



U.S. Department of Energy
Office of River Protection

P.O. Box 450, MSIN H6-60
Richland, Washington 99352

0073893

SEP 10 2007

07-ESQ-150

Ms. Jane A. Hedges, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
3100 Port of Benton Blvd.
Richland, Washington 99354

RECEIVED
SEP 11 2007
EDMC

Dear Ms. Hedges:

SUBMITTAL OF HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT MODIFICATION NOTIFICATION FORM 24590-HLW-PCN-ENV-07-004

Reference: WA7890008967, "Dangerous Waste Portion of the Hanford Facility Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit 10, Unit Specific Conditions, 'Waste Treatment and Immobilization Plant.'"

This letter transmits Hanford Facility RCRA Permit Modification Notification Form 24590-HLW-PCN-ENV-07-004, Attachment 1, for the Washington State Department of Ecology (Ecology) review and approval. The form describes a requested Class 1 modification to the Reference. A Bechtel National, Inc. certification statement is provided in Attachment 2.

Permit Modification Notification Form 24590-HLW-PCN-ENV-07-004 updates the Mechanical Systems Data Sheets (24590-HLW-MKD-HOP-P0014 and 24590-HLW-MKD-HOP-P0017) for the Silver Mordenite Columns (HOP-ABS-00002 and HOP-ABS-00003) found in Appendix 10.6 of the Reference. A one-to-one correlation between the previous permit and current (i.e., source) versions of the Mechanical Systems Data Sheets does not exist. The Permit Modification Notification Form briefly describes potential permit affecting changes (based on engineering judgment) between the current and previous revisions of the Mechanical Systems Data Sheets in a summary format. Applicable design and field changes are also summarized on the Permit Change Notice form.

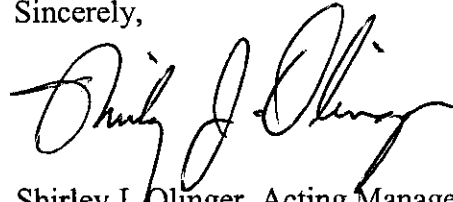
Ms. Jane A. Hedges
07-ESQ-150

-2-

SEP 10 2007

If you have any questions, please contact me, or your staff may contact Lori A. Huffman, Office of Environmental Safety and Quality, (509) 376-0104.

Sincerely,



Shirley J. Olinger, Acting Manager
Office of River Protection

ESQ:LAH

Attachments: (2)

cc w/attachs:

Administrative Record *H-0-8*
BNI Correspondence
Environmental Portal, LMSI

cc electronic:

B. Dubiel, BNI
W. S. Elkins, BNI
B. G. Erlandson, BNI
P. A. Fisher, BNI
J. S. Hill, BNI
S. Murdock, BNI
P. Peistrup, BNI
D. Becker, Ecology
B. Becker-Khaleel, Ecology (1 hard copy)
E. A. Fredenburg, Ecology
T. A. Williams, Ecology
S. A. Thompson, FHI
A. C. McKarns, RL
D. J. Sommer, SCS

cc w/o attachs:

D. A. Klein, BNI
J. Cox, CTUIR
S. Harris, CTUIR
L. Cusack, Ecology
S. L. Dahl, Ecology
G. P. Davis, Ecology
G. Bohnee, NPT
K. Niles, Oregon Energy
R. Jim, YN

Attachment 1
07-ESQ-150

Hanford Facility RCRA Permit Modification Notification
Form 24590-HLW-PCN-ENV-07-004

Quarter Ending 9/30/07

24590-HLW-PCN-ENV-07-004

Hanford Facility RCRA Permit Modification Notification Form					
Unit: Waste Treatment and Immobilization Plant		Permit Part & Chapter: Part III, Operating Unit 10			
<u>Description of Modification:</u>					
<p>The purpose of this Class 1 modification is to update HLW Mechanical Systems Data Sheets for the Silver Mordenite Columns (HOP-ABS-00002 and HOP-ABS-00003) in Appendix 10.6 of the Dangerous Waste Permit. The following data sheets are submitted to replace the permitted data sheets currently in Appendix 10.6.</p>					
Appendix 10.6					
Replace:	24590-HLW-MKD-HOP-P0014, Rev. 1	With:	24590-HLW-MKD-HOP-00014, Rev. 6		
Replace:	24590-HLW-MKD-HOP-P0017, Rev. 0	With:	24590-HLW-MKD-HOP-00017, Rev. 6		
<p>This modification requests Ecology approval and incorporation into the permit the specific changes to these data sheets that are identified by revision notes 4, 5, and 6, revision triangles, or revision bars shown on the data sheets that have been issued since the last revision of the permitted version. The silver mordenite columns have been installed in the HLW facility in 2005; this PCN updates the mechanical data sheets to include design details provided by the vendor and other minor editorial changes. The following identifies the significant changes that have been revised on the attached data sheets.</p> <ul style="list-style-type: none"> • Revised Seismic Base Moment, Support Type, and Nozzles: Sampling & Testing Connections from TBD to data provided by the vendor • Revised Notes 1 and 4 • Added Note 5 • Revised Process Data Sheet reference to Process Calculation. 					
<p>The following is a list of outstanding change documents that have not been incorporated into this modification: None</p>					
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:		A.1 and A.3			
Enter wording of WAC 173-303-830, Appendix I Modification citation:					
<p>A. General Permit Provisions</p> <p>1. Administrative and informational changes</p> <p>3. Equipment replacement or upgrading with functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls)</p>					
Modification Approved: <input type="checkbox"/> Yes <input type="checkbox"/> No (state reason for denial) <u>Reason for denial:</u>			Reviewed by Ecology:		
			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.



MECHANICAL SYSTEMS DATA SHEET: VESSEL

PLANT ITEM No. R10803467
24590-HLW-MV-HOP-ABS-00002

ISSUED BY
RPP/WTP/PDC

Project:	RPP-WTP	P&ID:	24590-HLW-M6-HOP-00008
Project No:	24590	Process Calculation:	24590-HLW-M4C-HOP-00011 / 6
Project Site:	Hanford	Vessel Drawing	24590-HLW-3PS-MBT0-T0001 (Vendor Supplied Dwg's TBD)
Description:	Melter 1 Silver Mordenite Column		

Reference Data

Charge Vessels (Tag Numbers)	None
Pulsejet Mixers / Agitators (Tag Numbers)	None
RFDs/Pumps (Tag Numbers)	None

Design Data

Quality Level	QL-2		Fabrication Specs	24590-HLW-3PS-MBT0-T0001		
Seismic Category	SC-III		Design Code	ASME AG-1/1a & ASME Section VIII, Div. 1		
Service/Contents	Filtered Radioactive Gas		Code Stamp	No		
Design Specific Gravity	0.588		NB Registration	No		
Maximum Operating Volume	gal	NIA	Weights (lbs)	Empty	Operating	Test
Total Volume	gal	NIA	Estimated	14,200	35,200	35,200
Environmental Qualification	None		Actual *	39,600	55,900	55,900

Inside Diameter	inch	NIA			Wind Design	Not Required	
Length/Height (TL-TL)	inch	See note 1			Snow Design	Not Required	
		Vessel Operating	Vessel Design	Coil/Jacket Design	Seismic Design	24590-WTP-3PS-FB01-T0001 & 24590-HLW-3PS-MBT0-T0001	
Internal Pressure	psig	0	3	NIA	Seismic Base Moment *	ft*lb	0
External Pressure	psig	1.3 (see note 3)	3	NIA	Postweld Heat Treat	Not Required	
Temperature	°F	330	330	NIA	Corrosion Allowance	inch	0.04
Min. Design Metal Temp	°F	59			Hydrostatic Test Pressure *	psig	See note 2
Max Operating Pressure Drop	in-WG	10					

Materials of Construction

Component	Material	Minimum Thickness / Size	Containment
Top Head	NIA	NIA	NIA
Shell	316L	1/4" Plate	Primary
Bottom Head	NIA	NIA	NIA
Support	316L	1/4" 3 x 3 angle	NIA
Jacket/Coils/Half-Pipe Jacket	NIA	NIA	NIA
Internals	316L	1/4" Plate	NIA
Pipe	316L	SCH 40	NIA
Forgings/ Bar stock	NIA	NIA	NIA
Gaskets	Silicone HT	NIA	NIA
Bolting	Varies - See DWGs	NIA	NIA

Miscellaneous Data

Orientation	Horizontal	Support Type	20" x 2 7/16" x 1/4" Fabricated Flange 304L
Insulation Function	Personnel protection and process temperature control	Insulation Material	Calcium Silicate w/0.024" thk, 304 SST Jacket
Insulation Thickness (inch)	6"	Internal Finish	NIA
		External Finish	NIA

Remarks

* To be determined by the Vendor.



MECHANICAL SYSTEMS DATA SHEET: VESSEL

PLANT ITEM No.
24590-HLW-MV-HOP-ABS-00002

Equipment Cyclic Data Sheet

Component Plant Item Number:	24590-HLW-MV-HOP-ABS-00002
Component Description	Silver Mordenite Column containment housing

The information below is provisional and envelopes operational duty for fatigue assessment. It is not to be used as operational data.

Materials of Construction	316L
Design Life	40 yr
Component Function and Life Cycle Description	Removal of Iodine-129 and other halogens

Load Type	Min	Max	Number of Cycles	Comment
Design Pressure (-ve/+ve) psig	-3	+3	1	Based on 3 yr melter life
Operating Pressure (-ve/+ve) psig	-1.3	+1.5	13	Based on 3 yr melter life
Operating Temperature °F	59	330	13	Based on 3 yr melter life
Contents Specific Gravity	0.588	0.588	N/A	
Contents Level inch	N/A	N/A	N/A	Gas service, flow through operation
Localized Features				
Nozzles	Sampling & Testing Connections		3/4" - 150 lb WNF x3	
Air Inlet	Flange			
Delivery	Flange			
Supports	*TBD			

Notes

1. Maximum outside dimensions: 19'-9 1/4" L (w/o insulation) x 15'-3 1/4" W (w/insulation) x 7'-0" H (bottom of column to top of column grating). Dimensions are ±1/2".
2. Pneumatic Test of Housing Pressure Boundary per ASME Section VIII, Div 1. All other testing per ASME AG-1/1a & N509
3. Normal operating pressure will be 1.3 psig External. The other pressures shown are design, off-normal conditions.
4. The information contained in revision 2 data sheet supercedes the information contained in SDDR 24590-WTP-SDDR-PROC-03-0003.
5. Contents of this document are Dangerous Waste Permit affecting. 6

Safety Screening required?: Yes No (If yes per 24590-WTP-GPP-SREG-002, E&NS signature required below)

Approval

Rev	Description	System Eng.	Equip. Eng.	Checked	Reviewed/E&NS	Approved	Date
0	Issued for Purchase	Anthony Cutrona	N/A	David Evans	N/A/N/A	Suzanne Kirk	8/14/02
1	Updated Process datasheet number, revised Vessel Drawing reference (added equipment spec no., & Vendor dwg's are TBD), corrected seismic category from II to III, revised seismic specification number, and added 1a supplement to design code ASME AG-1	Anthony Cutrona	N/A	David Evans	N/A/N/A	Mark Hoffman	11/14/02
2	Secondary offgas rearrangement: Revised operating and design pressure, and operating temperature per 24590-HLW-M6C-HOP-00011 R/C. Added max operating pressure drop. Added note 4 Revised Approval block.	Anthony Cutrona	David Pease	Pat Harrigan	Donna Yarbrough/N/A	Marla Wright	10/3/03



MECHANICAL SYSTEMS DATA SHEET: VESSEL

PLANT ITEM No.
24590-HLW-MV-HOP-ABS-00002

3	Updated actual weights, materials of construction, and insulation thickness based on Vendor submittal. Revised norm/max/design temperature per 24590-WTP-SDDR-PROC-03-0411	Anthony Cutrona	David Pease	Pat Harrigan	Donna Yarbrough/ N/A	Marla Wright	12/16/03
4	Revised to comply with CODE 1 vendor submittal 24590-QL-POA-MBT0-00001-11-02, in accordance with CAR: 24590-WTP-CAR-QA-05-120. Incorporated DCN 24590-HLW-MKN-HOP-00007	Jim Rouse	David Pease	Anthony Cutrona	Chris Morley/ N/A	John Julyk	11/27/05
5	Revised note 1: Changed width from 15'-3 1/8" to 15'-3 1/4", added tolerance. Added E&NS to Approval section.	Jim Rouse	Anthony Cutrona	Satish Jain	Grant Goolsby/ Chris Meng	John Julyk	11/22/06
6	Revised Process Data Sheet reference to Process Calculation, the data sheet was cancelled. Added Note 5.	Tom Galioto <i>[Signature]</i>	Anthony Cutrona <i>[Signature]</i>	Suren Thakkar <i>[Signature]</i>	Grant Goolsby/ Chris Meng <i>[Signature]</i>	John Julyk <i>[Signature]</i>	7/12/07



MECHANICAL SYSTEMS DATA SHEET: VESSEL

PLANT ITEM No. R10803468
24590-HLW-MV-HOP-ABS-00003

ISSUED BY
RPP/WTP PDC

Project:	RPP-WTP	P&ID:	24590-HLW-M6-HOP-20008
Project No:	24590	Process Calculation:	24590-HLW-M4C-HOP-00011 ⁶
Project Site:	Hanford	Vessel Drawing:	24590-HLW-3PS-MBT0-T0001 (Vendor Supplied Dwg's TBD)
Description:	Melter 2 Silver Mordenite Column		

Reference Data

Charge Vessels (Tag Numbers)	None
Pulsejet Mixers / Agitators (Tag Numbers)	None
RFDs/Pumps (Tag Numbers)	None

Design Data

Quality Level	QL-2			Fabrication Specs	24590-HLW-3PS-MBT0-T0001		
Seismic Category	SC-III			Design Code	ASME AG-111a & ASME Section VIII, Div. 1		
Service/Contents	Filtered Radioactive Gas			Code Stamp	No		
Design Specific Gravity	0.588			NB Registration	No		
Maximum Operating Volume	gal	NIA		Weights (lbs)	Empty	Operating	Test
Total Volume	gal	NIA		Estimated	14,200	35,200	35,200
Environmental Qualification	None			Actual *	39,600	55,900	55,900

Inside Diameter	inch	NIA			Wind Design	Not Required	
Length/Height (TL-TL)	inch	See note 1			Snow Design	Not Required	
		Vessel Operating	Vessel Design	Coil/Jacket Design	Seismic Design	24590-WTP-3PS-FB01-T0001 & 24590-HLW-3PS-MBT0-T0001	
Internal Pressure	psig	0	3	NIA	Seismic Base Moment *	ft*lb	0
External Pressure	psig	1.3 (see note 3)	3	NIA	Postweld Heat Treat	Not Required	
Temperature	*F	330	330	NIA	Corrosion Allowance	Inch	0.04
Min. Design Metal Temp.	*F	59			Hydrostatic Test Pressure *	psig	See note 2
Max Operating Pressure Drop	in-WG	10					

Materials of Construction

Component	Material	Minimum Thickness / Size	Containment
Top Head	NIA	NIA	NIA
Shell	316L	1/4" Plate	Primary
Bottom Head	NIA	NIA	NIA
Support	316L	1/4" 3 x 3 angle	NIA
Jacket/Coils/Half-Pipe Jacket	NIA	NIA	NIA
Internals	316L	1/4" Plate	NIA
Pipe	316L	SCH 40	NIA
Forgings/ Bar stock	NIA	NIA	NIA
Gaskets	Silicone HT	NIA	NIA
Bolting	Varies - See DWGs	NIA	NIA

Miscellaneous Data

Orientation	Horizontal	Support Type	20" x 2 7/16" x 1/4" Fabricated Flange 304L
Insulation Function	Personnel protection and process temperature control	Insulation Material	Calcium Silicate w/0.024" thk, 304 SST Jacket
Insulation Thickness (inch)	6"	Internal Finish	NIA
		External Finish	NIA

Remarks

* To be determined by the Vendor.



MECHANICAL SYSTEMS DATA SHEET: VESSEL

PLANT ITEM No.
24590-HLW-MV-HOP-ABS-00003

Equipment Cyclic Data Sheet

Component Plant Item Number:	24590-HLW-MV-HOP-ABS-00003 6
Component Description	Silver Mordenite Column containment housing

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Materials of Construction	316L
Design Life	40 yr
Component Function and Life Cycle Description	Removal of Iodine-129 and other halogens

Load Type		Min	Max	Number of Cycles	Comment
Design Pressure (-ve/+ve)	psig	-3	+3	1	Based on 3 yr melter life
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Operating Temperature	*F	59	330	13	Based on 3 yr melter life
Contents Specific Gravity		0.588	0.588	N/A	
Contents Level	inch	N/A	N/A	N/A	Gas service, flow through operation
Localized Features					
Nozzles	Sampling & Testing Connections		3/4" - 150 lb WNF x3		
Air Inlet	Flange				
Delivery	Flange				
Supports	*TBD				

Notes

- Maximum outside dimensions: 19'-9 1/4" L (w/o insulation) x 15'-3 1/4" W (w/insulation) x 7'-0" H (bottom of column to top of column grating). Dimensions are ±1/2".
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Safety Screening required?: Yes No (If yes per 24590-WTP-GPP-SREG-002, E&NS signature required below)

Approval

Rev	Description	System Eng.	Equip. Eng.	Checked	Reviewed/E&NS	Approved	Date
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2	Secondary offgas rearrangement: Revised operating and design pressure, and operating temperature per 24590-HLW-M6C-HOP-00011 R/C. Added max operating pressure drop. Added note 4. Revised Approval block	Anthony Cutrona	David Pease	Pat Harrigan	Donna Yarbrough/ N/A	Marla Wright	10/3/03



MECHANICAL SYSTEMS DATA SHEET: VESSEL

PLANT ITEM No.
24590-HLW-MV-HOP-ABS-00003

3	Updated actual weights, materials of construction, and insulation thickness based on Vendor submittal. Revised norm/max/design temperature per 24590-WTP-SDDR-PROC-03-0411	Anthony Cutrona	David Pease	Pat Harrigan	Donna Yarbrough/ N/A	Marla Wright	12/16/03
4	Revised to comply with CODE 1 vendor submittal 24590-QL-POA-MBT0-00001-11-01, in accordance with CAR: 24590-WTP-CAR-QA-05-120. Incorporated DCN 24590-HLW-MKN-HOP-00008	Jim Rouse	David Pease	Anthony Cutrona	Chris Morley/ N/A	John Julyk	11/27/05
5	Revised note 1: Changed width from 15'-3 1/8" to 15'-3 1/4", added tolerance. Added E&NS to Approval section.	Jim Rouse	Anthony Cutrona	Satish Jain	Grant Goolsby/ Chris Meng	John Julyk	11/22/06
6	Revised Process Data Sheet reference to Process Calculation, the data sheet is cancelled. Corrected plant item number in Cyclic Data section. Added Note 5.	Tom Galioto 	Anthony Cutrona 	Suren Thakkar 	Grant Goolsby/ Chris Meng CM	John Julyk 	7/12/07

Attachment 2
07-ESQ-150

Bechtel National, Inc. Certification Statement

Bechtel National, Inc. Certification

The following certification statement is provided consistent with Contract No. DE-AC27-01RV14136, Section H.26, Environmental Permits, paragraph (g) for the submittal of the Hanford Facility Resource Conservation and Recovery Act Permit Modification Notification Form 24590-HLW-PCN-ENV-07-004.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



W. S. Elkins
Project Director

10 AUG 2007

Date