



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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

October 31, 2008

Ms. Shirley J. Olinger, Manager
Office of River Protection
United States Department of Energy
P.O. Box 450, MSIN: H6-60
Richland, Washington 99352

Mr. William S. Elkins, Project Director
Bechtel National, Inc.
2435 Stevens Center Place, MSIN: H4-02
Richland, Washington 99354

Re: Submittal of Hanford Facility RCRA Permit Modification Notification Form
24590-HLW-PCN-ENV-06-015; Class ¹1 Modification to the *Hanford Facility Resource
Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion, for the
Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit 10
(Waste Treatment and Immobilization Plant), WA7890008967*

Dear Ms. Olinger and Mr. Elkins:

The Department of Ecology approves the Class ¹1 Modification 24590-HLW-PCN-ENV-06-015, submitted September 30, 2008. The approved Hanford Facility RCRA Permit Modification Notification Form is enclosed.

The modification provides the following source Piping and Instrumentation Diagrams (P&IDs) for the High-Level Waste (HLW) Radioactive Liquid Waste Disposal System (RLD). These replace the current permit P&IDs in Appendix 10.2.

- 24590-HLW-M6-RLD-00001, Revision 3
- 24590-HLW-M6-RLD-00002, Revision 3
- 24590-HLW-M6-RLD-00003, Revision 5
- 24590-HLW-M6-RLD-00004, Revision 5
- 24590-HLW-M6-RLD-00006, Revision 4
- 24590-HLW-M6-RLD-00007, Revision 4
- 24590-HLW-M6-RLD-00008, Revision 5
- 24590-HLW-M6-RLD-00014, Revision 5
- 24590-HLW-M6-RLD-00015, Revision 4
- 24590-HLW-M6-RLD-00016, Revision 4
- 24590-HLW-M6-RLD-00017, Revision 4

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- 24590-HLW-M6-RLD-20003, Revision 5
- 24590-HLW-M6-RLD-20004, Revision 6
- 24590-HLW-M6-RLD-20005, Revision 6

BNI agreed to make the following editorial changes at the next revision of these documents:

- Delete the note “Sumps shown with cone bottom are provided with stainless steel liners. Sumps shown with flat bottom have no liners.” from 24590-HLW-M6-RLD-00008, Revision 5.
- Add “Melter 1” to description of lines in section B8/C8 to be consistent with Melter 2 lines in section C3/C4 on 24590-HLW-M6-RLD-00001, Revision 3.
- Change name of 24590-HLW-M6-RLD-00003, Revision 5, to reflect deletion of Decontamination Tank; also, add “Melter 1” to name of P&ID to coincide with the Melter 2 P&ID (24590-HLW-M6-RLD-20003).
- Change name of 24590-HLW-M6-RLD-20003, Revision 5, to reflect deletion of Decontamination Tank.

The informal review comments were addressed and resulted in the following agreements by BNI:

- A description of the sump baskets added to sumps HSH-SUMP-00003, HSH-SUMP-00007, HSH-SUMP-00008, and HSH-SUMP-00009 will be added to the next revision of Chapter 4. In addition, a note was added to Figure 10 in *Secondary Containment Design*, 24590-WTP-PER-CSA-02-001, Revision 8, to clarify the purpose of the sump baskets.
- A sketch of the Drum Transfer Tunnel drip pan, which will serve as secondary containment for the HLW Melter Offgas Treatment Process System (HOP) High Efficiency Mist Eliminators (HEME) condensate lines, will be added to Revision 9 of *Secondary Containment Design*, 24590-WTP-PER-CSA-02-001. Included in this sketch will be the design configuration of the drip pan as it sits in the Wet Process Cell – North (Room H-B014).
- 24590-HLW-PCN-ENV-06-012 will be submitted to Ecology in December 2008 and will reflect the change from doubled walled piping to drip pans as secondary containment for the HOP HEME condensate lines inside the Drum Transfer Tunnel.
- A calculation will be submitted to Ecology for review by January 2009 to determine the 24-hour leak detection rate for HFP-SUMP-00001 and HFP-SUMP-00004, which do not have in sump leak detection. Include these sumps and the calculation in *Leak Detection Capability in the HLW Facility*, 24590-HLW-PER-M-04-002, Revision 4. Discussion is ongoing concerning the design of these two sumps. Ecology reserves the right to review current designs and request design changes as needed in accordance with Washington Administrative Code 173-303-830.

Ms. Olinger and Mr. Elkins

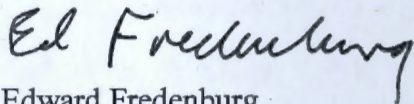
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- Note the inclusion of the HOP HEME condensate line secondary containment drip pan configuration to the 24-hour leak detection rate calculation for RLD-SUMP-00001 in *Leak Detection Capability in the HLW Facility, 24590-HLW-PER-M-04-002, Revision 4.*

If there are any questions, contact me at 509-372-7899 or Robbie Biyani at 509-372-7884.

Sincerely,



Edward Fredenburg
Tank Waste Disposal Project Specialist
Nuclear Waste Program

trw/jc
Enclosure

cc electronic w/enc:

Dave Bartus, EPA
John Eschenberg, USDOE
Lori Huffman, USDOE
Tony McKarns, USDOE
Gae Neath, USDOE
Don Sommer, USDOE
William Taylor, USDOE
Julie Colby, BNI
Brad Erlandson, BNI
Peggy Fisher, BNI
Stan Hill, BNI
Dennis Klein, BNI
Sandi Murdock, BNI
Suzette Thompson, FHI
Phil Peistrup, WGI

cc w/enc:

Administrative Record: Tank Waste Treatment Requirements ✓
Environmental Portal
Hanford Operating Record General File
USDOE-ORP Correspondence Control

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Hanford Facility RCRA Permit Modification Notification Form

Part III, Operating Unit 10

Waste Treatment and Immobilization Plant

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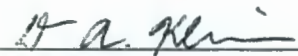
Page 2 of 5: Hanford Facility RCRA Permit, Part III, Operating Unit 10, Waste Treatment and Immobilization Plant Update Piping and Instrumentation Diagrams (P&IDs):

- HLW Radioactive Liquid Waste Disposal System Active Effluent Collection (24590-HLW-M6-RLD-00001)
- HLW Radioactive Liquid Waste Disposal System Plant Wash and Drains Vessel (24590-HLW-M6-RLD-00002)
- HLW Radioactive Liquid Waste Disposal System Decontamination Tank & Sumps (24590-HLW-M6-RLD-00003)
- HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps (24590-HLW-M6-RLD-00004)
- HLW Radioactive Liquid Waste Disposal System Fluidics Air Rack RLD-RK-00023 (24590-HLW-M6-RLD-00006)
- HLW Radioactive Liquid Waste Disposal System Fluidics Air Rack RLD-RK-00024 (24590-HLW-M6-RLD-00007)
- HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps (24590-HLW-M6-RLD-00008)
- HLW Radioactive Liquid Waste Disposal System Offgas Drains Collection Vessel (24590-HLW-M6-RLD-00014)
- HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps (24590-HLW-M6-RLD-00015)
- HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps (24590-HLW-M6-RLD-00016)
- HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps (24590-HLW-M6-RLD-00017)
- HLW Radioactive Liquid Waste Disposal System Decontamination Tank & Sump - Melter 2 (24590-HLW-M6-RLD-20003)
- HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps Melter 2 (24590-HLW-M6-RLD-20004)
- HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps Melter 2 (24590-HLW-M6-RLD-20005)

in Appendix 10.2 of the Dangerous Waste Permit.

Submitted by Co-Operator:

Reviewed by ORP Program Office:



2/26/08

D. A. Klein

Date



S. J. Olinger

9/22/08

Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:

Waste Treatment and Immobilization Plant

Permit Part & Chapter:

Part III, Operating Unit 10

Description of Modification:

The purpose of this Class 1 prime modification is to update the Piping and Instrumentation Diagrams (P&IDs) for the HLW Radioactive Liquid Waste Disposal System (RLD) in Appendix 10.2 of the Dangerous Waste Permit. The following source P&IDs are submitted to replace the permit P&IDs currently in Appendix 10.2.

Appendix 10.2			
Replace:	24590-HLW-M6-RLD-P0001, Rev. 1	With:	24590-HLW-M6-RLD-00001, Rev. 3
	24590-HLW-M6-RLD-P0002, Rev. 1		24590-HLW-M6-RLD-00002, Rev. 3
	24590-HLW-M6-RLD-P0003, Rev. 0		24590-HLW-M6-RLD-00003, Rev. 5
	24590-HLW-M6-RLD-P0004, Rev. 0		24590-HLW-M6-RLD-00004, Rev. 5
	24590-HLW-M6-RLD-P0006, Rev. 0		24590-HLW-M6-RLD-00006, Rev. 4
	24590-HLW-M6-RLD-P0007, Rev. 0		24590-HLW-M6-RLD-00007, Rev. 4
	24590-HLW-M6-RLD-P0008, Rev. 0		24590-HLW-M6-RLD-00008, Rev. 5
	24590-HLW-M6-RLD-P0014, Rev. 0		24590-HLW-M6-RLD-00014, Rev. 5
	24590-HLW-M6-RLD-P0015, Rev. 0		24590-HLW-M6-RLD-00015, Rev. 4
	24590-HLW-M6-RLD-P0016, Rev. 0		24590-HLW-M6-RLD-00016, Rev. 4
	24590-HLW-M6-RLD-P0017, Rev. 0		24590-HLW-M6-RLD-00017, Rev. 4
	24590-HLW-M6-RLD-P20003, Rev. 1		24590-HLW-M6-RLD-20003, Rev. 5
	24590-HLW-M6-RLD-P20004, Rev. 0		24590-HLW-M6-RLD-20004, Rev. 6
	24590-HLW-M6-RLD-P20005, Rev. 0		24590-HLW-M6-RLD-20005, Rev. 6

This modification requests Ecology approval and incorporation into the permit the specific changes to these P&IDs that are indicated by revision notes. The referenced P&IDs incorporate changes provided in applicable document change forms (e.g., DCN, SCN, SDDR, FCN, FCR, etc.) and changes associated with the resolution to comments on change documents since the issuance of the last revision of the permitted drawing. The majority of those changes update the design of utility/support systems associated with mixed dangerous waste management. The following types of changes apply to all RLD P&IDs:

- Modified, deleted, and added notes and references
- Revised, identified, and added quality level and seismic designations
- Revised, identified, and added through wall/floor penetration designations from Wall/Floor Boxes to P-joggles
- Modified support/utility system lines, valves, and instruments

Additional significant changes on each P&ID are summarized below.

24590-HLW-M6-RLD-00001 HLW Radioactive Liquid Waste Disposal System Active Effluent Collection (see Revision Note 33)

- Reconfigured vessel nozzles
- Deleted one spare vessel level instrument
- Modified pipe specification from N11F to N11K and from S11B to S14E

24590-HLW-M6-RLD-00002 HLW Radioactive Liquid Waste Disposal System Plant Wash and Drains Vessel (see Revision Note 33)

- Deleted one spare vessel level instrument
- Modified pipe specification from S11B to S14E and from S12A to S14E/S14F

24590-HLW-M6-RLD-00003 HLW Radioactive Liquid Waste Disposal System Decontamination Tank & Sumps (see Revision Note 34)

- Relocated tank HSH-TK-00001 to P&ID 24590-HLW-M6-HSH-P0004

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- Added removable basket inside sump HSH-SUMP-00008

24590-HLW-M6-RLD-00004 HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps (see Revision Note 22)

- Rearranged incoming lines to Manifold

24590-HLW-M6-RLD-00006 HLW Radioactive Liquid Waste Disposal System Fluidics Air Rack RLD-RK-00023 (see revision Note 23)

- Added reducers and modified pipe sizes for lines to RFDs (Grid B4)

24590-HLW-M6-RLD-00007 HLW Radioactive Liquid Waste Disposal System Fluidics Air Rack RLD-RK-00024 (see Revision Note 24)

- Added reducers and modified pipe sizes for lines to RFDs (Grid C3)

24590-HLW-M6-RLD-00008 HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps (see Revision Note 33)

- Added removable basket inside sump HSH-SUMP-00003
- Modified pipe specification from S11B to S14E
- Relocated to P&IDs 24590-HLW-M6-HFP-P0001 and P0002 the overflow lines to sump HFP-SUMP-00002

24590-HLW-M6-RLD-00014 HLW Radioactive Liquid Waste Disposal System Offgas Drains Collection Vessel (see Revision Note 27)

- Deleted one spare vessel level instrument
- Removed dip leg associated with spare nozzle
- Revised PJV Drain Line number (Grid C8)
- Reconfigured vessel nozzles

24590-HLW-M6-RLD-00015 HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps (see Revision Note 27)

- Added loop seal to vessel RLD-VSL-00008 overflow line

24590-HLW-M6-RLD-00016 HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps (see Revision Note 32)

- Rearranged incoming lines to Manifold

24590-HLW-M6-RLD-00017 HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps (see revision Note 28)

- No additional significant changes

24590-HLW-M6-RLD-20003 HLW Radioactive Liquid Waste Disposal System Decontamination Tank & Sump - Melter 2 (see Revision Note 23)

- Relocated tank HSH-TK-00002 to P&ID 24590-HLW-M6-HSH-20004
- Rearranged incoming lines to Manifold
- Added removable basket inside sump HSH-SUMP-00009

24590-HLW-M6-RLD-20004 HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps Melter 2 (see Revision Note 22)

- No additional significant changes

24590-HLW-M6-RLD-20005 HLW Radioactive Liquid Waste Disposal System Miscellaneous Sumps Melter 2 (see Revision Note 25)

- Modified pipe specification from S11B to S14E (Grid G2)
- Added removable basket inside sump HSH-SUMP-00007
- Relocated to P&IDs 24590-HLW-M6-HFP-20001 and 20002 the overflow lines to sump HFP-SUMP-00005 (Grid C3)

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The following is a list of outstanding change documents that have not been incorporated into this modification:

24590-HLW-M6N-30-00007	24590-HLW-M6N-RLD-00223
24590-HLW-M6PR-30-00001	24590-HLW-M6N-RLD-00225
24590-HLW-M6PR-30-00002	24590-HLW-M6N-RLD-00227
24590-HLW-M6N-RLD-00190	24590-HLW-M6PN-RLD-00002
24590-HLW-M6N-RLD-00191	24590-HLW-M6PR-RLD-00006
24590-HLW-M6N-RLD-00195	24590-HLW-M6PR-RLD-00008
24590-HLW-M6N-RLD-00196	24590-HLW-M6PR-RLD-00010
24590-HLW-M6N-RLD-00197	
24590-HLW-M6N-RLD-00198	
24590-HLW-M6N-RLD-00199	
24590-HLW-M6N-RLD-00200	
24590-HLW-M6N-RLD-00201	
24590-HLW-M6N-RLD-00202	
24590-HLW-M6N-RLD-00203	
24590-HLW-M6N-RLD-00206	
24590-HLW-M6N-RLD-00208	
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24590-HLW-M6N-RLD-00211	
24590-HLW-M6N-RLD-00212	
24590-HLW-M6N-RLD-00213	
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24590-HLW-M6N-RLD-00218	
24590-HLW-M6N-RLD-00219	
24590-HLW-M6N-RLD-00220	
24590-HLW-M6N-RLD-00221	
24590-HLW-M6N-RLD-00222	

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WAC 173-303-830 Modification Class: ^{1 2}	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 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 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: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (state reason for denial) Reason for denial:	Reviewed by Ecology: <i>E. Friedlander</i> 10/31/08 B. Becker-Khaleel Date
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¹ Class 1 modifications requiring prior Agency approval.

² If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to a Class '1, if applicable.