



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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

October 30, 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-08-007; Class ¹ 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 Class ¹ Modification 24590-HLW-PCN-ENV-08-007,
submitted September 22, 2008. The approved Hanford Facility RCRA Permit Modification
Notification Form is enclosed.

This modification provides the following source Piping and Instrumentation Diagrams (P&IDs)
for the High-Level Waste (HLW) Melter Process System (HMP). These replace the current
permit P&IDs in Appendix 10.2:

- 24590-HLW-M6-HMP-00001, Revision 4
- 24590-HLW-M6-HMP-00002, Revision 5
- 24590-HLW-M6-HMP-00003, Revision 5
- 24590-HLW-M6-HMP-00004, Revision 4
- 24590-HLW-M6-HMP-00006, Revision 4
- 24590-HLW-M6-HMP-00007, Revision 4
- 24590-HLW-M6-HMP-00008, Revision 4
- 24590-HLW-M6-HMP-00013, Revision 4
- 24590-HLW-M6-HMP-00014, Revision 4
- 24590-HLW-M6-HMP-20001, Revision 5
- 24590-HLW-M6-HMP-20002, Revision 6

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- 24590-HLW-M6-HMP-20003, Revision 6
- 24590-HLW-M6-HMP-20004, Revision 5
- 24590-HLW-M6-HMP-20006, Revision 5
- 24590-HLW-M6-HMP-20007, Revision 5
- 24590-HLW-M6-HMP-20008, Revision 5
- 24590-HLW-M6-HMP-20013, Revision 5
- 24590-HLW-M6-HMP-20014, Revision 5

Ecology acknowledges that the following two drawings are "Confidential Business Information" and their protection is requested:

- 24590-HLW-M6-HMP-00001, Revision 4
- 24590-HLW-M6-HMP-20001, Revision 5

A Film Cooler Cleaner was added to 24590-HLW-M6-HMP-00002 and 24590-HLW-M6-HMP-20002. As a result of this addition, the following permit modification is requested:

- Add a detailed description of the Film Cooler Cleaners (HMP-FCC-00001 and HMP-FCC-00002) to Chapter 4, Section 4.1.4.3.1, Film Coolers. The description should include the general function of the Film Cooler Cleaner as well as equipment operation details.

The following editorial changes were discussed with Bechtel National, Inc. and will be made at the next revision of the applicable documents:

1. Label line HOP-PW-20390-N11K-02 as "Low Point Drain" on 24590-HLW-M6-HMP-00002 (Grid C6). This is consistent with the drain line on the corresponding Melter 2 P&ID (24590-HLW-M6-HMP-20002).
2. Reverse the East Discharge Chamber and West Discharge Chamber on 24590-HLW-M6-HMP-00002 (Grid C6). The West Discharge Chamber corresponds with drawing 24590-HLW-M6-HMP-00007 and the East Discharge Chamber corresponds with drawing 24590-HLW-M6-HMP-00006.
3. Label line HMP-GL-32393-S11C-02 as "Instrument Air" on 24590-HLW-M6-HMP-00002 (Grid D2). This is consistent with the previous revision of this drawing and with the corresponding Melter 2 P&ID (24590-HLW-M6-HMP-20002).
4. Line on 24590-HLW-M6-HMP-20003 (Grid D8) should be labeled "Cooling Water Return Melter 2 Panels." The label currently reads Melter 1.
5. Wallbox on 24590-HLW-M6-HMP-20004 (Grid E5) should be labeled "HMP-WBOX-00057." It is currently labeled HMP-WBOX-00056.

Ms. Olinger and Mr. Elkins
October 30, 2008
Page 3

In addition, the following error was made on the Hanford Facility RCRA Permit Modification Notification Form:

1. Number 6, Bullet 2 "Added separate air connections for Pour Spout cameras and pneumatic actuators." This change should have been listed under Number 7.

Based on our review of the documents and our authority under Washington Administrative Code 173-303-830(4)(d), Ecology reclassified the Permit Change Notice from a Class 1 to a Class ¹1.

If there are any questions, contact me at 509-372-7892 or Robbie Biyani at 509-372-7884.

Sincerely,

Ed Fredenburg

Edward Fredenburg
Acting 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

Quarter Ending September 30,
2008

24590-HLW-PCN-ENV-08-007

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

Index

Page 2 of 4: Hanford Facility RCRA Permit, Part III, Operating Unit 10, Waste Treatment and Immobilization Plant

Update Piping and Instrumentation Diagrams (P&IDs):

24590-HLW-M6-HMP-00001 Melter 1 Feed and Agitation
 24590-HLW-M6-HMP-00002 Melter 1 System Film Cooler and Offgas Connection
 24590-HLW-M6-HMP-00003 Melter 1 Refractory Cooling
 24590-HLW-M6-HMP-00004 Melter 1 Electrodes
 24590-HLW-M6-HMP-00006 Melter 1 East Discharge Heaters and Airlift
 24590-HLW-M6-HMP-00007 Melter 1 West Discharge Heaters and Airlift
 24590-HLW-M6-HMP-00008 Melter 1 Glass Pour Monitoring
 24590-HLW-M6-HMP-00013 Melter 1 Pressure, Density and Level Detection
 24590-HLW-M6-HMP-00014 Melter 1 Refractory Cooling
 24590-HLW-M6-HMP-20001 Melter 2 Feed and Agitation
 24590-HLW-M6-HMP-20002 Melter 2 System Film Cooler and Offgas Connection
 24590-HLW-M6-HMP-20003 Melter 2 Refractory Cooling
 24590-HLW-M6-HMP-20004 Melter 2 Electrodes
 24590-HLW-M6-HMP-20006 Melter 2 East Discharge Heaters and Airlift
 24590-HLW-M6-HMP-20007 Melter 2 West Discharge Heaters and Airlift
 24590-HLW-M6-HMP-20008 Melter 2 Glass Pour Monitoring
 24590-HLW-M6-HMP-20013 Melter 2 Pressure, Density and Level Detection
 24590-HLW-M6-HMP-20014 Melter 2 Refractory Cooling

in Appendix 10.2 of the Dangerous Waste Permit.

Submitted by Co-Operator:

Reviewed by ORP Program Office:

D. A. Klein

8/13/08

D. A. Klein

Date

S. J. Olinger

S. J. Olinger

9/17/08

Date

Quarter Ending September 30,
2008

24590-HLW-PCN-ENV-08-007

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 modification is to update the Piping and Instrumentation Diagrams (P&IDs) for the HLW Melter Process System (HMP) 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:	With:
24590-HLW-M6-HMP-P0001, Rev. 1	24590-HLW-M6-HMP-00001, Rev. 4
24590-HLW-M6-HMP-P0002, Rev. 1	24590-HLW-M6-HMP-00002, Rev. 5
24590-HLW-M6-HMP-P0003, Rev. 0	24590-HLW-M6-HMP-00003, Rev. 5
24590-HLW-M6-HMP-P0004, Rev. 0	24590-HLW-M6-HMP-00004, Rev. 4
24590-HLW-M6-HMP-P0006, Rev. 1	24590-HLW-M6-HMP-00006, Rev. 4
24590-HLW-M6-HMP-P0007, Rev. 1	24590-HLW-M6-HMP-00007, Rev. 4
24590-HLW-M6-HMP-P0008, Rev. 1	24590-HLW-M6-HMP-00008, Rev. 4
24590-HLW-M6-HMP-P0013, Rev. 1	24590-HLW-M6-HMP-00013, Rev. 4
24590-HLW-M6-HMP-P0014, Rev. 0	24590-HLW-M6-HMP-00014, Rev. 4
24590-HLW-M6-HMP-P20001, Rev. 1	24590-HLW-M6-HMP-20001, Rev. 5
24590-HLW-M6-HMP-P20002, Rev. 1	24590-HLW-M6-HMP-20002, Rev. 6
24590-HLW-M6-HMP-P20003, Rev. 0	24590-HLW-M6-HMP-20003, Rev. 6
24590-HLW-M6-HMP-P20004, Rev. 0	24590-HLW-M6-HMP-20004, Rev. 5
24590-HLW-M6-HMP-P20006, Rev. 1	24590-HLW-M6-HMP-20006, Rev. 5
24590-HLW-M6-HMP-P20007, Rev. 1	24590-HLW-M6-HMP-20007, Rev. 5
24590-HLW-M6-HMP-P20008, Rev. 1	24590-HLW-M6-HMP-20008, Rev. 5
24590-HLW-M6-HMP-P20013, Rev. 1	24590-HLW-M6-HMP-20013, Rev. 5
24590-HLW-M6-HMP-P20014, Rev. 0	24590-HLW-M6-HMP-20014, Rev. 5

This modification requests Ecology approval and incorporation into the permit the specific changes to these P&IDs that are indicated by revision notes and/or clouds. The referenced P&IDs include 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 following types of changes apply to all HMP P&IDs:

- Modified, deleted, and added notes and references
- Revised seismic and quality designations
- Modified support/utility system lines, valves, and instruments

Additional significant changes on each Melter 1 and Melter 2 P&IDs are summarized below:

1. *Feed and Agitation*, 24590-HLW-M6-HMP-00001 Rev 4 (see Note 26) and 24590-HLW-M6-HMP-20001 Rev 5 (see Note 29)
 - Added details on melter plugs
2. *Film Cooler and Offgas Connection*, 24590-HLW-M6-HMP-00002 Rev 5 (see Notes 31 and 33) 24590-HLW-M6-HMP-20002 Rev 6 (see Notes 38 and 40)
 - Revised melter graphic for clarification
 - Added Film Cooler Cleaner (Grid E6)
 - Added labels East/West Discharge Chamber to (Grid C6)
 - Revised through wall penetration on utility lines from wall boxes to P-joggles

Quarter Ending September 30,
2008

24590-HLW-PCN-ENV-08-007

- Added low point drain to the SBS bypass line (Grid C6)
 - Added jumper connection to the melter pressure relief vent
3. *Refractory Cooling*, 24590-HLW-M6-HMP-00003 Rev 5 (see Notes 24 and 26) and 24590-HLW-M6-HMP-20003 Rev 6 (see Notes 28 and 30)
 - Changed P&ID title from Cooling System to Refractory Cooling
 - Revised through wall penetration on utility lines from wall boxes to P-joggles
 - Revised melter graphic for clarification
 - Added and revised nozzle and jumper tags
 4. *Electrodes*, 24590-HLW-M6-HMP-00004 Rev 4 (see Note 26) and 24590-HLW-M6-HMP-20004 (see Note 34)
 - Changed P&ID title from Electrode Air Cooling and Joule Heating to Electrodes
 - Revised melter graphic for clarification
 5. *East Discharge Heaters and Airlift*, 24590-HLW-M6-HMP-00006 Rev 4 (see Note 33) and 24590-HLW-M6-HMP-20006 (see Note 47)
 - Revised melter graphic for clarification
 6. *West Discharge Heaters and Airlift*, 24590-HLW-M6-HMP-00007 Rev 4 (see Note 37) and 24590-HLW-M6-HMP-20007 Rev 5 (see Note 45)
 - Revised melter graphic for clarification
 - Added separate air connections for Pour Spout cameras and pneumatic actuators
 7. *Glass Pour Monitoring*, 24590-HLW-M6-HMP-00008 Rev 4 (see Note 31) and 24590-HLW-M6-HMP-20008 Rev 5 (see Note 33)
 - Changed P&ID title from Glass Pour & Monitoring Instrumentation to Glass Pour Monitoring
 - Revised melter graphic for clarification
 8. *Pressure, Density and Level Detection*, 24590-HLW-M6-HMP-00013 Rev 4 (see Note 30) and 24590-HLW-M6-HMP-20013 Rev 5 (see Note 35)
 - Revised melter graphic for clarification
 - Added details on melter plugs
 9. *Refractory Cooling*, 24590-HLW-M6-HMP-00014 Rev 4 (see Note 24) and 24590-HLW-M6-HMP-20014 Rev 5 (see Note 29)
 - Changed P&ID title from Melter 1 Cooling System to Melter 1 Refractory Cooling
 - Revised melter graphic for clarification

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

24590-HLW-M6N-HMP-00075, *Remove ITS "Z" from HOP-HV-2002*

24590-HLW-M6N-HMP-00078, *Removal of "Z" designator on YD indicator (YD-0222) for pneumatic actuator*

24590-HLW-M6N-HMP-00079, *Clarification of Pressure Relief Valve Sizing*

24590-HLW-M6N-HMP-20018, *Update HMP Drawings to Remove Holds on C2/C5 On/Off Valves*

24590-HLW-M6N-HMP-20020, *Addition of Bubblers to Melters*

Quarter Ending September 30,
2008

24590-HLW-PCN-ENV-08-007

reclassified

WAC 173-303-830 Modification Class: ^{1 2}	Class 1	Class ¹ 1	Class 2	Class 3
Please mark the Modification Class:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Enter Relevant WAC 173-303-830, Appendix I Modification citation number: A1 and A3				
Enter wording of WAC 173-303-830, Appendix I Modification citation: A. General Permit Provisions 1. Administrative and informational changes 3. Equipment replacement or upgrading with functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls)				
Modification Approved: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (state reason for denial)		Reviewed by Ecology:		
Reason for denial:		<i>B. Becker-Khaleel</i> <i>10/29/2008</i>		
		B. Becker-Khaleel Date		

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.