.3.1 (Comp)	The description in Section 1.3.2 is for retrievably stored waste. However, Sections 1.3.1 and Section 2.1.1 indicate that it is not. # of containers in Section 2.2 also indicates it was retrievably stored waste.	Clarify if all of these containers were or were not from the retrieval trenches.	
280	P. B-506, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the building and room numbers where the waste is stored.	
281	P. B-507, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
282	P. B-511, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify burial ground and trench where the waste is stored.	
283	P. B-512, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
284	p. B-513-517, LSDS (KAC)	LSDS FFTF 440 Pad	SAA areas are exempt from LDR requirements. Waste in SAA and less than 90 day are not considered to be stored according to 268.50 Because this SAA has accumulated a	

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			broken tritium sign since 2007 or 2009, this waste needs to be part of the current inventory for regulated storage. This is not estimated generation projection. Revise this section and any other LSDS that are SAA with stored waste. Also because this sign is broken that had tritium inside it, confirm that this waste is mixed (still contains tritium) and not just hazardous. Explain in detail how a facility that is cold and dark continues to generate waste and specifically what the waste are.	
285	P. B-519, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the building and room numbers where the waste is stored.	
286	P. B-521, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
287	B-529, TGDS, TRUM-RH (EE)	Waste is TRUM	Why is not this reflected in section 3.1 of the sheet describing "radiological characteristics"?	
288	P. B-529, TGDS, Section 3.1 (Comp)	Radiological Characteristics is marked as Low-Level; Section 1.2 states waste is TRU and TRUM.	Clarify which type of rad waste this group identifies.	
289	P. B-538, LSDS, Section 1.3.1 (Comp)	The description in Section 1.3.2 is for retrievably stored waste. However, Sections 1.3.1 and Section 2.1.1 indicate that it is not. # of containers in Section 2.2 also indicates it was retrievably stored waste.	Clarify if all of these containers were or were not from the retrieval trenches.	
290	P. B-539, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify the building and room numbers where the waste is stored.	
291	P. B-540, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones	Identify the associated milestone.	

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		related to storage at this location		
292	p. B-542, LSDS, Section 2.1 (KAC)	"Other" explanation – "Stored pursuant to M-091 TPA milestones"	: This is factually correct. None of the TPA milestones provide authorization or approval for storage of any waste, whether in the retrievably-stored waste trenches, in any storage areas adjacent to the retrieval trenches, or in any established dangerous waste management unit. In fact, the entire basis for the M-91 TPA milestones is to establish a schedule and work requirements to address unauthorized/non-compliant storage of mixed waste in the retrievably-stored waste trenches. The cited text must be deleted. This comment also applies to similar text in Section 2.3 Isn't all of the retrievably—stored waste in containers, as noted in the box "Container (retrievably buried)?" If so, why is the box "other" checked?	
293	P. B-543, LSDS, Section 2.2 (Comp)	Storage inventory locations	Identify burial ground and trench where the waste is stored.	
294	P. B-544, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
295	Pg. B-544, LSDS, Section 2.12 (KAC)	"Waste generation projections are based on current baseline retrieval rates and assumptions of what percentage of retrieved waste will designate as TRUM"	Not sufficiently described as to why the percentage of retrieved waste will designate as TRUM alone. Report does not sufficiently and defensively estimate the future generation of waste. It seems that estimates of at least three of the possible waste categories of TRU, TRUM, LL, and MLL would be necessary to properly and correctly perform this calculation. Redo the calculation using sufficient numbers. Section 2.6 for this LSDS estimates that no waste will be generated during the next 5 years. There is at least 1 TPA milestone (M-091-40X) clearly calls for retrieval of waste in FY2015, within the 5-year projection time frame. Explain how retrieval of 1,250 cubic meters of CH RSW would result in generation of zero (0) wastes subject to LDR treatment stds.?	

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296	P. B-549, LSDS, Section 2.8 (Comp)	Applicable Tri-Party Agreement milestones related to storage at this location	Identify the associated milestone.	
297	P. C-1, Appendix C (Comp)	The PMWT (Appendix C) includes materials that have not been generated as mixed waste and waste that has not been actively managed as mixed waste. The waste that has not been actively managed as mixed waste is, in many cases, at *Resource Conservation and Recovery Act of 1976* (RCRA) or CERCLA past-practice units under the Tri-Party Agreement. Past-practice waste is waste that DOE/RL-2015-08, Rev. 0 2-2 was abandoned before the first effective LDR date in Washington State, August 19, 1987.	e.g. B Plant's tank systems hold an estimated 17,010 gallons of mixed waste, the majority of this mixed waste was abandoned after August 19, 1987. B Plant operated in support of WESF between 1990 and 1995. B Plant activities between 1995 and 1998 were in support of a disposition process, which was known as the Transition Phase. The Possibility of Mixed Waste generated and stored in Dangerous Waste Management Unit vessels is likely during these time frames. Sampling and inventorying efforts were made during the transition phase and even earlier. These efforts were documented in HNF-3208 and the B Plant Preclosure Plan. The Potential Mixed Waste Table needs to be re-evaluated for deletion of line items (e.g. B Plant and PUREX tanks) and inserted in applicable sections and tables required in the LDR report.	
298	P. C-3- , Table C-2, Potential mixed waste table. (Comp)		Some of the Solid Waste on the Potential Mixed Waste Table (PMWT) has already been sampled and inventoried. This information could indicate the exclusion of the mixed waste from the PMWT and inclusion of the mixed waste in the remainder of the report. (B Plant and PUREX)	
299	P. C-8 (EE)	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.	
300	P. C-11, Table C-2 (Comp)	For 242-B/BL	Language missing from what was documented in the DOE-RL-2014-17, Rev. 0 Report.	

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		DOE assessment: N/A Singleton 2011).	"DOE assessment: N/A ("Waste Storage Assessment of 224-B, 242-B/BL, 270-W, and IMUSTs Not Associated with a Building" [Singleton 2011])."	
301	P. C-15, Table C-2 (Comp)	T Plant Canyon, RR Tunnel, Head-end and T Plant Canyon Cell 11-L Tank in Cell 11-L. The Cell 11-L tank contains approximately 500 gallons of a green liquid and saltcake mixture that will be designated as F001-F005, D002, D006, D007, D008, and D010 when removed from the tank.	Volumes of waste are known for numerous tanks in 221-T, which are actively storing mixed waste. Yet these tanks have no schedule associated with treatment and disposition. The listed line items of mixed waste identified in Table C-2 need to be reassessed and possibly placed into applicable LDR tables identifying the mixed waste, treatment, and schedule for disposition.	

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