



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Richland Field Office

3100 Port of Benton Blvd., Richland, WA 99354 • 509-372-7950

April 10, 2025

25-NWP-056

Brian T. Vance, Manager
Hanford Field Office
United States Department of Energy
PO Box 550
Richland, Washington 99352

Brian Hartman, Project Director
Bechtel National, Inc.
450 Hills Street
Richland, Washington 99354

Re: Approval of 24590-HLW-PCN-ENV-25-001, Class ¹ 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 Brian Hartman:


The Department of Ecology approves the referenced Class ¹ Modification. The approved Hanford Facility RCRA Permit Modification Notification Form is enclosed.

This modification provides updates to one High-Level Waste (HLW) Process Flow Diagram (PFD), 18 Piping and Instrumentation Diagrams (P&IDs), two General Arrangement Drawings (GAs), four Mechanical Data Sheets (MDSs), two Design Proposal Drawings, and one Equipment Assembly Drawing.

These changes are listed on the enclosure and replace the corresponding permit documents in Appendices 10.1, 10.2, 10.4, and 10.6 of the WTP Permit.

If there are any questions, please contact Ana Laura Robles, Permit Writer, at (509) 412-5805 or ana.robles@ecy.wa.gov or Dan McDonald, Project Manager, at (509) 942-4972 or dan.mcdonald@ecy.wa.gov.

Sincerely,

 Digitally signed
by Holbrook,
Edward (ECY)

Edward Holbrook
Deputy Program Manager
Nuclear Waste Program

ar/mo
Enclosure

cc: See page 2

Reference: Letter 25-ECD-0033, dated March 7, 2025, "Submittal of Hanford Facility Resource Conservation and Recovery Act Permit Modification Notification Form 24590-HLW-PCN-ENV-25-001"

cc electronic w/enc:

Laura Buelow, EPA	Crystal Mathey, WDOH
David Einan, EPA	Kotaiba Abugazleh, Ecology
Michelle Mullin, EPA	Andrea Adams, Ecology
Davis Zhen, EPA	Jennifer Cantu, Ecology
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Anthony Smith, NPT	Oliver Wang, Ecology
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Laurene Contreras, YN	Hanford Administrative Record
ERWM Staff, YN	Hanford Facility Operating Record
Susan Coleman, HAB	BNI Correspondence Control
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Hanford Facility RCRA Permit Modification Notification Form
Part III, Operating Unit Group 10
Waste Treatment and Immobilization Plant

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Page 2 of 5: Hanford Facility RCRA Permit, Part III, Operating Unit Group 10, Waste Treatment and Immobilization Plant Updates to High-Level Waste (HLW) Process Flow Diagram (PFD), Piping and Instrumentation Diagrams (P&IDs), General Arrangement Drawings (GAs), Mechanical Data Sheets (MDSs), and an Equipment Assembly Drawing in Appendices 10.1, 10.2, 10.4, and 10.6 of the WTP Permit.

Submitted by Co-Operator:

Robert Haggard

Robert D. Haggard

2/7/2025

Date

Reviewed by HFO Program Office:

DUANE CARTER

Duane B. Carter

Digitally signed by DUANE CARTER
Date: 2025.02.25 07:47:58 -08'00'

Date

Hanford Facility RCRA Permit Modification Notification Form			
Unit:		Permit Part:	
Waste Treatment and Immobilization Plant		Part III, Operating Unit Group 10	
<u>Description of Modification:</u>			
The purpose of this Class 11 modification is to submit updates to the following HLW PFD, P&IDs, GAs, MDSs, and an Equipment Assembly drawing located in Permit Appendices 10.1, 10.2, 10.4, and 10.6 of the WTP Permit.			
Updates are summarized below:			
Appendix 10.1			
Replace:	24590-HLW-M5-V17T-P0001, Rev. 4	With:	24590-HLW-M5-V17T-00001, Rev. 8
Appendix 10.2			
Replace:	24590-HLW-M6-HFP-00001002, Rev. 1	With:	24590-HLW-M6-HFP-00001002, Rev. 2
Replace:	24590-HLW-M6-HFP-00001003, Rev. 1	With:	24590-HLW-M6-HFP-00001003, Rev. 2
Replace:	24590-HLW-M6-HFP-00001004, Rev. 1	With:	24590-HLW-M6-HFP-00001004, Rev. 2
Replace:	24590-HLW-M6-HFP-00002001, Rev. 1	With:	24590-HLW-M6-HFP-00002001, Rev. 2
Replace:	24590-HLW-M6-HFP-00002002, Rev. 1	With:	24590-HLW-M6-HFP-00002002, Rev. 2
Replace:	24590-HLW-M6-HFP-00002003, Rev. 1	With:	24590-HLW-M6-HFP-00002003, Rev. 2
Replace:	24590-HLW-M6-HFP-00007001, Rev. 2	With:	24590-HLW-M6-HFP-00007001, Rev. 3
Replace:	24590-HLW-M6-HFP-00008001, Rev. 2	With:	24590-HLW-M6-HFP-00008001, Rev. 3
Replace:	24590-HLW-M6-HFP-20001002, Rev. 1	With:	24590-HLW-M6-HFP-20001002, Rev. 2
Replace:	24590-HLW-M6-HFP-20001003, Rev. 1	With:	24590-HLW-M6-HFP-20001003, Rev. 2
Replace:	24590-HLW-M6-HFP-20001004, Rev. 1	With:	24590-HLW-M6-HFP-20001004, Rev. 2
Replace:	24590-HLW-M6-HFP-20002001, Rev. 1	With:	24590-HLW-M6-HFP-20002001, Rev. 2
Replace:	24590-HLW-M6-HFP-20002002, Rev. 1	With:	24590-HLW-M6-HFP-20002002, Rev. 2
Replace:	24590-HLW-M6-HFP-20002003, Rev. 2	With:	24590-HLW-M6-HFP-20002003, Rev. 3
Replace:	24590-HLW-M6-HFP-20007001, Rev. 2	With:	24590-HLW-M6-HFP-20007001, Rev. 3
Replace:	24590-HLW-M6-HFP-20008001, Rev. 2	With:	24590-HLW-M6-HFP-20008001, Rev. 3
Replace:	24590-HLW-M6-RLD-00001003, Rev. 1	With:	24590-HLW-M6-RLD-00001003, Rev. 2
Replace:	24590-HLW-M6-RLD-20004001, Rev. 1	With:	24590-HLW-M6-RLD-20004001, Rev. 2
Appendix 10.4			
Replace:	24590-HLW-P1-P01T-00001, Rev. 10	With:	24590-HLW-P1-P01T-00001, Rev. 11
Replace:	24590-HLW-P1-P01T-00005, Rev. 10	With:	24590-HLW-P1-P01T-00005, Rev. 11
Appendix 10.6			
Replace:	24590-HLW-M0-HDH-P0012001, Rev. 1	With:	24590-HLW-M0-HDH-00012001, Rev. 2
Replace:	24590-HLW-M0-HDH-P0012002, Rev. 1	With:	24590-HLW-M0-HDH-00012002, Rev. 1
Replace:	24590-HLW-MV-HDH-00003, Rev. 1	With:	24590-HLW-MV-HDH-00003, Rev. 2
Replace:	24590-HLW-MVD-HDH-00003, Rev. 6	With:	24590-HLW-MVD-HDH-00003, Rev. 8
Replace:	24590-HLW-MVD-HDH-P0009, Rev. 0	With:	24590-HLW-MVD-HDH-00009, Rev. 2
Replace:	24590-HLW-MVD-HOP-P0001, Rev. 2	With:	24590-HLW-MVD-HOP-00001, Rev. 10
Replace:	24590-HLW-MVD-HOP-P0012, Rev. 1	With:	24590-HLW-MVD-HOP-00012, Rev. 10
NOTE: A summary of changes is not provided on this PCN form for the above listed HLW design documents where only one revision has occurred. Per agreements between the Permittees and Ecology, those changes can be found in the specific revision notes on each of the updated documents.			

24590-HLW-M5-V17T-00001 – Process Flow Diagram Receipt & Feed Preparation (HCP/HFP) System

NOTE: In the past, a “P” (permitting) version would be issued for incorporation into the permit, and a source document for BNI Engineering use was also issued. However, this practice has been discontinued. 24590-HLW-M5-V17T-00001 is the most current and correct version of the document. Major updates of 24590-HLW-M5-V17T-00001 were done in 2019 and 2020 for both Revisions 7 and 8. Therefore, revisions 4 through 6 are immaterial to the current process flow information, and the PCN form only contains revision updates starting with Revision 7 through Revision 8.

Revision 7:

- Added cross connect capability and rerouting of high solids sumps to HFP-VSL-00001/-00005
- Replaced depiction of vessel wash transfers with note
- Updated vessel batch volumes and equipment operating capacities/duties
- Added/Deleted/Revised notes and references to align with design changes

Revision 8:

- Sparger depictions were removed from HFP-VSL-00001/-00005 and HFP-VSL-00002/-00006 based on the HLW PDSA (preliminary documented safety analysis) no longer requiring sparging for hydrogen mitigation.

24590-HLW-MVD-HDH-00003 – Mechanical Data Sheet for Vessel HDH-VSL-00003

Revision 7:

- Updated References in Attachment A
- Updated Table 1: Deleted Nozzle Size column
- Updated Nozzle design sizes and added reference that they're located on 24590-HLW-MV-HDH-00003.
- Updated information for location of Nozzle Loads design information from Table A-2 to Table A-1 in Engineering Specification 24590-HLW-3PS-MVA0-T0001.
- Updated nozzle descriptions in Table 1

Revision 8:

- Updated that the fabrication specification will be determined by the vendor
- Updated insert pipe & flanges to titanium or stainless steel

24590-HLW-MVD-HDH-00009 – Mechanical Data Sheet for HDH-VSL-00001

Revision 1:

- 24590-HLW-MVD-HDH-P0009 was issued for permitting in 2004 and submitted for inclusion into the WTP Permit. 24590-HLW-MVD-HDH-00009 was also issued in 2004 as the facility design document and is identical to the P0009 version except for some small editorials.

Revision 2:

- Reformatted document for better configuration and clarification of technical information
- Updated the P&ID and vessel drawings
- Updated information in the Design Data section
- Updated information in the Materials of Construction section
- Added Notes 10 and 11 to the Notes/Remarks section
- Updated the Equipment Cyclic Data Sheet section and added an updated Nozzle table to include descriptions, sizes, temperatures, and number of cycles.
- Added additional note to Notes section regarding canister supports

- Added a document references attachment for HDH-VSL-00001 (Attachment 1)

24590-HLW-MVD-HOP-00001 – Mechanical Data Sheet for HOP-VSL-00903

NOTE: In the past, a “P” (permitting) version would be issued for incorporation into the permit, and a source document for BNI Engineering use was also issued. However, this practice has been discontinued. 24590-HLW-MVD-HDH-00009 is the most current and correct version of the document. A complete rewrite of 24590-HLW-MVD-HDH-00009 was done for Rev. 9 in 2011, which restructured the Mechanical Data Sheet per agreement with Ecology. Therefore, revisions 2 through 8 are immaterial to the current data sheet information, and the PCN form only contains revision updates starting with Rev. 9 through Rev. 10.

Revision 9:

- Updated Notes on Page 2
- Added Environmental screening statement
- Added technical information regarding hydrodynamic loads, loads induced by Pulse Jet Mixers (PJMs), PJM overblow loads, and nozzle loads.
- Updated the Note for the Nozzle Loads, Equipment Qualification data, and the References information

Revision 10:

- Revised Note 5 explaining that vessel volumes are approximate and do not account for manufacturing tolerances, nozzles, and displacement of internals.
- Revised Note 16 to include technical information for erosion allowance
- Updated the design specific gravity and the equipment qualification data sheet
- Updated the Notes for Nozzle Loads, the Nozzle Load Table, and the Seismic note
- Added the DOE Radioactive Materials Disclaimer (Atomic Energy Act of 1954) and a Safety Screening and Approval page.
- Deleted the Equipment Qualification section which will become a standalone document in the future

24590-HLW-MVD-HOP-00012 – Mechanical Data Sheet for HOP-VSL-00904


NOTE: In the past, a “P” (permitting) version would be issued for incorporation into the permit, and a source document for BNI Engineering use was also issued. However, this practice has been discontinued. 24590-HLW-MVD-HDH-00012 is the most current and correct version of the document. A complete rewrite of 24590-HLW-MVD-HDH-00012 was done for Rev. 9 in 2011, which restructured the Mechanical Data Sheet per agreement with Ecology. Therefore, revisions 2 through 8 are immaterial to the current data sheet information, and the PCN form only contains revision updates starting with Rev. 9 through Rev. 10.

Revision 9:

- Updated Notes on Page 2
- Added Environmental screening statement
- Added technical information regarding hydrodynamic loads, loads induced by Pulse Jet Mixers (PJMs), PJM overblow loads, and nozzle loads.
- Updated the Note for the Nozzle Loads, Equipment Qualification data, and the References information

Revision 10:

- Revised Note 6 explaining that vessel volumes are approximate and do not account for manufacturing tolerances, nozzles, and displacement of internals.
- Revised Note 17 to include technical information for erosion allowance
- Updated the design specific gravity and the equipment qualification data sheet
- Updated the Notes for Nozzle Loads, the Nozzle Load Table, and the Seismic note

<ul style="list-style-type: none"> Added Note 18 that explains the inclusion of the DOE Radioactive Materials Disclaimer (Atomic Energy Act of 1954) and a Safety Screening and Approval page and deleted the Equipment Qualification section which will become a standalone document in the future. 				
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: N/A 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 1 ¹ 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."				
Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.				
Modification Approved/Concur: Reason for denial:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Denied (<i>state reason below</i>)		
		Reviewed by Ecology: Digitally signed by  Holbrook, Edward (ECY) Date: 2025.04.10 15:55:59 -07'00'		
		E. Holbrook Date		



This document has been digitally signed using the ElectroSign process.

Document for Signature

Document Number: 24590-HLW-PCN-ENV-25-001 **Rev:** N/A

Participants	Signature	Completed	Status	Result	Comments
Final Approver	2/7/2025 2:30 PM				
Haggard, Robert		2/7/2025 2:45 PM	Completed	Approve	