



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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November 7, 2011

11-NWP-136

Mr. Matthew S. McCormick, Manager
United States Department of Energy, Richland Operations Office
P.O. Box 550, MSIN: A7-50
Richland, Washington 99352

Re: 2010 Hanford Site Mixed Waste Land Disposal Restriction (LDR) Summary Report
DOE/RL-2011-31, Rev 0

Dear Mr. McCormick:

The Department of Ecology (Ecology) received the Calendar Year 2010 Hanford Site Mixed Waste LDR Summary Report on April 25th, 2011. Ecology has reviewed and commented on this report. Ecology appreciates the efforts of United States Department of Energy (USDOE) in responding to Ecology's comments. A record of those comments and responses is enclosed with this letter. Ecology is satisfied with the resolution of our comments and finds that the report now meets the requirements set forth under Section 11.5 of the Action Plan for the Implementation the Hanford Consent Order and Compliance Agreement.

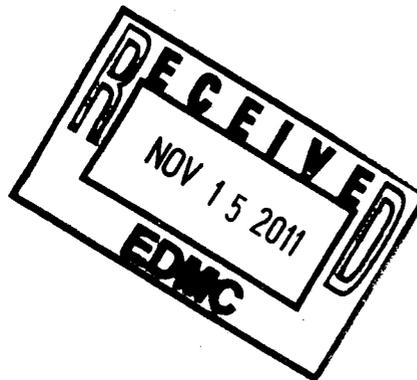
USDOE and Ecology recently agreed to incorporate TPA milestone dates for B Plant, PUREX, WESF, and the 400 Area into next year's LDR Summary Report. Ecology looks forward to working with you to ensure that those changes, as reflected in the two tables enclosed with this letter, will be integrated into the upcoming report. Ecology looks forward to receiving the LDR report in April 2012. If you have any questions, please contact me at 509 372-7923 or Albert Chang at 509-372-7929.

Sincerely,

Deborah Singleton
Waste Management Project Manager
Nuclear Waste Program

cc: w enclosures:

Michael Collins, USDOE
Stuart Harris, CTUIR
Gabriel Bohnee, NPT
Russell Jim, YN
Susan Leckband, HAB
Ken Niles, ODOE
Administrative Record
Environmental Portal



5-2-1, 5-2-10, ~~6-2-10~~ TS-2-3



Table 1-2. Treatability Group Summary of Storage, Characterization, and Treatment Activities. (3 sheets)

Treatability Group Name	Current Inventory (m ³)	Projected Generation Volume 2011 through 2015 (m ³)	Planned Characterization Schedule	Treatment Process	Projected Volume to be Treated 2011 through 2015 (m ³)
221-T Containment Building	58	0	Completed	Not yet determined	0
221-T Tank System	0	0	Will be done in conjunction with T Plant Complex Canyon disposition.	Not yet determined	0
222-S Laboratory Complex	5.8	50	Ongoing	Commercial - Stabilization, Commercial - Thermal	56
222-S T8 Tunnel	0.2	0	Will be done in conjunction with 222-S Laboratory building disposition.	Not yet determined	0
241-CX Tank System ²	6.4	0	Characterization will be performed on waste in Tank 72 on a schedule determined with 200-IS-1.	Not yet determined	0
324 Building REC Waste	5.0	0	Completed	As necessary, ERDF stabilization or macroencapsulation	0
325 HWTU	11	45	Ongoing	HWTU, Commercial - Stabilization, Commercial - Thermal	56
400 Area WMU	1.5	0	Disposition path to be decided by September 30, 2018.	Deactivation and conversion to sodium hydroxide	0
B Plant Cell 4	1.4	0	Schedule to be set in RI/FS Work Plan due June 30, 2014.	Not yet determined	0
B Plant Containment Building	290,000 kg	0	Schedule to be set in RI/FS Work Plan due June 30, 2014.	Not yet determined	0

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Treatability Group Name	Current Inventory (m ³)	Projected Generation Volume 2011 through 2015 (m ³)	Planned Characterization Schedule	Treatment Process	Projected Volume to be Treated 2011 through 2015 (m ³)
Cesium and Strontium Capsules	2.0	0	Disposition path to be decided by June 30, 2017.	Not yet determined	0
DST Waste	98,000	100	Ongoing	WTP vitrification	0
ERDF—Treatment	16	48,000	Ongoing	ERDF treatment	48,000
HSTF	2.1	0	Completed	Not yet determined	0
LERF/ETF Liquid Waste	72,000	58,000	Ongoing	ETF	130,000
LERF/ETF Solid Waste	19	1300	Not required	No treatment expected to be required	No treatment expected to be required
MLLW-01 - LDR Compliant Waste	0.21	2.0	Completed	No treatment required	No treatment required
MLLW-02 - Inorganic Non-Debris	0.40	0	M-091-42 ³	Stabilization	0.40 ³
MLLW-03 - Organic Non-Debris	0.25	0.35	M-091-42 ³	Thermal	0.60 ³
MLLW-04 - Hazardous Debris	31	7.9	M-091-42 ³	Macroencapsulation	39 ³
MLLW-05 - Radioactive Lead Solids	0.10	0	M-091-42 ³	Macroencapsulation	0.10 ³
MLLW-06 - Mercury Wastes	0	0	M-091-42 ³	Amalgamation	0
MLLW-07 - RH and Large Container	55	0	M-091-43 ³	M-091-43	55 ³
MLLW-08 - Unique Waste	0	0	M-091-42 ³	To be determined	0
MLLW-09 - Radioactive Batteries	0	0	M-091-42 ³	Macroencapsulation	0
MLLW-10 - Reactive Metals	24	0	M-091-42 ³	Deactivation with selected stabilization	24 ³
PUREX Plant	1.0	0	Schedule to be set in RI/FS Work Plan due September 30, 2015.	Not yet determined	0

Table 1-2. Treatability Group Summary of Storage, Characterization, and Treatment Activities. (3 sheets)

Treatability Group Name	Current Inventory (m ³)	Projected Generation Volume 2011 through 2015 (m ³)	Planned Characterization Schedule	Treatment Process	Projected Volume to be Treated 2011 through 2015 (m ³)
PUREX Storage Tunnel	2,800	0	Schedule to be set in RI/FS Work Plan due September 30, 2015.	Not yet determined	0
Purgewater	9.4	0	According to schedule in closure plan	Solar evaporation at Purgewater Storage and Treatment Facility (PSTF) and ETF treatment	9.4
SST Waste	110,000	0	Ongoing	WTP vitrification	0
TRUM-CH Large Container	7,600	0	M-091-44 ³	M-091-01 and/or off-site	TBD ³
TRUM-CH Small Container	4,700	470	M-091-46 ³	WRAP Facility and/or T Plant Complex and/or off-site	TBD ³
TRUM-RH	420	13	M-091-44 ³	M-091-01	TBD ³

¹ Volume numbers in this table have been rounded to two significant figures. Due to rounding, in some cases the summation of Table 1-1 numbers do not add up to the numbers in this Table.

² The stored volume reported contains uncertainty as to the actual volume (DOE 2005).

³ 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.

3.0 SUMMARY OF CHARACTERIZATION INFORMATION

As part of generation of any waste, a generating unit must take steps necessary to confirm the proper management of this waste. This includes identifying proper radioactive classification, understanding the physical matrix, properly designating the waste, and, where applicable, identifying the appropriate underlying hazardous constituents. Types of information that can be used to characterize waste can include data from analysis of the waste and knowledge of the materials and/or processes used to generate the waste.

This section discusses and summarizes the waste treatability groups and the planned characterization activities for the waste. Waste must be sufficiently characterized so the waste can be stored and managed properly. In addition, waste must be sufficiently characterized before treatment to ensure that the proper treatment processes are applied and that the resultant treated waste meets LDR standards. Table 3-1 summarizes the planned characterization activities for each of the treatability groups. The planned characterization schedule column from Table 3-1 is reproduced in Table 1-2.

Table 3-1. Summary of Characterization Information for Each Treatability Group. (3 sheets)

Treatability Group Name	Additional Characterization Activities	Planned Characterization Schedule	Related Tri-Party Agreement Milestone
221-T Containment Building	Completed	Completed	None
221-T Tank System	Additional characterization might be required to support waste treatment.	Will be done in conjunction with T Plant Complex Canyon disposition.	None
222-S Laboratory Complex	Characterization performed as generated.	Ongoing	None
222-S T8 Tunnel	As required to support cleanout of 222-S.	Will be done in conjunction with 222-S Laboratory building disposition.	None
241-CX Tank System	Additional characterization will be performed, as necessary, to support 200-IS-1 OU remedial decisions.	Characterization will be performed on waste in tank 72 on a schedule determined with 200-IS-1	Major Milestone M-015-00
324 Building REC Waste	No further characterization planned for transfer to ERDF.	Completed	M-089-00, M-094-03
325 HWTU	Characterization performed as generated.	Ongoing	M-094-00
400 Area WMU	Completed	Disposition path to be determined by September 30, 2018.	M-092-09
B Plant Cell 4	To be determined via Tri-Party Agreement Action Plan, Section 8.0.	Schedule to be set in RI/FS Work Plan due June 30, 2014.	M-085-10A

Table 3-1. Summary of Characterization Information for Each Treatability Group. (3 sheets)

Treatability Group Name	Additional Characterization Activities	Planned Characterization Schedule	Related Tri-Party Agreement Milestone
B Plant Containment Building	To be determined via Tri-Party Agreement Action Plan, Section 8.0.	Schedule to be set in RI/FS Work Plan due June 30, 2014.	M-085-10A
Cesium and Strontium Capsules	None	Disposition path to be decided by June 30, 2017.	M-092-05
DST Waste	Additional information could be required, per TPA milestone.	Ongoing	M-050, M-051, M-061, M-062, M-090
ERDF – Treatment	Characterized as generated. Treatment and disposal are performed under CERCLA decision documents and treatment plans.	Ongoing	None
HSTF	Additional characterization will be performed, as necessary, to support removal of the tanks as part of 200-IS-1 OU activities.	Completed	Major Milestone M-015-00
LERF/ETF Liquid Waste	Characterization performed as generated.	Ongoing	M-026-07
LERF/ETF Solid Waste	Characterization performed as generated.	Not required	None
MLLW-01 – LDR Compliant Waste	No further characterization is planned.	Completed	None
MLLW-02 – Inorganic Non-Debris	As necessary to meet treatment facility waste acceptance criteria. ¹	M-091-42 ²	M-091-42 ²
MLLW-03 – Organic Non-Debris	As necessary to meet treatment facility waste acceptance criteria. ¹	M-091-42 ²	M-091-42 ²
MLLW-04 – Hazardous Debris	As necessary to meet treatment facility waste acceptance criteria. ¹	M-091-42 ²	M-091-42 ²
MLLW-05 – Radioactive Lead Solids	As necessary to meet treatment facility waste acceptance criteria. ¹	M-091-42 ²	M-091-42 ²
MLLW-06 –Mercury Wastes	As necessary to meet treatment facility waste acceptance criteria. ¹	M-091-42 ²	M-091-42 ²
MLLW-07 – RH and Large Container	As necessary to meet treatment facility waste acceptance criteria. ¹	M-091-43 ²	M-091-43 ²
MLLW-08 – Unique Waste	As necessary to meet treatment facility waste acceptance criteria. ¹	M-091-42 ²	M-091-42 ²

Table 3-1. Summary of Characterization Information for Each Treatability Group. (3 sheets)

Treatability Group Name	Additional Characterization Activities	Planned Characterization Schedule	Related Tri-Party Agreement Milestone
MLLW-09 – Radioactive Batteries	As necessary to meet treatment facility waste acceptance criteria. ¹	M-091-42 ²	M-091-42 ²
MLLW-10 – Reactive Metals	As necessary to meet treatment facility waste acceptance criteria. ¹	M-091-42 ²	M-091-42 ²
PUREX Plant	To be determined via Tri-Party Agreement Action Plan, Section 8.0.	Schedule to be set in RI/FS Work Plan due September 30, 2015.	M-085-20A
PUREX Storage Tunnels	To be determined in conjunction with PUREX Plant based on RCRA Permit Closure Plan.	Schedule to be set in RI/FS Work Plan due September 30, 2015.	M-085-20A
Purgewater	Characterization performed on sediments in Unit #1 during closure.	According to schedule in closure plan	None
SST Waste	Further information may be required, per TPA milestone.	Ongoing	M-045, M-050, M-051, M-061, M-062, M-090
TRUM-CH Large Container	As necessary to meet WIPP waste acceptance criteria.	M-091-44 ²	M-091-44 ²
TRUM-CH Small Container	As necessary to meet WIPP waste acceptance criteria.	M-091-46 ²	M-091-46 ²
TRUM-RH	As necessary to meet WIPP waste acceptance criteria.	M-091-44 ²	M-091-44 ²

¹ Newly generated waste in these categories is fully characterized as generated. For waste in inventory before 1995, existing TSD record information will be reviewed and a graded approach to characterization will be made as necessary based on existing acceptable knowledge.

² Characterization is anticipated to be performed as necessary to meet M-091 milestones.