



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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March 23, 2020

20-NWP-055

Brian T. Vance, Manager
Office of River Protection
United States Department of Energy
PO Box 450, MSIN: H6-60
Richland, Washington 99352

Valerie McCain, Project Director
Bechtel National, Inc.
2435 Stevens Center Place, MSIN: H4-02
Richland, Washington 99354

Re: Approval of 24590-LAW-PCN-ENV-18-012, Class ¹1 Modification to the *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit Group 10, Waste Treatment and Immobilization Plant (WTP Permit), WA7890008967*

Reference: See page 2

Dear Brian T. Vance and Valerie McCain:

The Department of Ecology approves with changes the referenced Class ¹1 Modification. The approved Hanford Facility RCRA Permit Modification Notification Form is enclosed.

This modification:

- Updated Unit-Specific Permit Conditions.
- Removed and reserved Tables III.10.E.K and III.10.E.O, as there are no primary sumps in the Low-Activity Waste (LAW) Facility or the Analytical Laboratory.
- Updated and reserved Tables III.10.E.B and III.10.E.F, the information was moved from the Permit Conditions to Tables 4E-1 and 4E-2 in Chapter 4E.
- Updated Table III.10.H.C, LAW Miscellaneous Unit Process and Leak Detection System Instruments and Parameters.
- Updated Table III.10.H.F, LAW Vitrification System Automatic Waste Feed Cutoff Parameters During Short-Term Treatment Operations.

The changes listed on the enclosure update the corresponding Unit-Specific Permit Conditions, Tables, and Chapters of the WTP Permit.



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In addition to the permit changes, Ecology did not delete Table III.10.E.Q in this modification as mentioned in the Permit Modification Notification Form. Table III.10.E.Q was removed in a previously approved modification, 24590-BOF-PCN-ENV-19-005, as there are no tank system related penetration seals.

If there are any questions, please contact Yoana Lucatero, WTP Permit Writer, at yoana.lucatero@ecy.wa.gov or (509) 372-7917, or Mandy Jones, Permit Coordinator, at mandy.jones@ecy.wa.gov or (509) 372-7916

Sincerely,



Stephanie Schleif
Deputy Program Manager
Nuclear Waste Program

yl/ag
Enclosure

Reference: Letter 19-ECD-0090, dated December 12, 2019, "Submittal of Hanford Facility Resource Conservation and Recovery Act Permit Modification Notification Form 24590-LAW-PCN-ENV-18-012"

cc: See page 3

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cc electronic w/enc:

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BNI Correspondence Control
Environmental Portal
Hanford Facility Operating Record
MSA Correspondence Control
USDOE-ORP Correspondence Control
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Quarter Ending: Dec. 31, 2019
RCRA Operating record number: R605

24590-LAW-PCN-ENV-18-012

Hanford Facility RCRA Permit Modification Notification Form
Part III, Operating Unit 10
Waste Treatment and Immobilization Plant

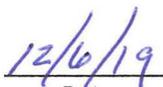
Index

Page 2 of 5: Hanford Facility RCRA Permit, Part III, Operating Unit 10, Waste Treatment and Immobilization Plant.
Update and move the LAW tank system table from permit conditions to Chapter 4E and update the LAW
miscellaneous unit table III.10.H.C and the LAW Automatic Waste Feed Cutoff Parameter table III.10.H.F.

Submitted by Co-Operator:

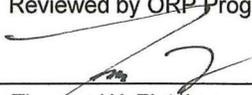


Robert D. Haggard

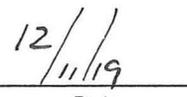


Date

Reviewed by ORP Program Office:



Thomas W. Fletcher



Date

Quarter Ending: Dec. 31, 2019

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RCRA Operating record number: R605

Hanford Facility RCRA Permit Modification Notification Form			
Unit: Waste Treatment and Immobilization Plant		Permit Part: Part III, Operating Unit 10	
Description of Modification:			
The purpose of this Class 11 modification is to update and move the LAW tank system table from permit conditions to Chapter 4E and update the LAW miscellaneous unit table III.10.H.C and the LAW Automatic Waste Feed Cutoff Parameter table III.10.H.F.			
The specific changes required by this modification are listed below.			
Facility Specific Definitions			
Add	Definitions		
Modify	Definitions		
III.10.C Unit-Specific Conditions for the WTP Unit			
Update	Table references		
III.10.E Tank Systems			
Update	Table references		
Delete contents and reserve	Table III.10.E.Q	<i>e Already deleted with 24590-BOF-PCN-ENV-19-005</i>	
Reserve and replace contents of	Table III.10.E.B	With	Table 4E-2
Reserve and replace contents of	Table III.10.E.F	With	Table 4E-1
Delete contents and reserve	Table III.10.E.K		
Delete contents and reserve	Table III.10.E.O		
III.10.F Containment Building Units			
Update	Table references		
III.10.H LAW Vitrification System – Short Term Miscellaneous Thermal Treatment Unit-Shakedown, Demonstration Test, and Post Demonstration Test			
Update	Table references		
Revise	Permit conditions		
Replace	Table III.10.H.C	With	Updated Table III.10.H.C
Replace	Table III.10.H.F	With	Updated Table III.10.H.F
Chapter 4 Process Information			
Update	Table references		
Chapter 4E Low-Activity Waste (LAW) Vitrification Facility			
Revise	Table of Contents		
Update	Table references		
Create new	Table 4E-1	With	Material from Table III.10.E.F
Revise	Table 4E-2		

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The specific changes required by this modification are listed below.

Redline changes to Facility-Specific Definitions are summarized below:

- Add definition of malfunction, shutdown and startup and process control system.
- Revise definition of cascade event and continuous monitoring system.
- Deleted definitions of vitrification system startup and vitrification system shutdown.

Redline changes to **Permit Conditions III.10.C, III.10.E, III.10.F and III.10.H** are summarized below:

- Deleted or revised applicable references to tables III.10.E.B, III.10.E.F, III.10.E.K, III.10.E.R, III.10.E.S, and III.10.E.Q.
- Deleted tables III.10.E.B, III.10.E.F, III.10.E.K, III.10.E.O, and III.10.E.Q.
- Updated references to Chapter 4E tables because they are being renumbered, see below.
- Redline clarification and changes to the text.

~~Redline changes to Table III.10.E.Q – Tank System Penetration Seal Locations~~ are summarized below:

- This table is deleted, there are no tank system related penetration seals. LAW penetration seals are described in facility specific penetration seal tables, e.g., Table III.10.H.G for LAW.

Redline changes to **Table III.10.E.B – LAW Vitrification Plant Tank Systems Description** are summarized below:

- The P&ID and general arrangement drawing numbers in column three of this table are transferred to the "Description" column of new Table 4E-2.
- The remaining portions of Table III.10.E.B are deleted as the information provided is also on new Table 4E-2.

Redline changes to **Table III.10.E.F – LAW Vitrification Plant Tank System and Leak Detection System Instruments and Parameters** are summarized below:

- This table is deleted from the permit conditions and its contents moved to Chapter 4E as new Table 4E-1.

Redline changes to **Table III.10.E.K – LAW Vitrification Plant Tank System Primary Containment Sump Systems** and **III.10.E.O – Analytical Laboratory Tank System Primary Containment Sump Systems** are summarized below:

- The content of these tables is deleted, and the tables are reserved. There are no primary containment sump systems in the Lab or the LAW.

Redline changes to **Table III.10.H.C – LAW Vitrification System Process and Leak Detection System Instruments and Parameters** are summarized below:

- Table III.10.H.C has been struck-out and entirely replaced with a new Table III.10.H.C.
- The layout of the table has been revised to delete the Item No. and P&ID columns. A row describing the miscellaneous unit by equipment number and associated P&ID is now provided for each set of instruments.
- The order of the columns has been changed, column headings revised, and a new column added for Action Level.
- All the instruments on the current version of the table, except the AWFCO instruments, and melter plenum temperature, are on the new table.
- Melter plenum temperature has been removed on the basis of June 6, 2008, CCN: 180917, Approval of Waste Treatment and Immobilization Plant (WTP) Demonstration Tests of Melter Offgas Treatment Systems at a Single Operating Condition.

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- The AWFCO instruments have been removed from Table III.10.H.C to reduce redundancy. They are provided on Table III.10.H.F.
- To the extent possible, the table rows have been simplified to represent an instrument loop by its transmitter.
- Control function descriptions have been expanded.

Redline changes to **Table III.10.H.F – LAW Vitrification System Automatic Waste Feed Cutoff Parameters During Short Term Treatment Operations** are summarized below:

- Table III.10.H.F has been struck-out and entirely replaced with a new Table III.10.H.F.
- The layout of the table has been revised.
- The order of the columns has been changed, column headings revised, and a new column added for control function and testing rationale.
- All the instruments on the current version of the table are on the new table.
- The automatic waste feed cut-offs associated with secondary off-gas treatment system bypasses have been added to the table.

Redline changes to **Permit Chapter 4 – Process Information** are summarized below:

- Renumbered table references. Table 4E-3 became Table 4E-4 and Table 4E-4 became Table 4E-5.

Redline changes to **Permit Chapter 4E – Low-Activity Waste (LAW) Vitrification Facility** are summarized below:

- New Table 4E-1 as described below.
- Changes to revised Table 4E-2 as described below.
- Renumbered current tables. Table 4E-1 became Table 4E-2, Table 4E-2 became Table 4E-3, Table 4E-3 became Table 4E-4, Table 4E-4 became Table 4E-5 and Table 4E-5 became Table 4E-6.
- Table of Contents updated to list new Table 4E-1 and renumbered other tables.
- References to Table III.10.E.F replaced by references to new Table 4E-1.

New Table 4E-1 – LAW Vitrification Plant Tank System and Leak Detection System Instruments and Parameters is summarized below:

- Provides a new Table 4E-1 that updates the information from deleted Table III.10.E.F.
- The table provides LAW tank system liquid-level instruments for leak detection, spill prevention and control.
- The table provides LCP and LFP tank system flow instruments to monitor plant service air flow through vessel headspace for hydrogen gas accumulation mitigation.
- The table provides LFP tank system temperature instruments to monitor tank contents of the LFP tanks and stop the vessel agitators to prevent vessel shell overheating.

Redline changes to revised **Table 4E-2 – LAW Vitrification Facility Tank Systems** are summarized below:

- Current Table 4E-1 is renumbered to Table 4E-2.
- Columns one and two of this table are deleted as row numbers are not needed and the system designations are redundant with information provided in the vessel tag number and location column.
- The P&IDs and general arrangement drawings from column three of Table III.10.E.B are added to the "Description" column of Table 4E-2.
- Vessel tank volumes and dimensions are updated to provide the vessel overflow volumes and dimensions used in vessel volume calculations.

In accordance with Permit Condition III.10.C.2.e, this permit modification includes redlined Tables ~~III.10.E.Q~~, III.10.E.B, III.10.E.F, III.10.E.K, III.10.H.C, III.10.H.F and 4E-1 through 4E-6. Also, in accordance with Permit

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Condition III.10.C.2.e, this permit modification includes redlined permit conditions from III.10.C, III.10.E, III.10.F, III.10.H and text from Chapters 4 and 4E.

NOTE: This modification request affects components of the Hanford Facility RCRA Permit, Part III, Operating Unit 10, Waste Treatment and Immobilization Plant associated with other pending modification requests, specifically Hanford Facility RCRA Permit Modification Notification Form, 24590-WTP-PCN-ENV-18-007. Pending modification request, 24590-WTP-PCN-ENV-18-007, updates the existing permit chapters to describe design/process modifications needed to support the operation of the DFLAW Facilities; revises Part A, LAW and EMF permit conditions; revises chapters 3, 3B, and 3C; revises chapters 4, 4E, 4G, and 4I; revises, chapters 6 and 6A, chapter 7, chapter 8 and the Dangerous Waste Training Plan to describe the operations of the DFLAW Facilities.

WAC 173-303-830 Modification Class:	Class 1	Class 1 ¹	Class 2	Class 3
Please mark the Modification Class:		X		

Enter relevant WAC 173-303-830, Appendix I Modification citation number: NA
 Enter wording of WAC 173-303-830, Appendix I Modification citation:

In accordance with WAC 173-303-830(4)(d)(i), this modification notification is requested to be reviewed and approved as a Class 1¹ modification. WAC 173-303-830(4)(d)(ii)(A) states. "Class 1 modifications apply to minor changes that keep the permit current with routine changes to the facility or its operation. These changes do not substantially alter the permit conditions or reduce the capacity of the facility to protect human health or the environment. In the case of Class 1 modifications, the director may require prior approval."

Modification Approved/Concur: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Denied (state reason below) Reason for denial:	Reviewed by Ecology:  S. Schleif Date: 03/23/2020
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