U.S. Department of Energy
Office of River Protection
P.O. Box 450, MSIN H6-60
Richland, Washington 99352

0078805

SEP 23 2008

08-ESQ-220

RECEIVED
OCT 01 2008
EDMC

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

Dear Ms. Hedges:

SUBMITTAL OF HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT MODIFICATION NOTIFICATION FORM 24590-HLW-PCN-ENV-06-015

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

This letter transmits Hanford Facility RCRA Permit Modification Notification Form 24590-HLW-PCN-ENV-06-015, attached, for the Washington State Department of Ecology (Ecology) review and approval.

Modification Notification Form 24590-HLW-PCN-ENV-06-015 updates the Piping and Instrumentation Diagrams (P&ID) for the High-Level Waste Facility Radioactive Liquid Waste Disposal System found in Appendix 10.2 of the Reference. The permit version of the P&IDs is being replaced by the attached source P&IDs. The permit version and source drawings are not identical. Some aspects of permit drawings (e.g., ghosting, certain notes, references, holds, etc.) have no counterpart or equivalent on source drawings. Bechtel National, Inc. has briefly described potential permit affecting changes between the current and previous revisions of the source drawings on the Permit Change Notice (PCN) form.

Ecology reviewed this modification form and the associated information. Comments on the attached PCN have been resolved.

SEP 23 2008

If you have any questions, please contact me, or your staff may contact Lori A. Huffman, Division Director, Environmental Compliance Division, (509) 376-0104.

Sincerely,

Shirley J. Olinger, Manager
Office of River Protection

ESQ:LAH

Attachment

cc w/attach:
B. Dubiel, BNI
W. S. Elkins, BNI
B. G. Erlandson, BNI
P. A. Fisher, BNI
J. S. Hill, BNI
S. K. Murdock, BNI
P. E. Peistrup, BNI
Administrative Record
BNI Correspondence
Environmental Portal, LMSI

RECEIVED
OCT 01 2008
EDMC

cc electronic:
D. C. Becker, Ecology
B. L. Becker-Khaleel, Ecology (2 hard copies)
R. K. Biyani, Ecology
E. A. Fredenburg, Ecology
T. A. Williams, Ecology
S. A. Thompson, FHI
A. C. McKarns, RL
D. J. Sommer, SCS

cc w/o attach:
D. A. Klein, BNI
J. Cox, CTUIR
S. G. Harris, CTUIR
S. L. Dahl, Ecology
G. P. Davis, Ecology
G. P. Bohnee, NPT
K. Niles, Oregon Energy
S. R. Weil, RL
R. Jim, YN

Attachment
08-ESQ-220

Hanford Facility RCRA Permit Modification Notification
Form 24590-HLW-PCN-ENV-06-015

Quarter Ending September 30, 2008

24590-HLW-PCN-ENV-06-015

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 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 Liqid 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:

D. A. Klein — Date: 2/26/08

Reviewed by ORP Program Office:

S. J. Olinger — Date: 9/22/08

Quarter Ending September 30, 2008

24590-HLW-PCN-ENV-06-015

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Waste Treatment and Immobilization Plant	**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

- 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-P0001and 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-20001and 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	
24590-HLW-M6N-RLD-00209	
24590-HLW-M6N-RLD-00210	
24590-HLW-M6N-RLD-00211	
24590-HLW-M6N-RLD-00212	
24590-HLW-M6N-RLD-00213	
24590-HLW-M6N-RLD-00215	
24590-HLW-M6N-RLD-00216	
24590-HLW-M6N-RLD-00217	
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	

Quarter Ending September 30, 2008

24590-HLW-PCN-ENV-06-015

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

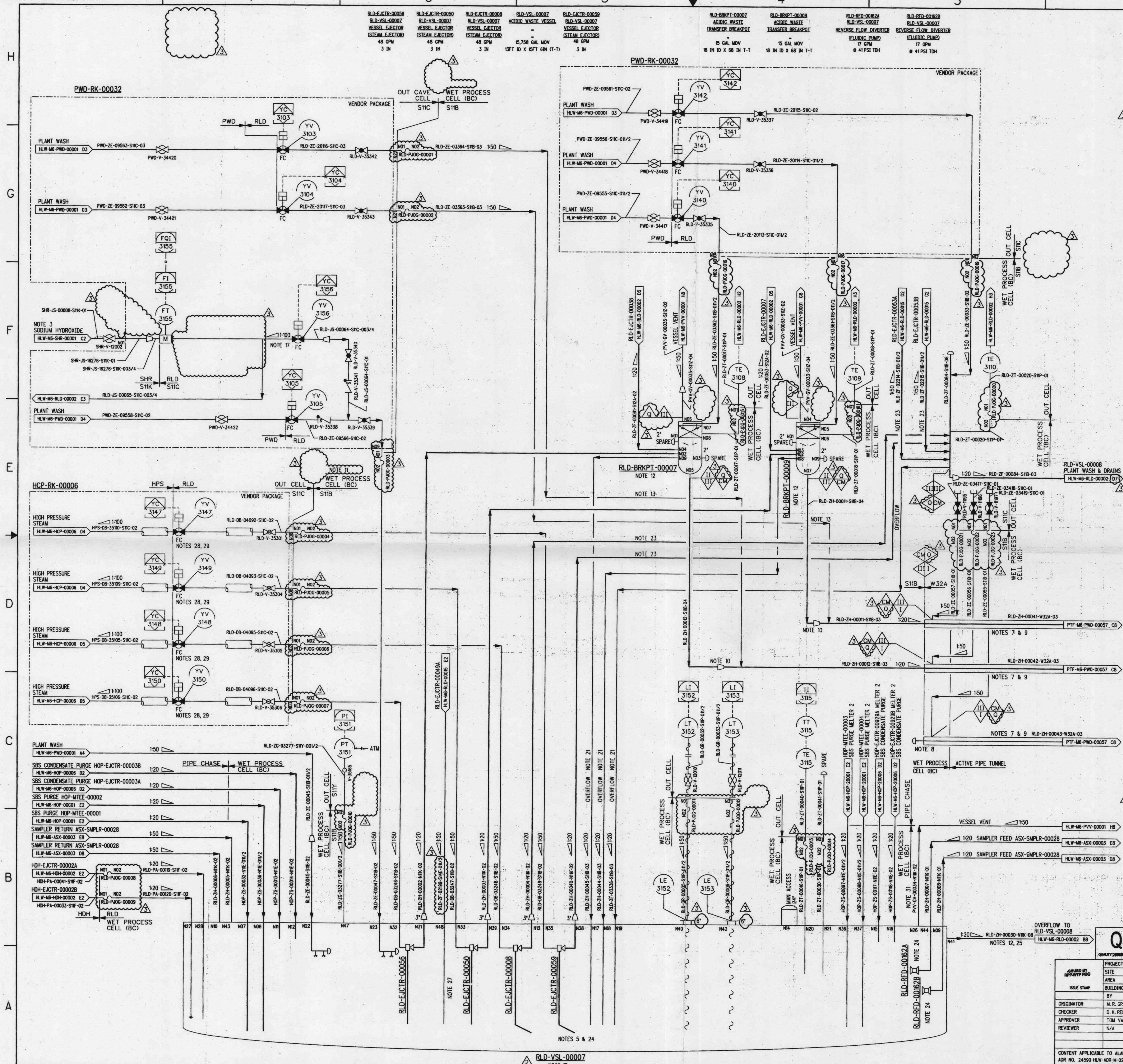
Enter wording of WAC 173-303-830, Appendix I Modification citation:

"In accordance with WAC 173-303-830(4)(d)(i), this modification notification is requested to be reviewed and approved as a Class [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 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: ☐ Yes ☐ No (state reason for denial) Reason for denial:	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.



NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. DELETED
3. SODIUM HYDROXIDE ADDITION TO VESSELS IS VIA PLANT WASH CONNECTION.
4. THE PRESSURE BOUNDARY FOR ALL SYSTEMS, STRUCTURES, AND COMPONENTS IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
5. SEE DRAWING 24590-HLW-M6-RLD-00006 FOR DETAILS OF PULSE JET MIXERS AND CHARGE VESSELS ASSOCIATED WITH RLD-VSL-00007.
6. DELETED
7. COAXIAL PIPE SLOPES TO PRETREATMENT AT 1:50. PRETREATMENT IS RESPONSIBLE FOR COAXIAL PIPE LEAK DETECTION.
8. SPARE LINE PROVIDED TO ACCOMMODATE POTENTIAL MODIFICATIONS DURING COMMISSIONING.
9. A 24" LONG FLANGED SPOOL PIECE (S11C SPECIFICATION) IS REQUIRED FOR THE INNER PIPE IN THE ACTIVE PIPE TUNNEL. SPOOL PIECE SHALL BE REMOVED AND PIPING IS TO BE RESTORED TO DOUBLE CONTAINED PIPING AFTER THE STARTUP PHASE IS COMPLETE.
10. REDUCER IN BREAKPOT DRAIN LINE SHALL BE LOCATED DOWNSTREAM OF THE FIRST HORIZONTAL BEND.
11. OUT CELL STEAM SUPPLY LINES TO BE 34 FT ABOVE VESSEL OVERFLOW.
12. ITEMS WITH THIS NOTE ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC II.
13. FLUSH INLET TO BE 20 FEET MINIMUM BELOW BREAKPOT OUTLET.

14-16. DELETED

17. MINIMIZE DISTANCE BETWEEN FLOW ELEMENT FE-3155 AND CONTROL VALVE YV-3156.
18. DELETED
19. DELETED
20. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
21. OVERFLOW LINE IS LOCATED LOWER THAN ALL INCOMING LINES TO THE MANIFOLD/BREAK POT.
22. HIGH POINT OF EJECTOR DISCHARGE PIPING SHALL BE A MINIMUM OF 35 FT ABOVE RLD-VSL-00007 OVERFLOW NOZZLE.
23. HIGH POINT OF EJECTOR DISCHARGE PIPING SHALL BE A MINIMUM OF 35 FT ABOVE RLD-VSL-00008 OVERFLOW NOZZLE.
24. THE VESSEL INTERNALS ARE QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III.
25. OVERFLOW LINE ALSO USED FOR RLD-VSL-00008 PURGE HYDROGEN PATH TO RLD-VSL-00007.
26. REVISION 2: INCORPORATED 24590-HLW-M6N-RLD-00136, -00151 (NOTE 14 IS DELETED), 24590-HLW-M6N-RLD-00154 (NOTE 12 IS REVISED), 24590-HLW-M6N-RLD-00161. INCORPORATED 24590-HLW-M6N-M80T-00002. CONVERTED WALL AND FLOOR BOXES TO JOGGLED PENETRATIONS. INCREASED SIZE OF PLANT WASH LINES FROM 1/2" TO 1 1/2" AND 2". DELETED NOZZLES N24, N25, N29, N30, N45, AND N46 FROM RLD-VSL-00007. DELETED LI-3154 AND ASSOCIATED WAVE GUIDE. DELETED Y-STRAINERS. DELETED LINES RLD-ZE-00046, -00048. CHANGED PIPE SPECIFICATION OF SBS PURGE AND SBS CONDENSTATE PURGE LINES FROM N13A TO N11E. ADDED LINE/VALVE NUMBERS TO RACK PIPING. ADDED BACKFLOW PREVENTORS. REVISED QUALITY LEVELS AND SEISMIC DESIGNATIONS. REVISED/ADDED/DELETED NOTES AND HOLDS. CHANGED PIPE SPEC OF EJECTOR DISCHARGE LINES FROM N11F TO N11K. SYSTEM REQUIRES DESIGN REVERIFICATION.
27. LINE INSIDE VESSEL SHALL HAVE 3/8-INCH HOLE ABOVE THE TOP OF OVERFLOW DISCHARGE PORT TO PREVENT BACK SIPHON.
28. SLOW OPENING VALVE REQUIRED.
29. LOCATE ACTUATED VALVE AT THE HIGH POINT IN LINE ABOVE RACK HEADER.
30. DELETED
31. ITEMS WITH THIS NOTE ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III.
32. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING.
33. REVISED TO INCORPORATE P-JOGGLES. DELETED BACKFLOW PREVENTER. REVISED QUALITY CLASS DESIGNATIONS. DELETED FE-3155. ADDED/DELETED/REVISED NOTES AND REFERENCES.

HOLD/OPEN ITEMS:

1-5. DELETED

REFERENCES:

1. 24590-HLW-M5-V17T-00007001, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 1)."

2-7. DELETED

8. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE FULLY DESCRIBED IN THE SOFTWARE FUNCTIONAL SPECIFICATION FOR RADIOACTIVE LIQUID WASTE DISPOSAL (RLD) SYSTEM, 24590-HLW-3PS-RLD-T0001.
9. FOR RADAR INSTALLATION DETAILS, SEE DRAWINGS 24590-WTP-J8-50-00001 AND 24590-WTP-J8-50-00003.

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.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
3	REVISED PER NOTE 33	MJK	SJ	CER	CJZ	11/30/06
2	REVISED PER NOTE 26	RJP	SJ	JP	JJ	5/31/06
0	ISSUED FOR CONSTRUCTION	MRG	DKR	N/A	TFV	12-19-02

REVISION HISTORY

Q
QUALITY DESIGNATOR

ISSUED BY RPP-WTP PDC
ISSUE STAMP

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
	BY	DATE
ORIGINATOR	M. R. GRINDEL	12/19/02
CHECKER	D. K. REDDY	12/19/02
APPROVER	TOM VALENTINO	12/19/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-016 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO | E&NS INITIAL IF YES

BECHTEL
RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM ACTIVE EFFLUENT COLLECTION

SCALE: NONE | 24590-HLW-M6-RLD-00001 | REV 3

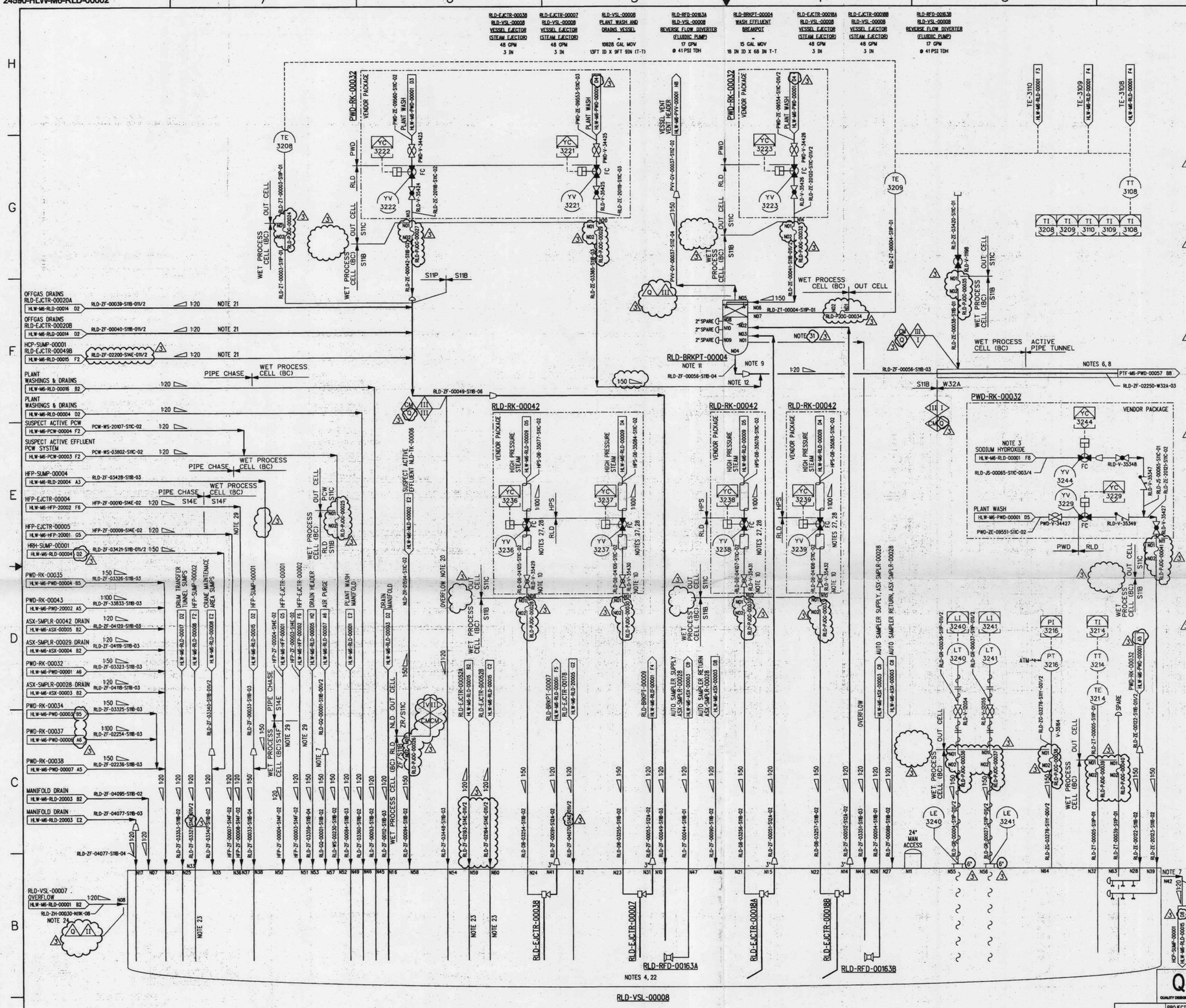
SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREG-002

'E' SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

R10740581 11/29/2006 07:09:21 AM

PLOTTED BY: eidorn
C:\Work\dms03839\HLWM6RLD00001.dgn

FORM E_SDN.DGN 02/2003



NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. DELETED
3. SODIUM HYDROXIDE ADDITION TO VESSEL RLD-VSL-00008 IS VIA PLANT WASH CONNECTION.
4. SEE DRAWING 24590-HLW-M6-RLD-00007 FOR DETAILS OF PULSE JET MIXERS AND CHARGE VESSELS ASSOCIATED WITH RLD-VSL-00008.
5. DELETED
6. COAXIAL PIPE SLOPES TO PRE-TREATMENT AT 1:50, PRE-TREATMENT IS RESPONSIBLE FOR COAXIAL PIPE LEAK DETECTION.
7. ITEMS WITH THIS NOTE ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I.
8. A 24" LONG FLANGED SPOOL PIECE (S11C SPECIFICATION) IS REQ'D FOR THE INNER PIPE IN THE ACTIVE PIPE TUNNEL. SPOOL PIECE SHALL BE REMOVED AND PIPING IS TO BE RESTORED TO DOUBLE CONTAINED PIPING AFTER THE STARTUP PHASE IS COMPLETE.
9. REDUCER IN BREAKPOT DRAIN LINE SHALL BE LOCATED DOWNSTREAM OF THE FIRST HORIZONTAL BEND.
10. OUT CELL STEAM SUPPLY LINES TO BE 34 FEET ABOVE VESSEL OVERFLOW.
11. ITEMS WITH THIS NOTE ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-II.
12. FLUSH INLET TO BE 20 FEET MINIMUM BELOW BREAKPOT OUTLET.

13.-17. DELETED

18. REVISION 1: SODIUM HYDROXIDE FEED INCORPORATED, HOLDS 1 & 2 REMOVED. RLD-WBOX-00040 DELETED. DIP TUBES ADDED TO 16 NOZZLES. FOUR SPARE NOZZLES WITH DIP TUBES ADDED. ADDED HOLDS 3, 4, 5, AND 6.
19. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
20. DELETED
21. HIGH POINT OF EJECTOR DISCHARGE PIPING SHALL BE A MINIMUM OF 34 FEET ABOVE RLD-VSL-00008 OVERFLOW NOZZLE.
22. THE VESSEL INTERNALS ARE QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III.
23. LINE INSIDE VESSEL SHALL HAVE 3/8-INCH HOLE ABOVE TOP OF OVERFLOW DISCHARGE PORT TO PREVENT BACK SIPHON.
24. ACIDIC WASTE VESSEL OVERFLOW LINE ALSO USED FOR VESSEL RLD-VSL-00008 PURGE HYDROGEN PATH TO VESSEL RLD-VSL-00007.
25. THE PRESSURE BOUNDARY FOR ALL SYSTEM, STRUCTURES, AND COMPONENTS IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
26. REVISION 2: INCORPORATED 24590-HLW-M6N-RLD-00034, 00137, 00142, 00155, 00162 AND 24590-HLW-M6N-M80T-00002. REVISED NOTE 11. DELETED WATER/SODIUM HYDROXIDE INJECTION NOZZLES N18 & N19 AND REARRANGED WATER/SODIUM HYDROXIDE ADDITION TO N28 & N39. CONVERTED WALL AND FLOOR BOXES TO JOGGLED PENETRATIONS. ADDED HRH-SUMP-00001 LINE TO RLD-VSL-00008. DELETED NOZZLES N13, N29, N30, N34, N61, N62 FROM RLD-VSL-00008. DELETED LINES RLD-ZF-03310, 03449, 03450, 04103, 04117, 04128, 04129. DELETED LINES RLD-ZE-03410, 00016. DELETED LI-3242 AND ASSOCIATED WAVE GUIDE. INCREASED SIZE OF PLANT WASH WATER SUPPLY LINES FROM 1/2" TO 1 1/2" AND 2". DELETED Y-STRAINERS. REVISED QUALITY LEVELS AND SEISMIC DESIGNATIONS. ADDED LINE/ VALVE NUMBERS TO RACKS REVISED/ADDED/DELETED NOTES, AND REFERENCES.
27. SLOW OPENING VALVE REQUIRED.
28. LOCATE ACTUATED VALVE AT HIGH POINT IN LINE ABOVE RACK HEADER.
29. ITEMS WITH THIS NOTE ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III.
30. DELETED
31. OVERFLOW LINE IS LOCATED LOWER THAN ALL INCOMING LINES TO THE MANIFOLD/BREAKPOT.
32. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OD PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING.
33. REVISED TO INCORPORATE P-JOGGLES. REVISED QUALITY LEVEL DESIGNATIONS. REVISED PIPE SPEC. FROM S1B TO S14E. REVISED/ADDED/DELETED NOTES.

HOLD/OPEN ITEMS:

1.-6. DELETED

REFERENCES:

1. DELETED
2. 24590-HLW-M5-V17T-00007002, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 2)."
3. DELETED
4. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE FULLY DESCRIBED IN THE SOFTWARE FUNCTIONAL SPECIFICATION FOR RADIOACTIVE LIQUID WASTE DISPOSAL (RLD) SYSTEM, 24590-HLW-3PS-RLD-T0001.
5. FOR RADAR INSTALLATION DETAILS, SEE DRAWINGS 24590-WTP-J8-50-00001 AND 24590-WTP-J8-50-00003.

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, acting pursuant to AEA, it has sole and exclusive 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.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
3	REVISED PER NOTE 33	[illegible]	[illegible]	[illegible]	[illegible]	11/30/06
2	REVISED PER NOTE 26	RDP	SJ	JP	JJ	5/31/06
1	INCORPORATED DCN 24590-HLW-MGN-RLD-00010 AND MELTER 2 SCOPE, REVISED PER NOTE 18	MRG	TG	DMY	JFS	02/09/04
0	ISSUED FOR CONSTRUCTION	MRG	DKR	N/A	TV	12/19/02

Q — QUALITY DESIGNATOR

REVISION HISTORY

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
ISSUE STAMP		

	BY	DATE
ORIGINATOR	M.R. GRINDEL	12/19/02
CHECKER	D.K. REDDY	12/19/02
APPROVER	TOM VALENTINO	12/19/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-016 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES [illegible]

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW
RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM
PLANT WASH & DRAINS VESSEL

SCALE: NONE | 24590-HLW-M6-RLD-00002 | REV 3

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SRCD-002

'E' SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

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PLOTTED BY: eldorn
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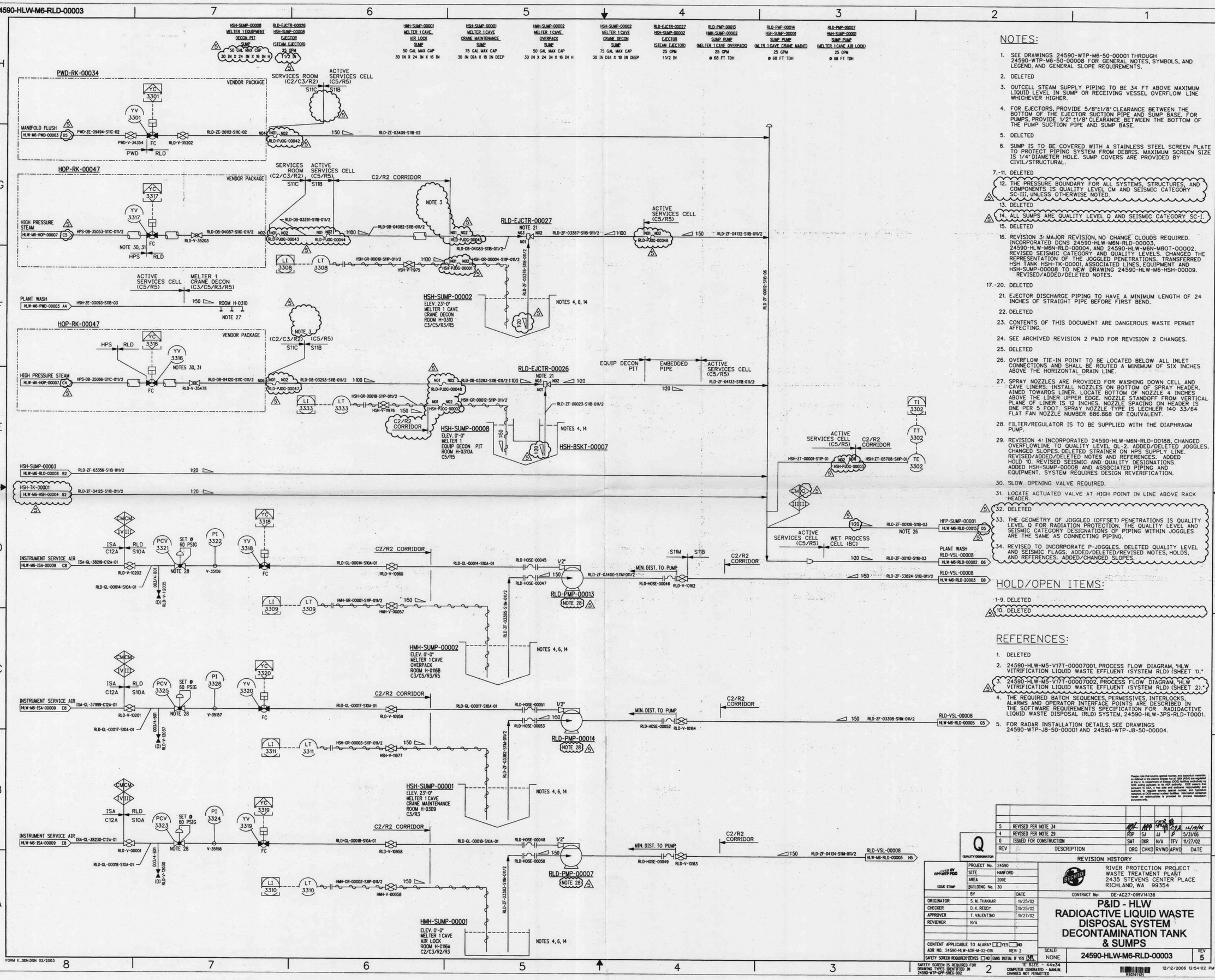
FORM E_SCN.DGN 02/2003



NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS, AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. DELETED
3. OUTCELL STEAM SUPPLY PIPING TO BE 34 FT ABOVE MAXIMUM LIQUID LEVEL IN SUMP OR RECEIVING VESSEL OVERFLOW LINE WHICHEVER HIGHER.
4. FOR EJECTORS, PROVIDE 5/8"±1/8" CLEARANCE BETWEEN THE BOTTOM OF THE EJECTOR SUCTION PIPE AND SUMP BASE. FOR PUMPS, PROVIDE 1/2" ±1/8" CLEARANCE BETWEEN THE BOTTOM OF THE PUMP SUCTION PIPE AND SUMP BASE.
5. DELETED
6. SUMP IS TO BE COVERED WITH A STAINLESS STEEL SCREEN PLATE TO PROTECT PIPING SYSTEM FROM DEBRIS. MAXIMUM SCREEN SIZE IS 1/4" DIAMETER HOLE. SUMP COVERS ARE PROVIDED BY CIVIL/STRUCTURAL.

7.-11. DELETED

12. THE PRESSURE BOUNDARY FOR ALL SYSTEMS, STRUCTURES, AND COMPONENTS IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.

13. DELETED

14. ALL SUMPS ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I.

15. DELETED
16. REVISION 3: MAJOR REVISION, NO CHANGE CLOUDS REQUIRED. INCORPORATED DCNS 24590-HLW-M6N-RLD-00003, 24590-HLW-M6N-RLD-00004, AND 24590-HLW-M6N-M8OT-00002. REVISED SEISMIC CATEGORY AND QUALITY LEVELS. CHANGED THE REPRESENTATION OF THE JOGGLED PENETRATIONS. TRANSFERRED HSH TANK HSH-TK-00001, ASSOCIATED LINES, EQUIPMENT AND HSH-SUMP-00008 TO NEW DRAWING 24590-HLW-M6-HSH-00009. REVISED/ADDED/DELETED NOTES.

17.-20. DELETED

21. EJECTOR DISCHARGE PIPING TO HAVE A MINIMUM LENGTH OF 24 INCHES OF STRAIGHT PIPE BEFORE FIRST BEND.
22. DELETED
23. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
24. SEE ARCHIVED REVISION 2 P&ID FOR REVISION 2 CHANGES.
25. DELETED
26. OVERFLOW TIE-IN POINT TO BE LOCATED BELOW ALL INLET CONNECTIONS AND SHALL BE ROUTED A MINIMUM OF SIX INCHES ABOVE THE HORIZONTAL DRAIN LINE.
27. SPRAY NOZZLES ARE PROVIDED FOR WASHING DOWN CELL AND CAVE LINERS. INSTALL NOZZLES ON BOTTOM OF SPRAY HEADER, AIMED TOWARDS LINER. LOCATE BOTTOM OF NOZZLE 4 INCHES ABOVE THE LINER UPPER EDGE. NOZZLE STANDOFF FROM VERTICAL PLANE OF LINER IS 12 INCHES. NOZZLE SPACING ON HEADER IS ONE PER 5 FOOT. SPRAY NOZZLE TYPE IS LECHLER 140 33/64 FLAT FAN NOZZLE NUMBER 686.868 OR EQUIVALENT.
28. FILTER/REGULATOR IS TO BE SUPPLIED WITH THE DIAPHRAGM PUMP.
29. REVISION 4: INCORPORATED 24590-HLW-M6N-RLD-00188, CHANGED OVERFLOWLINE TO QUALITY LEVEL QL-2. ADDED/DELETED JOGGLES. CHANGED SLOPES. DELETED STRAINER ON HPS SUPPLY LINE. REVISED/ADDED/DELETED NOTES AND REFERENCES. ADDED HOLD 10. REVISED SEISMIC AND QUALITY DESIGNATIONS. ADDED HSH-SUMP-00008 AND ASSOCIATED PIPING AND EQUIPMENT. SYSTEM REQUIRES DESIGN REVERIFICATION.
30. SLOW OPENING VALVE REQUIRED.
31. LOCATE ACTUATED VALVE AT HIGH POINT IN LINE ABOVE RACK HEADER.

32. DELETED

33. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING.
34. REVISED TO INCORPORATE P-JOGGLES. DELETED QUALITY LEVEL AND SEISMIC FLAGS. ADDED/DELETED/REVISED NOTES, HOLDS, AND REFERENCES. ADDED/CHANGED SLOPES.

HOLD/OPEN ITEMS:

1-9. DELETED

10. DELETED

REFERENCES:

1. DELETED
2. 24590-HLW-M5-V17T-00007001, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 1)."
3. 24590-HLW-M5-V17T-00007002, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 2)."
4. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE DESCRIBED IN THE SOFTWARE REQUIREMENTS SPECIFICATION FOR RADIOACTIVE LIQUID WASTE DISPOSAL (RLD) SYSTEM, 24590-HLW-3PS-RLD-T0001.
5. FOR RADAR INSTALLATION DETAILS, SEE DRAWINGS 24590-WTP-J8-50-00001 AND 24590-WTP-J8-50-00004.

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954, as amended, and regulated by the United States Department of Energy (DOE) facilities exclusively for DOE's own payment 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. Any radioactive materials herein are radionuclides to provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
5	REVISED PER NOTE 34					
4	REVISED PER NOTE 29	RDP	SJ	JJ	JP	5/31/06
0	ISSUED FOR CONSTRUCTION	SMT	DKR	N/A	TFV	11/27/02

REVISION HISTORY

Q — QUALITY DESIGNATOR

ISSUED BY RPP-WTP PDD

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
	BY	DATE
ORIGINATOR	S. M. THAKKAR	11/25/02
CHECKER	D. K. REDDY	11/25/02
APPROVER	T. VALENTINO	11/27/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO

ADR NO. 24590-HLW-ADR-M-02-016 REV: 2

SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES [ ]

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREG-002

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM DECONTAMINATION TANK & SUMPS

SCALE: NONE

24590-HLW-M6-RLD-00003

REV 5

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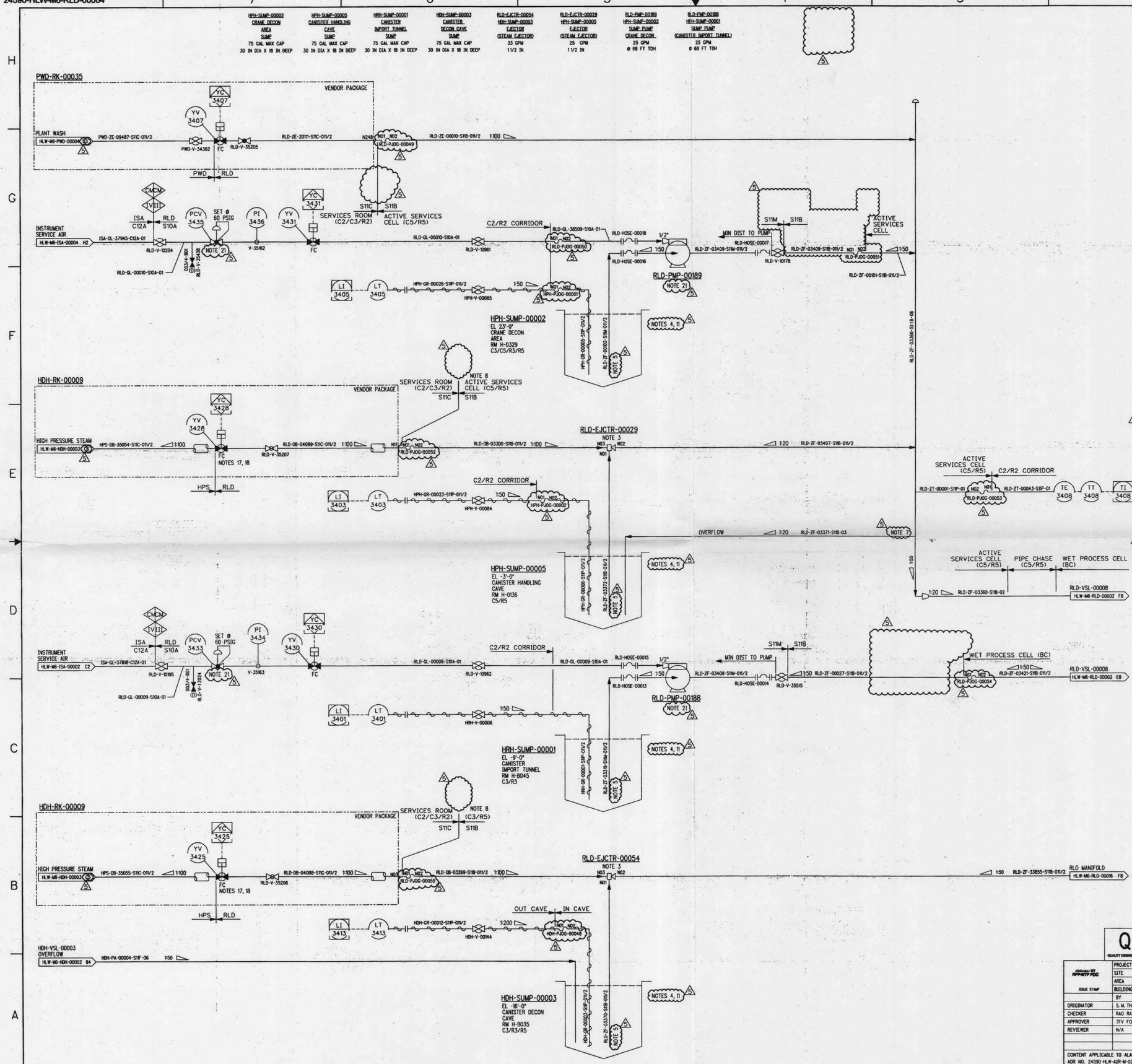

NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS, AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. DELETED
3. EJECTOR DISCHARGE PIPING TO HAVE A MINIMUM LENGTH OF 24 INCHES OF STRAIGHT PIPE BEFORE FIRST BEND.
4. ALL SUMPS ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I.
5. FOR EJECTORS, PROVIDE 5/8"±1/8" CLEARANCE BETWEEN THE BOTTOM OF THE EJECTOR SUCTION PIPE AND SUMP BASE. FOR PUMPS, PROVIDE 1/2" ±1/8" CLEARANCE BETWEEN THE BOTTOM OF THE PUMP SUCTION PIPE AND SUMP BASE.
6. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
7. OVERFLOW TIE-IN POINT TO BE LOCATED BELOW ALL INLET CONNECTIONS AND SHALL BE ROUTED A MINIMUM OF SIX INCHES ABOVE THE HORIZONTAL DRAIN LINE.
8. OUT CELL STEAM SUPPLY PIPING TO BE 34 FT ABOVE MAXIMUM LIQUID LEVEL IN SUMP OR RECEIVING VESSEL OVERFLOW LINE WHICHEVER IS HIGHER.

9.-10. DELETED

11. SUMP IS TO BE COVERED WITH A STAINLESS STEEL SCREEN PLATE TO PROTECT PIPING SYSTEM FROM DEBRIS. MAXIMUM SCREEN SIZE IS 1/4" DIAMETER HOLE. SUMP COVERS ARE TO BE PROVIDED BY CIVIL/STRUCTURAL.
12. THE PRESSURE BOUNDARY FOR ALL PIPING AND COMPONENTS IS QUALITY LEVEL QM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.

13.-14. DELETED

15. REVISION 3: MAJOR REVISION, NO CHANGE CLOUDS REQUIRED. INCORPORATED DCNS 24590-HLW-M6N-RLD-00002, 24590-HLW-M6N-RLD-00005, 24590-HLW-M6N-RLD-00124, AND 24590-HLW-M6N-M80T-00002. REVISED SEISMIC CATEGORY AND QUALITY LEVELS. CHANGED THE REPRESENTATION OF THE JOGGLED PENETRATIONS. TRANSFERRED HSH TANK HSH-TK-00001, ASSOCIATED LINES, EQUIPMENT AND HSH-SUMP-00008 TO NEW DRAWING 24590-HLW-M6-HSH-00009. REVISED/ADDED/DELETED NOTES.
16. REVISION 4: ADDED HDH-WBOX-00026. REVISED/ADDED/DELETED NOTES, REVISED AND ADDED REFERENCES. DELETED STRAINERS. ADDED SLOPES TO STEAM LINES IN RACKS. CHANGED SLOPE ON STEAM LINES OUTSIDE RACKS. REVISED SEISMIC AND QUALITY DESIGNATIONS. ADDED BACKFLOW PREVENTERS ON OUT CAVE/OUT CELL PIPING FOR C5 CONFINEMENT. SYSTEM REQUIRES DESIGN REVERIFICATION.
17. SLOW OPENING VALVE REQUIRED.
18. LOCATE ACTUATED VALVE AT HIGH POINT INLINE ABOVE RACK HEADER.
19. DELETED
20. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING.
21. FILTER/REGULATOR IS TO BE SUPPLIED WITH THE DIAPHRAGM PUMP.
22. REVISED TO INCORPORATE P-JOGGLES. DELETED BACKFLOW PREVENTERS ON PUMP DISCHARGE LINES. REVISED QUALITY/SEISMIC FLAGS. ADDED/DELETED/REVISED NOTES AND HOLDS. REVISED/DELETED LINE NUMBERS.

HOLD/OPEN ITEMS:

1.-7. DELETED

REFERENCES:

1. DELETED
2. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE DESCRIBED IN THE SOFTWARE REQUIREMENTS SPECIFICATION FOR RLD RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM, 24590-HLW-3PS-RLD-T0001.
3. FOR RADAR INSTALLATION DETAILS, SEE DRAWINGS 24590-WTP-J8-50-00001 AND 24590-WTP-J8-50-00004.
4. 24590-HLW-M5-V17T-00007001, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 1)."
5. 24590-HLW-M5-V17T-00007002, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 2)."

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 over safety and security matters for source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
5	REVISED PER NOTE 22					11/30/06
4	REVISED PER NOTE 16	RDP	SJ	JP	JJ	5/31/06
3	REVISED PER NOTE 15	PLJ	APP	TV	EI	6-23-05
0	ISSUED FOR CONSTRUCTION	SMT	NRR	N/A	TFV	11-27-02

Q — QUALITY DESIGNATOR

REVISION HISTORY

ISSUE STAMP		
PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
	BY	DATE
ORIGINATOR	S. M. THAKKAR	10-24-02
CHECKER	RAO RAVULA	10-25-02
APPROVER	TFV FOR SCF	11-27-02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-016 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO ENMS INITIAL IF YES

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM MISCELLANEOUS SUMPS

SCALE: NONE
24590-HLW-M6-RLD-00004
REV 5

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SRED-002

'E' SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

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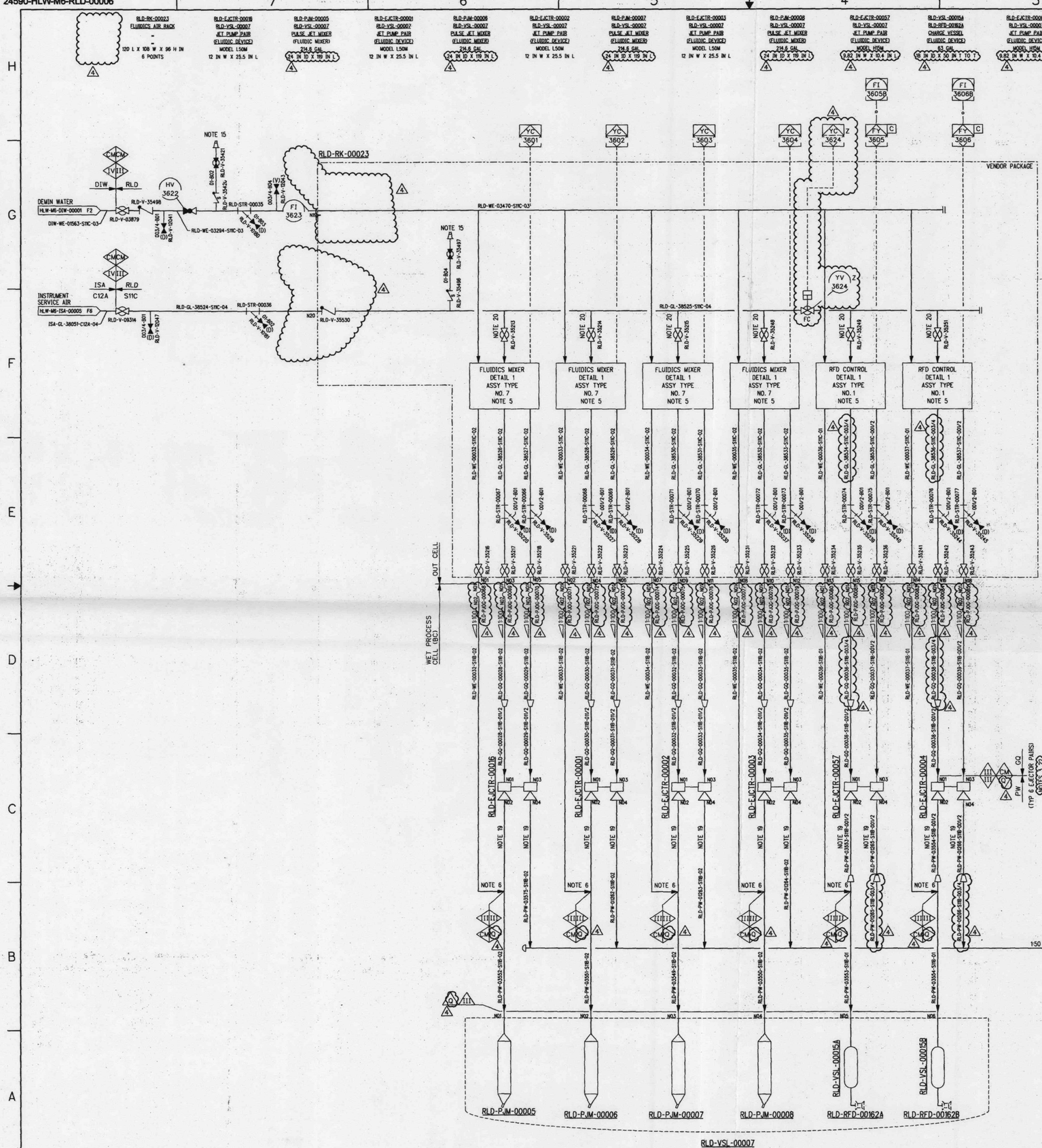

NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS, AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. FOR OTHER VESSEL DETAILS SEE DRAWING 24590-HLW-M6-RLD-00001.
3. POSITION EJECTORS VERTICALLY. EJECTORS ARE TO HAVE A MINIMUM VERTICAL DISTANCE OF 35' ABOVE VESSEL RLD-VSL-00007 OVERFLOW. EJECTORS SHALL BE 15' OR LESS BELOW THE BOTTOM OF THE 58' ELEVATION FLOOR.
4. DELETED
5. FLUIDICS CONTROLLER DETAIL SHOWN ON 24590-WTP-M6-50-00006, "P&ID SYMBOLS AND LEGEND SHEET 6 OF 8". SYSTEM FUNCTIONALITY OF THE FLUIDICS CONTROLLER ONLY NEEDS TO MEET QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III.
6. A LATERAL FITTING IS TO BE USED AT THIS LOCATION TO ACCOMMODATE MANUAL CLEANING OF PIPE AND EQUIPMENT.
7. DELETED
8. PULSE JET VENT LINE IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III.

9-11. DELETED

12. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
13. DELETED
14. PJM VESSELS AND RFD CHARGE VESSELS ARE QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III.
15. FLUSH CONNECTION PROVIDED FOR PLANT WASH\REAGENT\AIR SERVICES.
16. THE PRESSURE BOUNDARY FOR ALL SYSTEMS, STRUCTURES, AND COMPONENTS SHOWN ON THIS DRAWING IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
17. DELETED
18. REVISION 3: INCORPORATED 24590-HLW-M6N-RLD-00144, -00187, AND 24590-HLW-M6N-M80T-00002. DELETED NOTE 10. CHANGED RLD-FBOX-00048 INTO JOGGLED PENETRATION. ADDED REDUCERS TO MATCH EJECTOR NOZZLE SIZES. CHANGED AND REVISED QUALITY/SEISMIC FLAGS. REVISED/ADDED/DELETED NOTES AND REFERENCES. ADDED SLOPES TO PIPELINES. ADDED HYDRONIC BALANCE VALVE AND FLOW INDICATOR TO DIW LINE. ADDED DRAIN/VENT LINES TO DIW/ISA SUPPLY LINES. LABELED ALL COMPONENTS INSIDE THE RACK. ADDED PLANTWASH\REAGENT CONNECTIONS. REMOVED PRESSURE CONTROL AND PRESSURE INDICATOR ON DEMIN WATER LINE. ADDED BACKFLOW PREVENTERS TO DEMIN WATER. SYSTEM REQUIRES DESIGN REVERIFICATION.
19. DO NOT POCKET
20. BRANCH CONNECTION TO FLUIDIC CONTROLLER TO BE LOCATED AT BOTTOM OF HEADER.
21. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING.
22. ALL PIPING WITH FLUID SERVICE PW IS AIR PERMIT AFFECTING.
23. REVISED TO INCORPORATE P-JOGGLES. INCORPORATED 24590-HLW-M6N-M80T-00007. REVISED QUALITY LEVEL/SEISMIC FLAGS. DELETED BACKFLOW PREVENTER. REVISED PIPE SIZES FOR PIPING TO AND FROM RLD-EJCTR-00004 AND RLD-EJCTR-00057. ADDED VALVE YV-3624. ADDED CHECK VALVE RLD-V-35530. ADDED/DELETED/REVISED NOTES, HOLDS AND REFERENCES.

HOLD/OPEN ITEMS:

1-4. DELETED
5. DELETED

REFERENCES:

1. 24590-HLW-M5-V17T-00007001, "PROCESS FLOW DIAGRAM, HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 1)"
2. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS, AND OPERATOR INTERFACE POINTS ARE FULLY DESCRIBED IN THE SOFTWARE FUNCTIONAL SPECIFICATION FOR THE RLD SYSTEM, 24590-HLW-3PS-RLD-T0001.
3. DELETED
4. FOR ITS PERMISSIVES AND INTERLOCKS, REFER TO SAFETY SYSTEM REQUIREMENTS SPECIFICATION, 24590-HLW-3PS-PPJ-T0003 (TO BE ISSUED).

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
4	REVISED PER NOTE 23	SP	SJ	CEK LPK	CEK	1/29/07
3	REVISED PER NOTE 18	SL	APP	JP	JJ	5/31/06
0	ISSUED FOR CONSTRUCTION	JM	LF	N/A	TFV	11-27-02

Q — QUALITY DESIGNATION

REVISION HISTORY

ISSUED BY HPA-WTP PDC

ISSUE STAMP

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
	BY	DATE
ORIGINATOR	JASON A. MEDINA	11-25-02
CHECKER	LEONG FONG	11-25-02
APPROVER	TOM VALENTINO	11-27-02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-015 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREQ-002

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID-HLW RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM FLUIDICS AIR RACK RLD-RK-00023

SCALE: NONE

24590-HLW-M6-RLD-00006

REV 4

'E' SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

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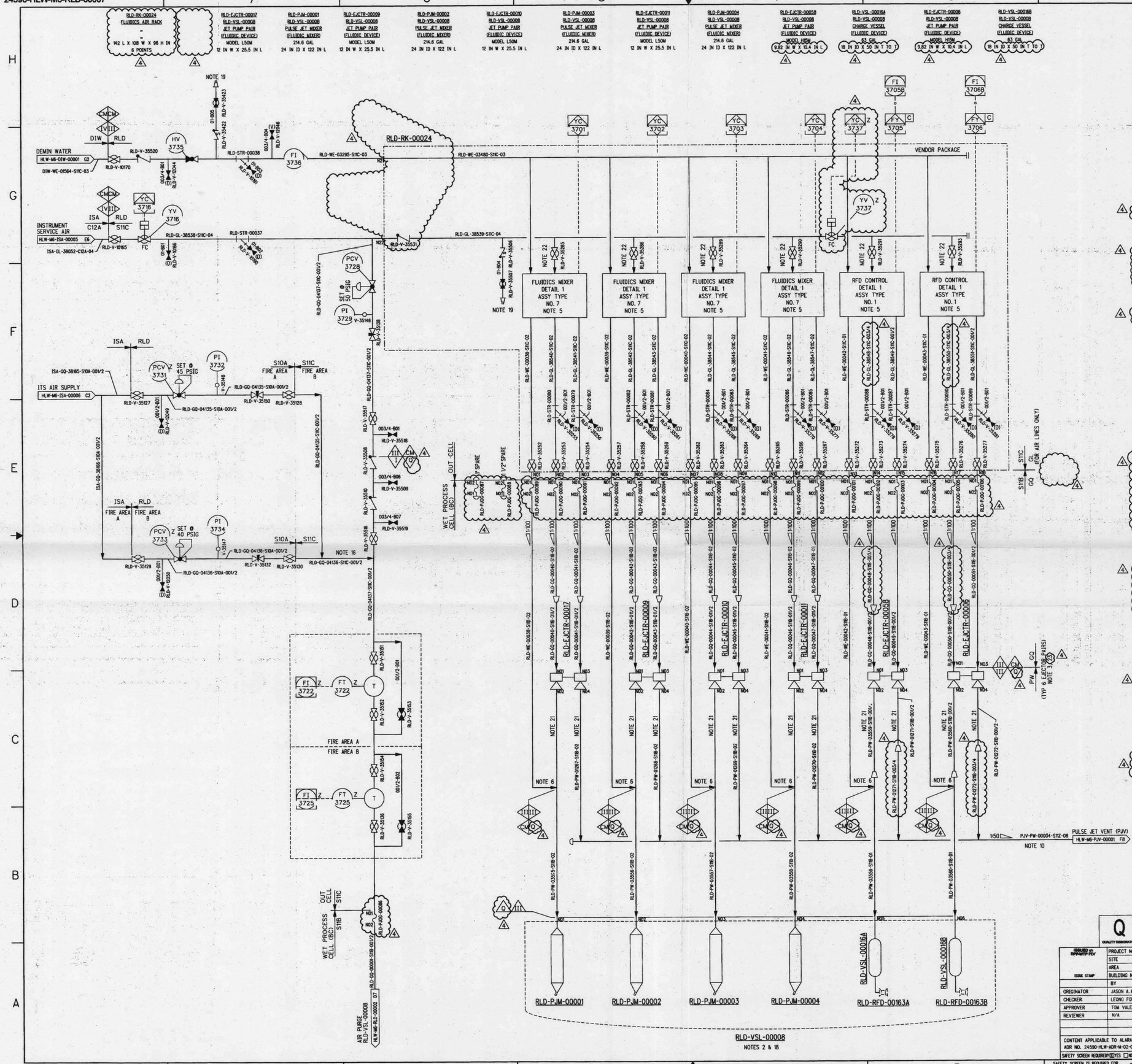

NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS, AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. SEE 24590-HLW-M6-RLD-00002 FOR RLD-VSL-00008 DETAILS.
3. POSITION EJECTORS VERTICALLY. EJECTORS ARE TO HAVE A MINIMUM VERTICAL DISTANCE OF 35 FEET ABOVE VESSEL RLD-VSL-00008 OVERFLOW. EJECTORS SHALL BE LOCATED 15' OR LESS BELOW THE BOTTOM OF THE 58' ELEVATION FLOOR.
4. DELETED
5. FOR FLUIDICS CONTROLLER DETAIL, REFER TO DRAWING 24590-WTP-M6-50-00006. "P&ID SYMBOLS AND LEGEND SHEET 6 OF 8". SYSTEM FUNCTIONALITY OF THE FLUIDICS CONTROLLER ONLY NEEDS TO MEET QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III.
6. A LATERAL FITTING IS TO BE USED AT THIS LOCATION TO ACCOMMODATE MANUAL CLEANING OF PIPE AND EQUIPMENT.
7. DELETED
8. DELETED
9. DELETED
10. PULSE JET VENT LINE IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III.
11. DELETED
12. DELETED
13. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING. PIPING WITHIN SPARE JOGGLE IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I
14. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
15. THE PRESSURE BOUNDARY FOR ALL SYSTEMS, STRUCTURES, AND COMPONENTS ON THIS DRAWING IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
16. LOCATE TIE IN POINT FOR LINES RLD-GQ-04137 AND RLD-GQ-04136 AS CLOSE AS POSSIBLE TO THE JOGGLED PENETRATION RLD-FBOX-0055-01.
17. REVISION 2: MAJOR REVISION, NO CHANGE CLOUDS REQUIRED. INCORPORATED DCN 24590-HLW-M6N-RLD-00132, DCN 24590-HLW-M6N-RLD-00145, AND DCN 24590-HLW-M6N-RLD-00147. ADDED ITS SUPPLY TO RLD-VSL-00008. DELETED EJECTORS HCP-EJCTR-00031 AND HCP-EJCTR-00032. ALSO DELETED LINES ASSOCIATED WITH THESE TWO EJECTORS. REVISED QUALITY/SEISMIC FLAGS. DELETED HOLD 1. REVISED/ADDED/DELETED NOTES. (THIS IS NOTE 11 ON THE ARCHIVED COPY OF REVISION 2 OF THIS P&ID).
18. PJM VESSELS AND RFD CHARGE VESSELS ARE QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III.
19. FLUSH CONNECTION PROVIDED FOR PLANT WASH\REAGENT\AIR SERVICES.
20. REVISION 3: INCORPORATED 24590-HLW-M6N-RLD-00033 (NOTE 7 WAS SUBSEQUENTLY REVISED TO NOTE 18) AND 24590-HLW-M6N-M8OT-00002. TAGGED PIPE LINES AND VALVES INSIDE RACK. ADD SLOPES TO PIPELINES. ADDED ASSEMBLY NUMBER TYPE TO FLUIDICS CONTROLLERS. ADDED HYDRONIC BALANCING VALVE AND FLOW INDICATOR TO DEMIN WATER HEADER. MODIFIED FLUID CODE IN RACK FROM GQ TO GL. ADDED PLANT WASH/REAGENT HOSE CONNECTIONS. ADDED BACKFLOW PREVENTERS TO DEMIN WATER AND ISA SUPPLY. REVISED/ADDED/DELETED NOTES AND REFERENCES. DELETED CHECK VALVE ON ISA LINE. MODIFIED QUALITY AND SEISMIC FLAGS. REMOVED PRESSURE CONTROL VALVE AND PRESSURE INDICATOR ON DEMIN WATER LINE. SYSTEM REQUIRES DESIGN REVERIFICATION.
21. DO NOT POCKET
22. BRANCH CONNECTION TO FLUDIC CONTROLLER TO BE LOCATED AT BOTTOM OF HEADER.
23. ALL PIPING WITH FLUID SERVICE PW IS AIR PERMIT AFFECTING.
24. REVISED TO INCORPORATE P-JOGGLES. INCORPORATED 24590-HLW-M6N-M8OT-00007. REVISED QUALITY LEVEL/SEISMIC FLAGS. DELETED BACKFLOW PREVENTER. REVISED PIPE SIZES FOR PIPING TO AND FROM RLD-EJCTR-00058 AND RLD-EJCTR-00006. ADDED VALVE YV-3737. ADDED CHECK VALVE RLD-V-35531. ADDED/REVISED/DELETED NOTES, REFERENCES AND HOLDS.

HOLD/OPEN ITEMS:

1-5. DELETED
6. DELETED

REFERENCES:

1. DELETED
2. 24590-HLW-M5-V17T-00007002, "PROCESS FLOW DIAGRAM HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 2).
3. DELETED
4. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS, AND OPERATOR INTERFACE POINTS ARE FULLY DESCRIBED IN THE SOFTWARE FUNCTIONAL SPECIFICATION FOR THE RLD SYSTEM, 24590-HLW-3PS-RLD-T0001.
5. FOR ITS PERMISSIVES AND INTERLOCKS, REFER TO SAFETY SYSTEM REQUIREMENT SPECIFICATION, 24590-HLW-3PS-PPJ-T0003 (TO BE ISSUED).

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated by the United States Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE assets that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned or -leased facilities. Information contained on this drawing or specification is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
4	REVISED PER NOTE 24	[illegible]	SJ	CER [illegible] APK	[illegible]	1/29/07
3	REVISED PER NOTE 20	SL	APP	JP	JJ	5/31/06
2	REVISED PER NOTE 17	PLJ	SJ	EI	TV	3/8/05
0	ISSUE FOR CONSTRUCTION	JM	LEF	N/A	TV	11-27-03

REVISION HISTORY

Q — QUALITY DESIGNATOR

ISSUED BY: RPP-WTP PDC

ISSUE STAMP

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	

	BY	DATE
ORIGINATOR	JASON A. MEDINA	11-25-03
CHECKER	LEONG FONG	11-25-03
APPROVER	TOM VALENTINO	11-27-03
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-016 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMG INITIAL IF YES [ ]

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM FLUIDICS AIR RACK RLD-RK-00024

SCALE: NONE

24590-HLW-M6-RLD-00007

REV 4

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SEC-002

'E' SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

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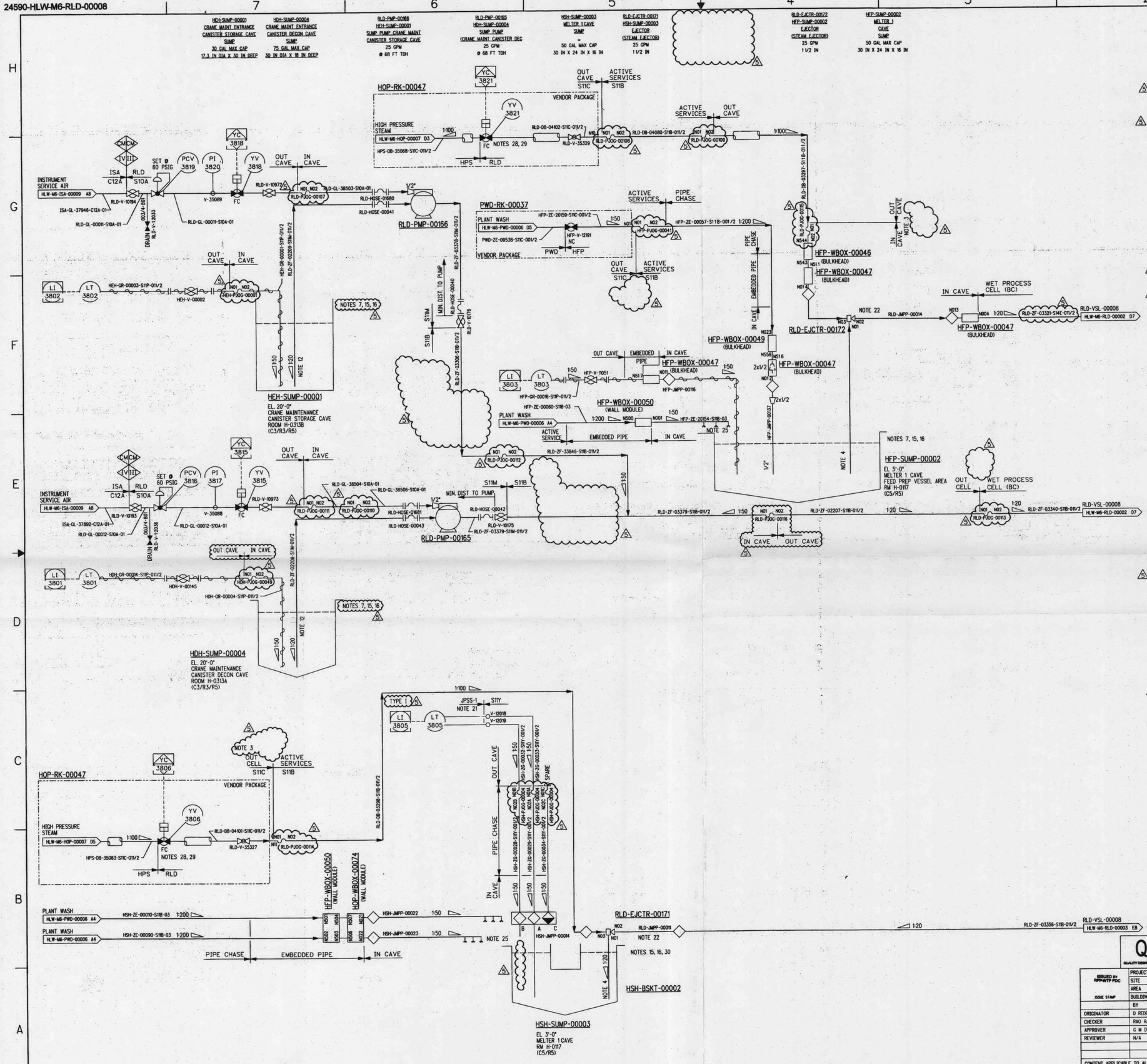
FORM E_SDN.DGN 02/2003



NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS, AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. DELETED
3. OUT CELL STEAM SUPPLY PIPING MUST BE A MINIMUM OF 34'-0" ABOVE THE SUMP LIQUID LEVEL.
4. PROVIDE 5/8" ±1/8" CLEARANCE BETWEEN BOTTOM OF EJECTOR SUCTION PIPE AND SUMP LINER.
5. THE PRESSURE BOUNDARY FOR ALL SYSTEMS, STRUCTURES, AND COMPONENTS ON THIS DRAWING IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
6. DELETED
7. SUMP COVERED WITH STAINLESS STEEL SCREEN PLATE TO PROTECT PIPING SYSTEM FROM DEBRIS. MAXIMUM SCREEN SIZE IS 1/4" DIAMETER HOLE. SUMP AND SUMP COVERS ARE PROVIDED BY CIVIL/STRUCTURAL.
8. DELETED
9. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.

10-11. DELETED

12. PROVIDE 1/2" ±1/8" CLEARANCE BETWEEN BOTTOM OF SUCTION PIPE AND SUMP BASE.

13-14. DELETED

15. SUMPS SHOWN WITH CONE BOTTOM ARE PROVIDED WITH STAINLESS STEEL LINERS. SUMPS SHOWN WITH FLAT BOTTOM HAVE NO LINERS.
16. ALL SUMPS ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I.

17-20. DELETED

21. JPSS-1 SPECIFICATION AS DEFINED IN INSTRUMENT PIPING MATERIAL CLASS, SEE REFERENCE 6. SPECIFICATION CHANGE ALSO DEFINES AREA OF C&I RESPONSIBILITY.
22. EJECTOR DISCHARGE PIPING HAS A MINIMUM LENGTH OF 24 INCHES OF STRAIGHT PIPE BEFORE FIRST BEND.

23-24. DELETED

25. SPRAY NOZZLES ARE PROVIDED FOR WASHING DOWN CELL AND CAVE LINERS. INSTALL NOZZLES ON BOTTOM OF SPRAY HEADER, AIMED TOWARDS LINER. LOCATE BOTTOM OF NOZZLE 4 INCHES ABOVE THE LINER UPPER EDGE. NOZZLE STANDOFF FROM VERTICAL PLANE OF LINER IS 12 INCHES. NOZZLE SPACING ON HEADER IS ONE PER 5 FOOT. SPRAY NOZZLE TYPE IS LECHLER 140 33/64 FLAT FAN NOZZLE NUMBER 686.868 OR EQUIVALENT.
26. REVISION 3: MAJOR REVISION, NO CHANGE CLOUDS REQUIRED. INCORPORATE DCNS 24590-HLW-M6N-RLD-00007, 24590-HLW-M6N-RLD-00125, 24590-HLW-M6N-RLD-00152. ALL WALL/FLOORBOXES DELETED: NEW FORMAT FOR JOGGLED WALL/FLOOR PENETRATIONS: CLARIFICATION OF SEISMIC CATEGORY AND QUALITY LEVEL FOR ALL PIPING: ADDITION OF WALL MODULES: ADDED DESIGNATION BETWEEN PIPE CHASE, EMBEDDED PIPE, IN CELL AND IN/OUT CAVE AREAS: ADDED JUMPERS AND ROOT VALVES: ADDED NOTES 2, 5, 17, 20, 21, 23: DELETED NOTES 6, 8: EDITED NOTES 18, 23, 24, 25: ADDED REFERENCES 4, 5.
27. REVISION 4: INCORPORATED 24590-HLW-M6N-M8OT-00002, 24590-HLW-M6N-RLD-00148, -00170, -00175, 24590-WTP-FCR-M-05-0044, AND 24590-WTP-NCR-CON-05-0027. ADDED JOGGLE PENETRATIONS. CHANGED PCV-3819 FROM GATE TO PLUG. ADDED 1X 1/2 REDUCER ON AIR SUPPLY LINE TO RLD-PMP-165, -166. REVISED SEISMIC AND QUALITY DESIGNATIONS. ADDED BACKFLOW PREVENTERS ON OUT CAVE/OUT CELL PIPING FOR C5 CONFINEMENT. REVISED/ADDED/DELETED NOTES AND REFERENCES. SYSTEM REQUIRES DESIGN REVERIFICATION.
28. SLOW OPENING VALVE REQUIRED.
29. LOCATE ACTUATED VALVE AT HIGH POINT IN LINE ABOVE RACK HEADER.
30. SUMP FITTED WITH REMOVABLE BASKET TO COLLECT DEBRIS.
31. DELETED
32. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING.
33. REVISED TO INCORPORATE P-JOGGLES. INCORPORATED 24590-HLW-M6N-M8OT-00007. DELETED QUALITY/SEISMIC FLAGS. DELETED BACKFLOW PREVENTERS. REVISED PIPE SPEC FROM S11B TO S14E. REVISED/ADDED CAVE BOUNDARIES. ADDED LEVEL INSTRUMENT TYPE AT LI-3805. REVISED/ADDED/DELETED NOTES, HOLDS, AND REFERENCES.

HOLD/OPEN ITEMS:

1-6. DELETED

REFERENCES:

1. DELETED
2. 24590-HLW-M5-V17T-00007001, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 1)."
3. 24590-HLW-M5-V17T-00007002, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 2)."
4. FOR RADAR INSTALLATION DETAILS, SEE DRAWINGS 24590-WTP-J8-50-00001 AND 24590-WTP-J8-50-00004.
5. DELETED
6. 24590-WTP-3PS-JXF0-T0001, INSTRUMENT PIPING MATERIAL CLASS.
7. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE FULLY DESCRIBED IN THE SOFTWARE FUNCTIONAL SPECIFICATION FOR RLD RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM, 24590-HLW-3PS-RLD-T0001

Please note that source, special nuclear, and byproduct materials as defined in the Atomic Energy Act of 1954 (AEA) are reserved to the U.S. Department of Energy (DOE) from the date of the AEA. Pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials of DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
5	REVISED PER NOTE 33					
4	REVISED PER NOTE 27	RDP	APP	JP	JJ	5/31/06
3	REVISED PER NOTE 26	LO	SCJ	EI	TV	12/23/04
0	ISSUED FOR CONSTRUCTION	DR	NR	N/A	⌀	10/8/02

REVISION HISTORY

Q — QUALITY DESIGNATOR

ISSUED BY RPP-WTP PDC		
	PROJECT No.	24590
	SITE	HANFORD
	AREA	200E
ISSUE STAMP	BUILDING No.	30

	BY:	DATE
ORIGINATOR	D REDDY	10/6/02
CHECKER	RAO RAVULA	10/6/02
APPROVER	G M DUNCAN	10/8/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-016 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREQ-002

RECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM MISCELLANEOUS SUMPS

SCALE: NONE

24590-HLW-M6-RLD-00008

REV 5

E SIZE 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

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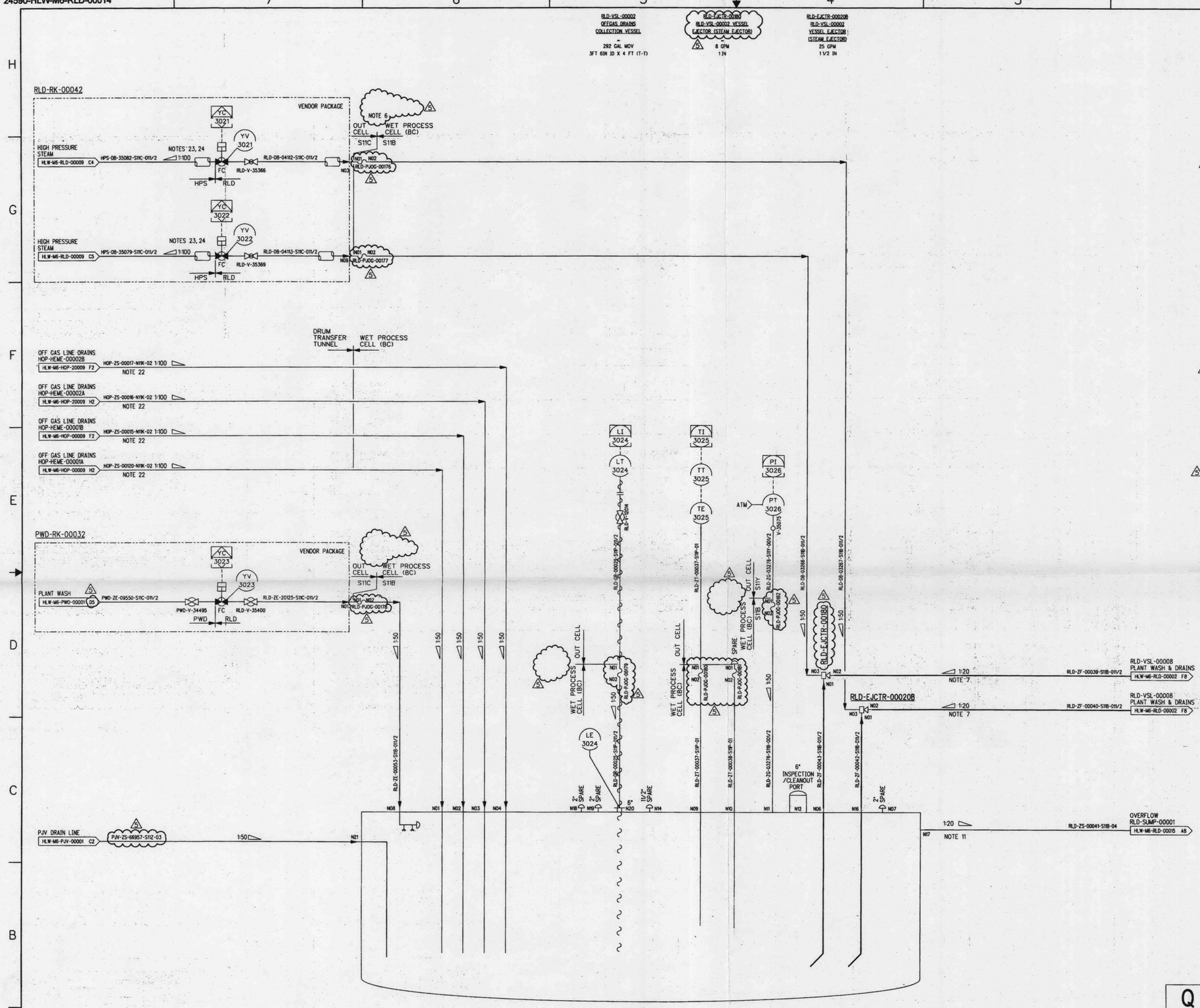

NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.

2-5. DELETED

6. OUT CELL STEAM PIPING MUST BE A MINIMUM OF 34 FEET ABOVE THE VESSEL OVERFLOW LEVEL.

7. EJECTOR DISCHARGE PIPING TO HAVE A MINIMUM LENGTH OF 24 INCHES OF STRAIGHT PIPE BEFORE 1ST BEND.

8-9. DELETED

10. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.

11. VESSEL VENTS THROUGH THE OVERFLOW TO THE C5 HVAC SYSTEM.

12-16. DELETED

17. THE PRESSURE BOUNDARY FOR ALL SYSTEMS, STRUCTURES, AND COMPONENTS ON THIS DRAWING IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.

18-19. DELETED

20. REVISION 3: REVISED SEISMIC CATEGORY AND QUALITY LEVEL DESIGNATIONS. ADDED DOUBLE CONTAINED PIPE (SPECIFICATION W11A) FOR HOP LINES IN DRUM TRANSFER TUNNEL. CHANGED REFERENCE PRESSURE FOR PT-3026. DELETED FLOOR BOX RLD-FBOX-0039-02. REVISED NOTES.

21. REVISION 4: INCORPORATED 24590-HLW-M6N-M8OT-00002 AND 24590-HLW-M6N-RLD-00186, -00189. DELETED SPARE PIPE JOGGLE RLD-FBOX-0089-02. REVISED SEISMIC AND QUALITY DESIGNATIONS. ADDED N11K SEGMENTS TO OFF GAS DRAIN LINES. DELETED SPARE DIP LEG. REVISED/ADDED/DELETED NOTES. DELETED STRAINERS. ADDED PIPELINE NUMBERS IN RLD-RK-00032 AND RLD-RK-00042. ADDED AND REVISED REFERENCES.

22. DRIP PAN PROVIDED BELOW DRAIN LINES FOR SECONDARY CONTAINMENT.

23. SLOW OPENING VALVE REQUIRED.

24. LOCATE ACTUATED VALVE AT HIGH POINT IN LINE ABOVE RACK HEADER.

25. DELETED

26. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING.

27. REVISED TO INCORPORATE 24590-HLW-M6N-M8OT-00007 AND P-JOGGLES. DELETED QUALITY/SEISMIC FLAGS. REVISED LINE NUMBER. REVISED RLD-EJCTR-00020A TO RLD-EJCTR-00180. ADDED/DELETED/REVISED NOTES AND HOLDS.

HOLD/OPEN ITEMS:

1-2. DELETED

REFERENCES:

1. 24590-HLW-M5-V17T-00007001, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 1)."
2. 24590-HLW-M5-V17T-00007002, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 2)."
3. DELETED
4. FOR RADAR INSTALLATION DETAILS, SEE DRAWINGS 24590-WTP-JB-50-00003 AND 24590-WTP-JB-50-00001.
5. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE FULLY DESCRIBED IN THE SOFTWARE FUNCTIONAL SPECIFICATION FOR RADIOACTIVE LIQUID WASTE DISPOSAL (RLD) SYSTEM, 24590-HLW-3PS-RLD-T0001.

Please note that source, special nuclear, and byproduct materials as defined by 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 acting 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 radioactivity is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
5	REVISED PER NOTE 27			CER		1/11/07
4	REVISED PER NOTE 21	RDP	APP	JP		5/31/06
3	REVISED PER NOTE 20	APP	SJC	EI	TV	3-24-05
0	ISSUED FOR CONSTRUCTION	MRG	DKR	N/A	TFV	12-19-02

Q
QUALITY DESIGNATOR

REVISION HISTORY

ISSUED BY RPP-WTP PDC

ISSUE STAMP

PROJECT No.	24590
SITE	HANFORD
AREA	200E
BUILDING No.	30

	BY	DATE
ORIGINATOR	MR GRINDEL	12/19/02
CHECKER	DK REDDY	12/19/02
APPROVER	TOM VALENTINO	12/19/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-016 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES: CER

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREQ-002

RECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM OFFGAS DRAINS COLLECTION VESSEL

SCALE: NONE

24590-HLW-M6-RLD-00014

REV 5

R-SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

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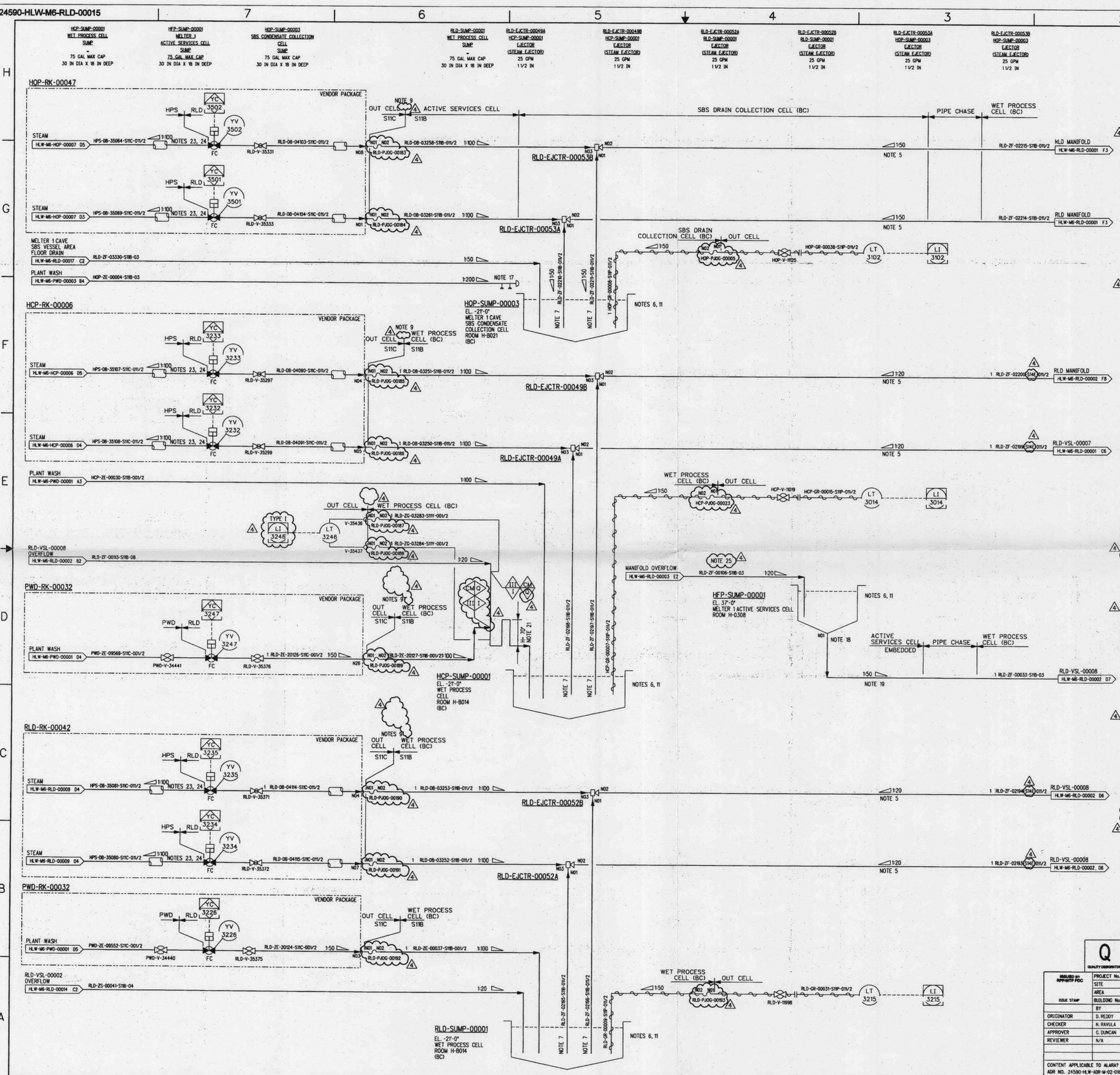

NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS, AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. DELETED
3. DELETED
4. DELETED
5. EJECTOR DISCHARGE PIPING TO HAVE A MINIMUM LENGTH OF 24 INCHES OF STRAIGHT PIPE BEFORE FIRST BEND.
6. ALL SUMPS ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I.
7. PROVIDE 5/8"±1/8" CLEARANCE BETWEEN BOTTOM OF EJECTOR SUCTION PIPE AND SUMP LINER.
8. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
9. OUT CELL STEAM SUPPLY PIPING TO BE 34FT ABOVE MAXIMUM LIQUID LEVEL IN SUMP OR RECEIVING VESSEL OVERFLOW LINE. WHICHEVER IS HIGHER.
10. DELETED
11. SUMP COVERED WITH A STAINLESS STEEL SCREEN PLATE TO PROTECT PIPING SYSTEM FROM DEBRIS. MAXIMUM SCREEN SIZE IS 1/4" DIAMETER HOLE. SUMP COVERS ARE PROVIDED BY CIVIL/STRUCTURAL.
12. DELETED
13. THE PRESSURE BOUNDARY FOR ALL SYSTEMS, STRUCTURES AND COMPONENTS ON THIS DRAWING IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
14. DELETED
15. DELETED
16. DELETED
17. SPRAY NOZZLES ARE PROVIDED FOR WASHING DOWN CELL AND CAVE LINERS. INSTALL NOZZLES ON BOTTOM OF SPRAY HEADER, AIMED TOWARDS LINER. LOCATE BOTTOM OF NOZZLE 4 INCHES ABOVE THE LINER UPPER EDGE. NOZZLE STANDOFF FROM VERTICAL PLANE OF LINER IS 12 INCHES. NOZZLE SPACING ON HEADER IS ONE PER 5 FOOT. SPRAY NOZZLE TYPE IS LECHLER 140° FLAT FAN NOZZLE NUMBER 686.868 OR EQUIVALENT.
18. THE COMPONENT UTILIZED FOR THE SUMP TO PIPING INTERFACE WILL BE PROVIDED BY CIVIL/STRUCTURAL.
19. THE DRAIN PIPE IS EMBEDDED TO PROVIDE SHIELDING FROM RADIATION.
20. REVISION 2: MAJOR REVISION, NO CHANGE CLOUDS REQUIRED. INCORPORATED DCNS 24590-HLW-M6N-RLD-00047, 24590-HLW-M6N-RLD-00052, 24590-HLW-M6N-RLD-00087, 24590-HLW-M6N-RLD-00091, 24590-HLW-M6N-RLD-00139, 24590-HLW-M6N-RLD-00140 AND 24590-HLW-M6N-RLD-00146. CHANGED FLOOR BOXES PWD-FBOX-0132, RLD-FBOX-0039, RLD-FBOX-0043, HCP-FBOX-0020 AND HCP-FBOX-0050, INTO JOGGLED PENETRATIONS. SLOPE ON ALL PLANT WASH LINES CHANGED TO 1:200. DELETED YV-3224. DELETED PWD SPRAY RING HEADERS LOCATED IN SUMPS HCP-SUMP-00001 AND HFP-SUMP-00001. DELETED RACK PWD-RK-00036. DELETED TWO HCP LINES, HCP-PC-00057 AND HCP-PC-00061. REVISED QUALITY LEVEL AND SEISMIC CATEGORY. REVISED/ADDED/DELETED NOTES. REMOVED HOLDS 3, 4, AND 5.
21. OVERFLOW LINE ACHIEVES HYDRAULIC ISOLATION BY MEANS OF A LOOP SEAL. LOOP SEAL WATER LEVEL SHALL BE MAINTAINED.
22. REVISION 3: INCORPORATED 24590-HLW-M6N-M8OT-00002 AND 24590-WTP-NCR-CON-05-0027. DELETED SEISMIC AND QUALITY FLAGS AT EJECTORS. REVISED QUALITY AND SEISMIC DESIGNATIONS. ADDED LOOP SEAL WITH PLANT WASH AND BUBBLER LEVEL DETECTION TO RLD-VSL-00008 OVERFLOW. ADDED ROOT VALVES. REVISED/ADDED/DELETED NOTES. ADDED REFERENCES.
23. SLOW OPENING VALVE REQUIRED.
24. LOCATE ACTUATED VALVE AT HIGH POINT IN LINE ABOVE RACK HEADER.
25. ITEMS WITH THIS NOTE ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-III.
26. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING.
27. REVISED TO INCORPORATE P-JOGGLES AND 24590-HLW-M6N-M8OT-00007. REVISED/ADDED/DELETED NOTES, HOLDS, AND REFERENCES. CHANGED PIPE SPECIFICATION FROM S1B TO S14E. REVISED QUALITY/SEISMIC BREAKS.

HOLD/OPEN ITEMS:

1.-6. DELETED

REFERENCES:

1. DELETED
2. 24590-HLW-M5-V17T-00007001, "PROCESS FLOW DIAGRAM HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 1)."
3. 24590-HLW-M5-V17T-00007002, "PROCESS FLOW DIAGRAM HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 2)."
4. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE FULLY DESCRIBED IN THE SOFTWARE FUNCTIONAL SPECIFICATION FOR RADIOACTIVE LIQUID WASTE DISPOSAL (RLD) SYSTEM, 24590-HLW-3PS-RLD-T0001.
5. FOR RADAR INSTALLATION DETAILS, SEE DRAWINGS 24590-WTP-J8-50-00001 AND 24590-WTP-J8-50-00004.

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 under the authority of the AEA. Bechtel National, Inc. 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.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
4	REVISED PER NOTE 27			CGD	DR	1/2007
3	REVISED PER NOTE 22	RDP	APP	JP	JJ	5/31/06
2	REVISED PER NOTE 20	SJ	PLJ	EI	TV	3/3/05
0	ISSUED FOR CONSTRUCTION	DR	NR	N/A	CD	10/8/02

REVISION HISTORY

Q
QUALITY DESIGNATOR

ISSUED BY: RPP-WTP PDC

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
	BY	DATE
ORIGINATOR	D. REDDY	10/6/02
CHECKER	N. RAVULA	10/6/02
APPROVER	G. DUNCAN	10/8/02
REVIEWER	N/A	

ISSUE STAMP

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-016 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREG-002

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW
RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM MISCELLANEOUS SUMPS

SCALE: NONE

24590-HLW-M6-RLD-00015

REV 4

E SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

01/18/2007 03:58:00 PM

PLOTTED BY: wrich
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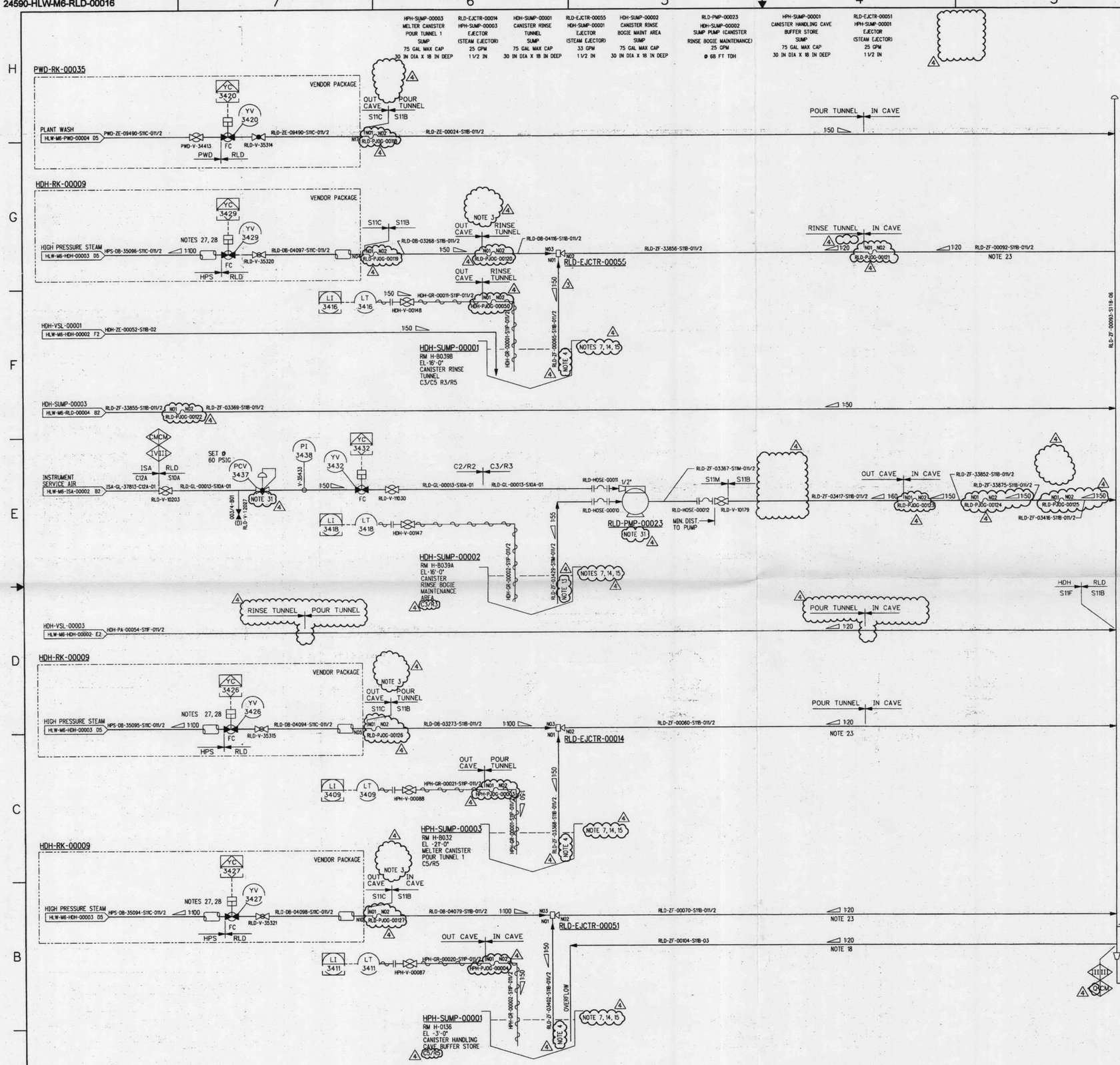
FORM E_SDN.DGN 02/2003



NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. DELETED
3. OUT CAVE STEAM SUPPLY PIPING MUST BE A MINIMUM OF 34'-0" ABOVE THE SUMP LIQUID LEVEL.
4. PROVIDE 5/8" ±1/8" CLEARANCE BETWEEN BOTTOM OF EJECTOR SUCTION PIPE AND SUMP LINER.
5. DELETED
6. DELETED
7. SUMP WILL BE COVERED WITH STAINLESS STEEL REMOVABLE SCREEN PLATE TO PROTECT PIPING SYSTEM FROM DEBRIS. MAX SCREEN SIZE 1/4" DIAMETER HOLE. SUMP COVERS TO BE PROVIDED BY CIVIL/STRUCTURAL.
8. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
9. THE PRESSURE BOUNDARY FOR ALL SYSTEMS, STRUCTURES, AND COMPONENTS ON THIS DRAWING IS QUALITY LEVEL QM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
10. DELETED
11. DELETED
12. DELETED
13. PROVIDE 1/2" ±1/8" CLEARANCE BETWEEN BOTTOM OF PUMP SUCTION PIPE AND SUMP BASE.
14. SUMPS SHOWN WITH CONE BOTTOM ARE PROVIDED WITH STAINLESS STEEL LINERS.
15. ALL SUMPS ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I.
16. DELETED
17. DELETED
18. OVERFLOW LINE IS LOCATED LOWER THAN ALL INCOMING LINES TO THE MANIFOLD.
19. DELETED
20. DELETED
21. DELETED
22. DELETED
23. EJECTOR DISCHARGE PIPING TO HAVE A MINIMUM LENGTH OF 24 INCHES OF STRAIGHT PIPE BEFORE 1ST BEND.
24. DELETED
25. REVISION 2: SEE ARCHIVED FOR REVISION 2 CHANGES.
26. REVISION 3: ADDED BACKFLOW PREVENTERS ON OUT CAVE/OUT CELL PIPING FOR C5 CONFINEMENT. INCORPORATED 24590-HLW-M6N-RLD-00163. REVISED SEISMIC AND QUALITY DESIGNATIONS, ADDED ROOM BREAKS. ADDED FLOORBOXES, WALLBOXES. DELETED STRAINERS FROM STEAM SUPPLY LINES. CHANGED PIPE LINE RLD-ZE-00024-S11B-001/2 TO -011/2. TE-3421 MOVED DOWN STREAM OF INCOMING DISCHARGE LINES. REVISED/ADDED/DELETED NOTES.
27. SLOW OPENING VALVE.
28. LOCATE ACTUATED VALVE HEADER AT HIGH POINT IN LINE ABOVE RACK.
29. DELETED
30. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING.
31. FILTER/REGULATOR IS TO BE SUPPLIED WITH THE DIAPHRAGM PUMP.
32. REVISED TO INCORPORATE P-JOGGLES. DELETED QUALITY/SEISMIC FLAGS. DELETED BACKFLOW PREVENTER. ADDED BOUNDARIES FOR HDH PIPING. ADDED/DELETED/REVISED NOTES. REVISED/DELETED LINES.

HOLD/OPEN ITEMS:

1-7. DELETED

REFERENCES:

1. DELETED
2. 24590-HLW-M6-V17T-00007001, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 1)."
3. 24590-HLW-M5-V17T-00007002, PROCESS FLOW DIAGRAM "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 2)."
4. FOR RADAR INSTALLATION DETAILS, SEE DRAWINGS 24590-WTP-J8-50-00001 AND 24590-WTP-J8-50-00004.
5. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE FULLY DESCRIBED IN THE SOFTWARE FUNCTIONAL SPECIFICATION FOR HLW RADIOACTIVE LIQUID WASTE DISPOSAL (RLD) SYSTEM, 24590-HLW-3PS-RLD-T0001.

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated by the U.S. Nuclear Regulatory Commission (NRC) facilities by DOE acting pursuant to the 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 in this drawing/bulletin is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
4	REVISED PER NOTE 32					
3	REVISED PER NOTE 26	RDP	SJ	JP	JJ	5/31/06
2	REVISED PER NOTE 25	UO	MG	EI	JFS	7/2/04
0	ISSUED FOR CONSTRUCTION	SMT	NR	N/A	IV	11-27-02

REVISION HISTORY

Q — QUALITY DESIGNATOR

ISSUED BY: RPHWTP PDC

ISSUE STAMP

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
	BY	DATE
ORIGINATOR	S.M. THAKKAR	10/24/02
CHECKER	RAO RAVULA	10/25/02
APPROVER	T.VALENTINO FOR SCF	11/27/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-016 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES: N/A

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM MISCELLANEOUS SUMPS

SCALE: NONE

24590-HLW-M6-RLD-00016

REV 4

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-CPP-SRES-002

'E' SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

11/29/2006 07:56:02 AM

PLOTTED BY: edorn
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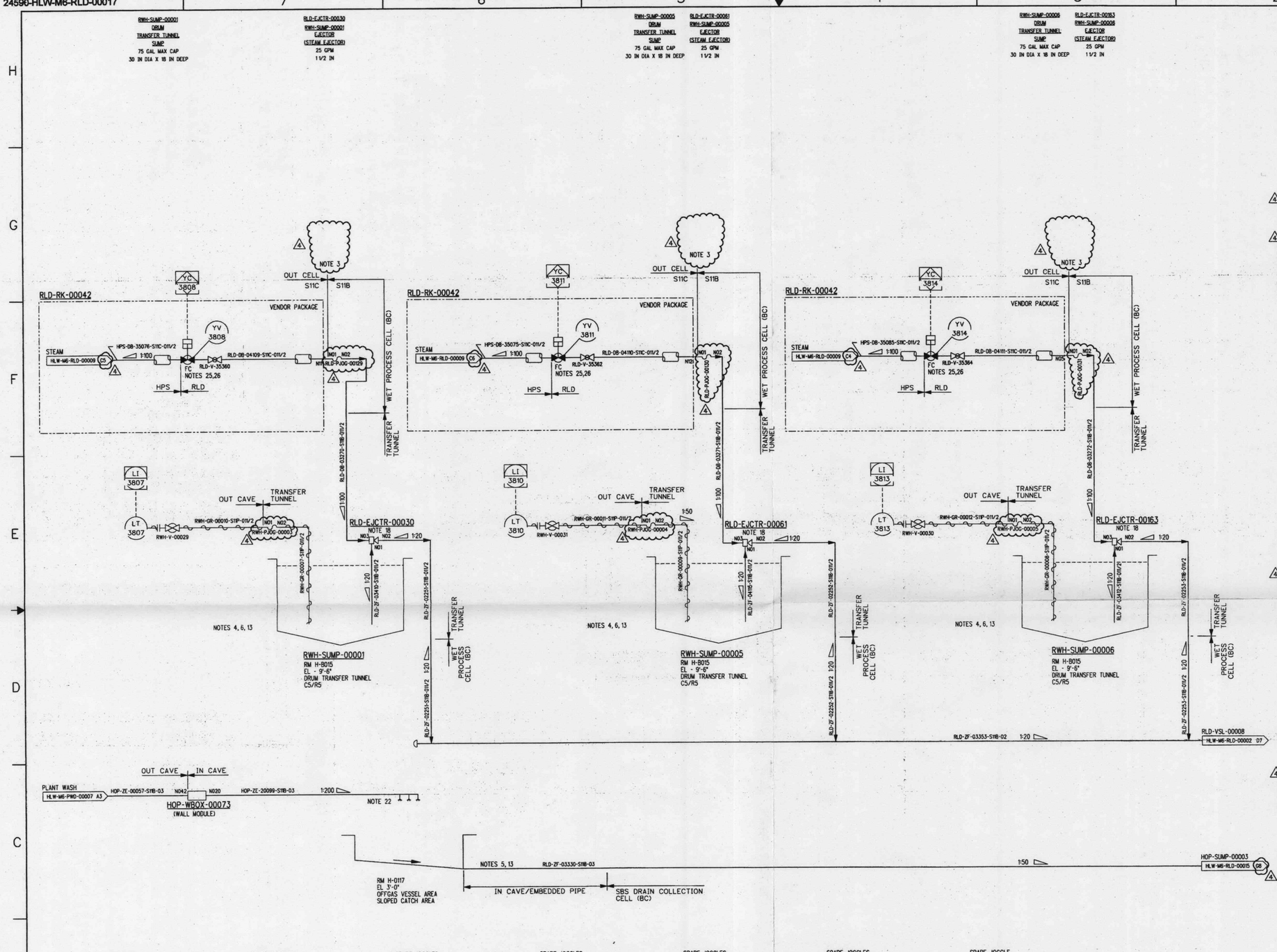
FORM E_SDN.DGN 02/2003



NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS, AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. DELETED
3. OUT CELL STEAM SUPPLY PIPING TO BE 34FT ABOVE MAXIMUM LIQUID LEVEL IN SUMP OR RECEIVING VESSEL OVERFLOW LINE, WHICHEVER IS HIGHER.
4. PROVIDE 5/8" ±1/8" CLEARANCE BETWEEN BOTTOM OF EJECTOR SUCTION PIPE AND SUMP BOTTOM.
5. THE DRAIN PIPE IS EMBEDDED TO PROVIDE SHIELDING FROM RADIATION.
6. SUMP COVERED WITH STAINLESS STEEL SCREEN PLATE TO PROTECT PIPING SYSTEM FROM DEBRIS. MAXIMUM SCREEN SIZE IS 1/4" DIA. HOLE. SUMP AND SUMP COVERS ARE PROVIDED BY CIVIL/ STRUCTURAL.
7. DELETED
8. THE PRESSURE BOUNDARY FOR ALL SYSTEMS, STRUCTURES, AND COMPONENTS ON THIS DRAWING IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.

9-12. DELETED

13. ALL SUMPS ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I.
14. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING. PIPING WITHIN SPARE JOGGLES IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I.

15-17. DELETED

18. EJECTOR DISCHARGE PIPING HAS A MINIMUM LENGTH OF 24 INCHES OF STRAIGHT PIPE BEFORE FIRST BEND.

19.-20. DELETED

21. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
22. SPRAY NOZZLES ARE PROVIDED FOR WASHING DOWN CELL AND CAVE LINERS. INSTALL NOZZLES ON BOTTOM OF SPRAY HEADER, AIMED TOWARDS LINER. LOCATE BOTTOM OF NOZZLE 4 INCHES ABOVE THE LINER UPPER EDGE. NOZZLE STANDOFF FROM VERTICAL PLANE OF LINER IS 12 INCHES. NOZZLE SPACING ON HEADER IS ONE PER 5 FOOT. SPRAY NOZZLE TYPE IS LECHLER 140 33/64 FLAT FAN NOZZLE NUMBER 686.868 OR EQUIVALENT.
23. REVISION 2: MAJOR REVISION, NO CHANGE CLOUDS REQUIRED. THIS DRAWING IS REVISED TO INCORPORATE THE FOLLOWING CHANGES: DCNS 24590-HLW-M6N-RLD-00118, 24590-HLW-M6N -RLD-00149, AND 24590-HLW-M6N-M8OT-00002. ALL/FLOORBOXES DELETED; NEW FORMAT FOR JOGGLED WALL/FLOOR PENETRATIONS; CLARIFICATION OF SEISMIC CATEGORY AND QUALITY LEVEL FOR ALL PIPING; ADDITION OF WALL MODULE; ADDED DESIGNATION BETWEEN IN/OUT CAVE AREAS; DELETED LEVEL ELEMENTS FROM SUMPS; DELETED NOTES 7, 10, AND 17; ADDED NOTES 2, 11, 14, 16; EDITED NOTES 5, 6, 15, 18, 19, 20, 22; ADDED REFERENCES 4 & 5.
24. REVISION 3: INCORPORATED 24590-HLW-M6N-M8OT-00002, 24590-HLW-M6N-RLD-00159. ADDED SPARE JOGGLES. REVISED QUALITY AND SEISMIC DESIGNATIONS. REVISED/ADDED/DELETED NOTES, DELETED STRAINERS. REVISED SLOPES.
25. SLOW OPENING VALVE REQUIRED.
26. LOCATE ACTUATED VALVE AT HIGH POINT IN LINE ABOVE RACK HEADER.
27. DELETED
28. REVISED TO INCORPORATE P-JOGGLES. REVISED/ADDED/DELETED NOTES AND REFERENCES. DELETED QUALITY/SEISMIC FLAGS.

HOLD/OPEN ITEMS:

1.-2. DELETED

REFERENCES:

1. DELETED
2. 24590-HLW-M5-V17T-00007001, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 1)."
3. 24590-HLW-M5-V17T-00007002, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT(SYSTEM RLD) (SHEET 2)."
4. FOR RADAR INSTALLATION DETAILS, SEE DRAWINGS 24590-WTP-J8-50-00001 AND 24590-WTP-J8-50-00004.
5. DELETED
6. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE FULLY DESCRIBED IN THE SOFTWARE FUNCTIONAL SPECIFICATION FOR RADIOACTIVE LIQUID WASTE DISPOSAL (RLD) SYSTEM, 24590-HLW-3PS-RLD-T0001.

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 under authority of the AEA. Regulation of these materials, 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.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
4	REVISED PER NOTE 28		SJ	CER	CGL	11/29/06
3	REVISED PER NOTE 24	RDP	SJ	JJ	JP	5/31/06
2	REVISED PER NOTE 23	UO	SJ	JFS	EI	12-23-04
0	ISSUED FOR CONSTRUCTION	DKR	NRR	N/A	GD	10-08-02

REVISION HISTORY

Q
QUALITY DESIGNATOR

ISSUED BY RPP-WTP-PDC		
	PROJECT No.	24590
	SITE	HANFORD
	AREA	200E
ISSUE STAMP	BUILDING No.	30

	BY	DATE
ORIGINATOR	D. K. REDDY	10/6/02
CHECKER	R. R. RAVULA	10/8/02
APPROVER	G. M. DUNCAN	10/8/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-016 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM MISCELLANEOUS SUMPS

SCALE: NONE

24590-HLW-M6-RLD-00017

REV 4

R1074089

11/29/2006 07:01:44 AM

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREG-002

"E" SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

FORM E_SDN.DGN 02/2003

PLOTTED BY: 40820
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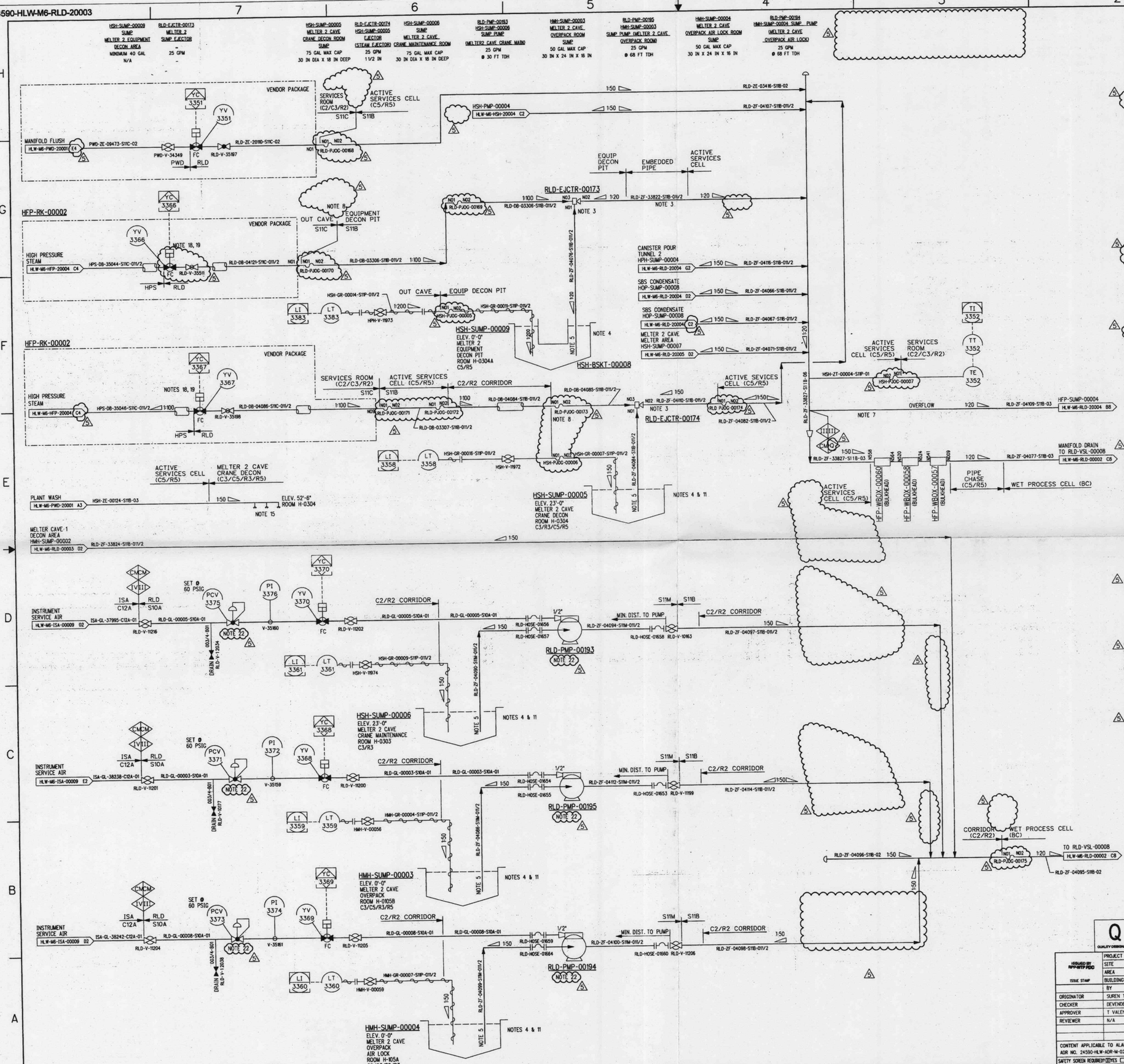
24590-HLW-M6-RLD-20003



NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS, AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. DELETED
3. EJECTOR DISCHARGE PIPING TO HAVE A MINIMUM LENGTH OF 24 INCHES OF STRAIGHT PIPE BEFORE FIRST BEND.
4. ALL SUMPS ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I.
5. FOR EJECTORS, PROVIDE 5/8"±1/8" CLEARANCE BETWEEN THE BOTTOM OF THE EJECTOR SUCTION PIPE AND SUMP BASE. FOR PUMPS, PROVIDE 1/2" ±1/8" CLEARANCE BETWEEN THE BOTTOM OF THE PUMP SUCTION PIPE AND SUMP BASE.
6. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
7. OVERFLOW TIE-IN POINT TO BE LOCATED BELOW ALL INLET CONNECTIONS AND SHALL BE ROUTED A MINIMUM OF SIX INCHES ABOVE THE HORIZONTAL DRAIN LINE.
8. OUT CELL STEAM SUPPLY PIPING TO EJECTOR TO BE LOCATED 34'-0" MINIMUM ABOVE MAXIMUM LIQUID LEVEL IN SUMP.
9.-10. DELETED
11. SUMP IS TO BE COVERED WITH A STAINLESS STEEL SCREEN PLATE TO PROTECT PIPING SYSTEM FROM DEBRIS. MAXIMUM SCREEN SIZE IS 1/4" DIAMETER HOLE. SUMP COVERS ARE PROVIDED BY CIVIL/STRUCTURAL.
12. THE PRESSURE BOUNDARY FOR ALL SYSTEMS, STRUCTURES, AND COMPONENTS ON THIS DRAWING IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
13.-14. DELETED
15. SPRAY NOZZLES ARE PROVIDED FOR WASHING DOWN CELL AND CAVE LINERS. INSTALL NOZZLES ON BOTTOM OF SPRAY HEADER, AIMED TOWARDS LINER. LOCATE BOTTOM OF NOZZLE 4 INCHES ABOVE THE LINER UPPER EDGE. NOZZLE STANDOFF FROM VERTICAL PLANE OF LINER IS 12 INCHES. NOZZLE SPACING ON HEADER IS ONE PER 5 FOOT. SPRAY NOZZLE TYPE IS LECHLER 140° FLAT FAN NOZZLE, NUMBER 686.868, OR EQUIVALENT.
16. DELETED
17. REVISION 4: REARRANGED INCOMING PIPE LINES TO MANIFOLD RLD-ZF-33827-S11B-06 AND HEADER RLD-ZF-04096-S11B-02. CHANGED RLD-V-35197 FROM BALL TO GLOBE VALVE; YV-3367 FROM PLUG TO BALL VALVE; PCV-3371, -3373 AND -3375 FROM GATE TO PLUG VALVE. DELETED RLD-WBOX-0111-01. REVISED/CLARIFIED SLOPES. PLACED OFF SHEET CONNECTOR FROM 24590-HLW-M6-HSH-20004 ON HOLD (SEE HOLD 6). ADDED 1X1/2" REDUCER ON AIR SUPPLY TO DIAPHRAGM PUMPS. REVISED/ADDED/DELETED NOTES AND REFERENCES. REVISED SEISMIC AND QUALITY DESIGNATIONS. ADDED BACKFLOW PREVENTERS ON OUT CAVE/OUT CELL PIPING FOR C5 CONFINEMENT. ADDED HSH-SUMP-00009 AND ASSOCIATED PIPING AND EQUIPMENT.
18. SLOW OPENING VALVE REQUIRED.
19. LOCATE ACTUATED VALVE AT HIGH POINT IN LINE ABOVE RACK HEADER.
20. DELETED
21. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING.
22. FILTER REGULATOR IS TO BE SUPPLIED WITH THE DIAPHRAGM PUMP
23. REVISED TO INCORPORATE P-JOGGLES. REVISED QUALITY/SEISMIC FLAGS. REMOVED BACKFLOW PREVENTERS ON PUMP DISCHARGE LINES. ADDED/DELETED/REVISED NOTES, HOLDS, AND REFERENCES. CHANGED RLD-V-35511 TO PLUG VALVE, CHANGED YV-3366 TO BALL VALVE AND ADDED FC FOR FAIL POSITION. REVISED/DELETED LINE NUMBERS.

HOLD/OPEN ITEMS:

1-6. DELETED

REFERENCES:

1. DELETED
2. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE FULLY DESCRIBED IN THE SOFTWARE REQUIREMENTS SPECIFICATION FOR RLD RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM, 24590-HLW-3PS-RLD-T0001.
3. FOR RADAR INSTALLATION DETAILS, SEE DRAWINGS 24590-WTP-J8-50-00001 AND 24590-WTP-J8-50-00004.
4. 24590-HLW-M5-V17T-00007001, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 1)."
5. 24590-HLW-M5-V17T-00007002, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 2)."

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. Notwithstanding DOE ordinary control over its own facilities, DOE assumes the authority to regulate the use and decision responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein or reproducible is provided for process description purposes only.

REV.	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
5	REVISED PER NOTE 23			APP	CER	12/13/06
4	REVISED PER NOTE 17	RDP	APP	JJ	JP	5/31/06
0	ISSUED FOR CONSTRUCTION	ST	DR	N/A	TFV	11/27/02

Q QUALITY DESIGNATOR

REVISION HISTORY

ISSUED BY RPP-WTP PDC

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
	BY	DATE
ORIGINATOR	SUREN THAKKAR	11/25/02
CHECKER	DEVENDER REDDY	11/25/02
APPROVER	T VALENTINO	11/27/02
REVIEWER	N/A	

ISSUE STAMP

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
AOR NO. 24590-HLW-ADR-M-02-016 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM DECONTAMINATION TANK & SUMP - MELTER 2

SCALE: NONE

24590-HLW-M6-RLD-20003

REV 5

"E" SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREQ-002

12/12/2006 12:54:44 PM

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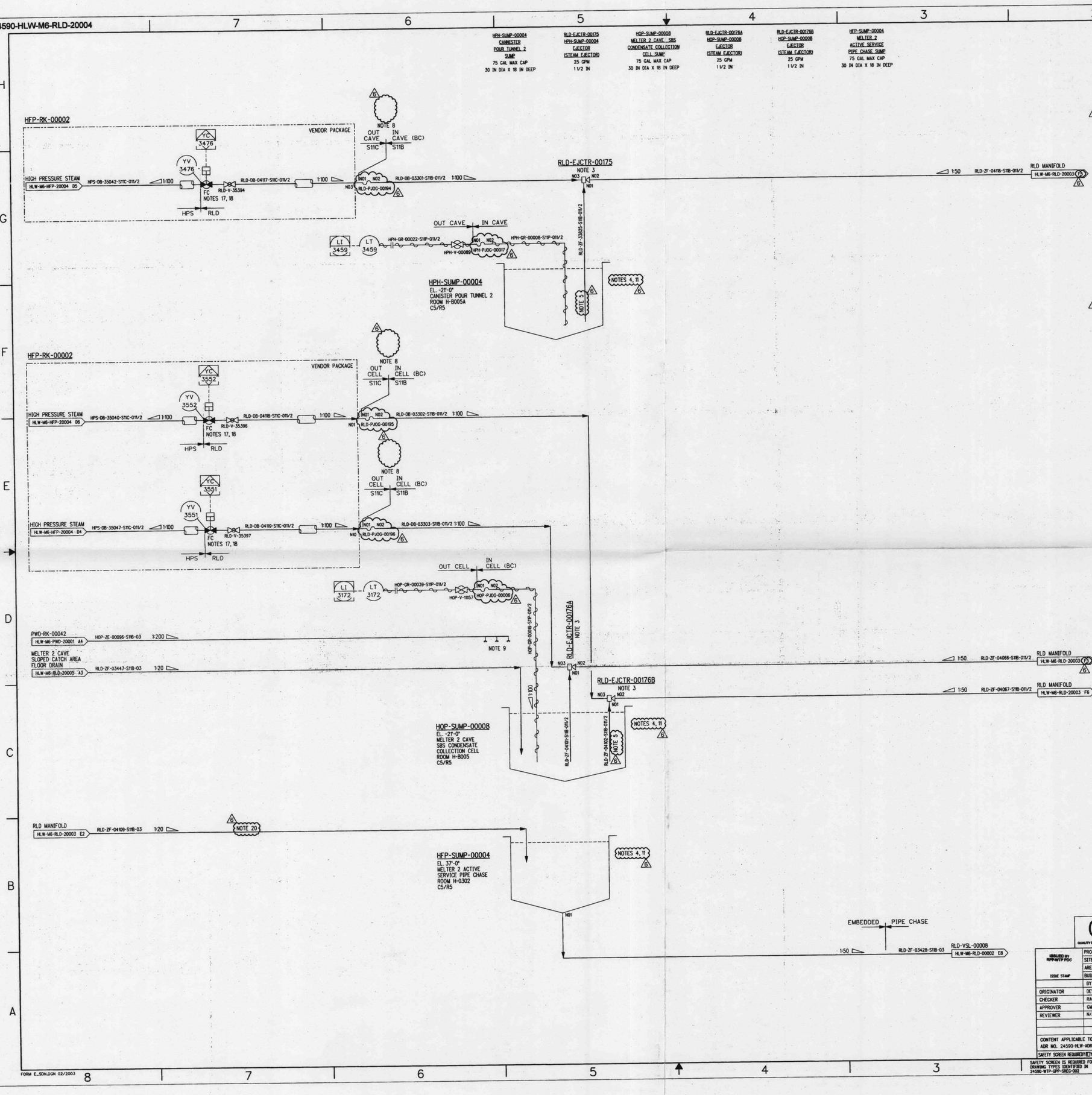
FORM E_SDHLDGN 02/2003

24590-HLW-M6-RLD-20004



NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS, AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. DELETED
3. EJECTOR DISCHARGE PIPING TO HAVE A MINIMUM LENGTH OF 24 INCHES OF STRAIGHT PIPE BEFORE FIRST BEND.
4. ALL SUMPS ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I.
5. PROVIDE 5/8"±1/8" CLEARANCE BETWEEN BOTTOM OF EJECTOR SUCTION PIPE AND SUMP BASE.
6. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
7. DELETED
8. OUT CELL STEAM SUPPLY PIPING MUST BE 34 FT ABOVE THE OVERFLOW LINE IN RLD-VSL-00008.
9. SPRAY NOZZLES ARE PROVIDED FOR WASHING DOWN CELL AND CAVE LINERS. INSTALL NOZZLES ON BOTTOM OF SPRAY HEADER, AIMED TOWARDS LINER. LOCATE BOTTOM OF NOZZLE 4 INCHES ABOVE THE LINER UPPER EDGE. NOZZLE STANDOFF FROM VERTICAL PLANE OF LINER IS 12 INCHES. NOZZLE SPACING ON HEADER IS ONE PER 5 FOOT. SPRAY NOZZLE TYPE IS LECHLER 140° FLAT FAN NOZZLE NUMBER 686.868 OR EQUIVALENT.
10. DELETED
11. SUMP COVERED WITH A STAINLESS STEEL SCREEN PLATE TO PROTECT PIPING SYSTEM FROM DEBRIS. MAXIMUM SCREEN SIZE IS 1/4" DIAMETER HOLE. SUMP COVERS ARE PROVIDED BY CIVIL/STRUCTURAL.
12. DELETED
13. THE PRESSURE BOUNDARY FOR ALL SYSTEMS, STRUCTURES, AND COMPONENTS ON THIS DRAWING IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
14. DELETED
15. REVISION 4: MAJOR REVISION, NO CHANGE CLOUDS REQUIRED. INCORPORATED 24590-HLW-M6N-RLD-00127 AND 24590-HLW-M6N-RLD-00150. DELETED LEVEL ELEMENT SYMBOL LE. REVISED SEISMIC CATEGORY AND QUALITY LEVELS. CHANGED THE REPRESENTATION OF THE JOGGLED PENETRATIONS. REVISED/ADDED/DELETED NOTES.
16. REVISION 5: DELETED STRAINERS ON STEAM RACKS. REVISED QUALITY AND SEISMIC DESIGNATIONS. REVISED/ADDED/DELETED NOTES AND ADDED REFERENCES. TAGGED COMPONENTS IN STEAM RACK. REVISED SLOPES.
17. SLOW OPENING VALVE REQUIRED.
18. LOCATE ACTUATED VALVE AT HIGH POINT IN LINE ABOVE RACK HEADER.
19. DELETED
20. THIS LINE IS QUALITY LEVEL Q AND SEIMIC CATEGORY SC-III.
21. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING.
22. REVISED TO INCORPORATE P-JOGGLES AND 24590-HLW-M6N-MB0T-00007. ADDED/REVISED/DELETED NOTES, HOLDS, AND REFERENCES. REVISED QUALITY/SEISMIC BREAKS.

HOLD/OPEN ITEMS:

1-3. DELETED

REFERENCES:

1. DELETED
2. 24590-HLW-M5-V17T-00007001, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 1)".
3. 24590-HLW-M5-V17T-00007002, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 2)."
4. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE FULLY DESCRIBED IN THE SOFTWARE REQUIREMENTS SPECIFICATION FOR RADIOACTIVE LIQUID WASTE DISPOSAL (RLD) SYSTEM, 24590-HLW-SPS-RLD-T0001.
5. FOR RADAR INSTALLATION SEE DRAWINGS 24590-WTP-J8-50-00001 AND 24590-WTP-J8-50-00004.

Please note that source, special nuclear, and byproduct materials as defined by 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 this authority to regulate source, special nuclear, and byproduct materials pursuant to AEA, it has sole and exclusive regulatory authority to regulate source, special nuclear, and byproduct materials at DOE facilities. Information contained herein on radioactivity is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
6	REVISED PER NOTE 22	MPK	MPK	CDK	MJ	1/11/07
5	REVISED PER NOTE 16	RDP	SJ	JJ	JF	5/31/06
4	REVISED PER NOTE 15	JK	RR	EI	SN	4/7/05
0	ISSUED FOR CONSTRUCTION	DR	RR	GMD	N/A	10/8/02

REVISION HISTORY

Q — QUALITY DESIGNATOR

ISSUED BY RPP-WTP PDC

PROJECT No.	24590
SITE	HANFORD
AREA	200E
BUILDING No.	30

ISSUE STAMP

	BY	DATE
ORIGINATOR	DEVENDER REDDY	10/6/02
CHECKER	RAO RAVULA	10/6/02
APPROVER	GM DUNCAN	10/8/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-016 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM MISCELLANEOUS SUMPS MELTER 2

SCALE: NONE

24590-HLW-M6-RLD-20004

REV 6

"E" SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREQ-002

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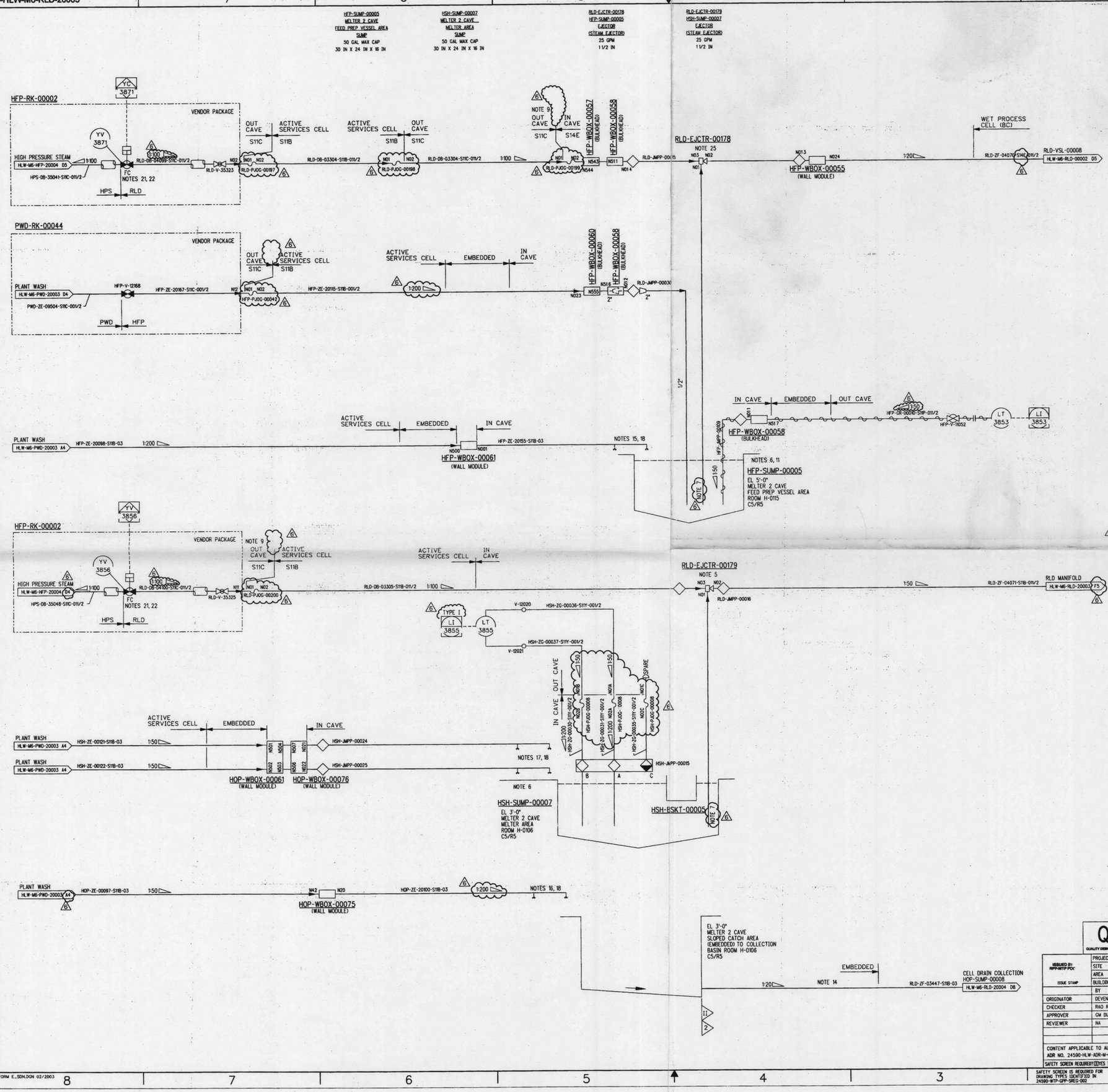
FORM E_SDN.DGN 02/2003



NOTES:

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS, AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. DELETED
3. DELETED
4. DELETED
5. EJECTOR DISCHARGE PIPING TO HAVE A MINIMUM LENGTH OF 24 INCHES OF STRAIGHT PIPE BEFORE FIRST BEND.
6. ALL SUMPS ARE QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I.
7. PROVIDE 5/8"±1/8" CLEARANCE BETWEEN BOTTOM OF EJECTOR SUCTION PIPE AND SUMP LINER.
8. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
9. OUT CELL STEAM SUPPLY PIPING MUST BE 34 FT ABOVE THE MAXIMUM LIQUID LEVEL IN THE SUMP.
10. DELETED
11. SUMP COVERED WITH A STAINLESS STEEL SCREEN PLATE TO PROTECT PIPING SYSTEM FROM DEBRIS. MAXIMUM SCREEN SIZE IS 1/4" DIAMETER HOLE. SUMP COVERS ARE PROVIDED BY CSA.
12. DELETED.
13. THE PRESSURE BOUNDARY FOR ALL PIPING AND COMPONENTS IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
14. THE DRAIN PIPE IS EMBEDDED TO PROVIDE SHIELDING FROM RADIATION. SLOPE THE EMBEDDED PIPE AT 1:20 UNLESS CONSTRAINED BY PHYSICAL LIMITATIONS. IF CONSTRAINED BY PHYSICAL LIMITATIONS THE SLOPE MAY BE REDUCED TO 1:50.
15. ONE SPRAY RING HEADER IS PROVIDED TO WASH THE MELTER 2 CAVE FEED PREPARATION VESSEL AREA LINER. REFER TO NOTE 18 FOR DETAILS.
16. ONE SPRAY RING HEADER IS PROVIDED TO WASH THE MELTER 2 CAVE SBS VESSEL AREA LINER. REFER TO NOTE 18 FOR DETAILS
17. TWO SPRAY RING HEADERS ARE PROVIDED TO WASH THE MELTER 2 CAVE AREA LINER. REFER TO NOTE 18 FOR DETAILS.
18. SPRAY NOZZLES ARE PROVIDED FOR WASHING DOWN CELL AND CAVE LINERS. INSTALL NOZZLES ON BOTTOM OF SPRAY HEADER, AIMED TOWARDS LINER. LOCATE BOTTOM OF NOZZLE 4 INCHES ABOVE THE LINER UPPER EDGE. NOZZLE STANDOFF FROM VERTICAL PLANE OF LINER IS 12 INCHES. NOZZLE SPACING ON HEADER IS ONE PER 5 FOOT. SPRAY NOZZLE TYPE IS LECHLER 140° FLAT FAN NOZZLE NUMBER 686.868 OR EQUIVALENT.
19. REVISION 4: INCORPORATED 24590-HLW-M6N-RLD-00138 AND WALL MODULE DESIGN. MAJOR REVISION, NO CHANGE CLOUDS REQUIRED. ADDED JUMPER RLD-JMPP-0030. ADDED WALL MODULES HFP-WBOX-00055, 00061, HOP-WBOX-00075, AND HOP-WBOX-00076. DELETED WALL MODULES HFP-WBOX-00024. ADDED BULKHEADS HFP-WBOX-00057, 00058, AND 00060. CHANGED FLOOR/WALL BOXES PWD-FBOX-00189, HFP-FBOX-00037, AND HSH-WBOX-0043 INTO JOGGLED PENETRATIONS. INCORPORATED NEW WALL MODULE DESIGN INCLUDING EMBEDDED PIPE AND BULKHEAD. SLOPE ON ALL PLANT WASH LINES CHANGED TO 1:200. DELETED LINES 00180 AND 00181. DELETED YV-3859. REVISED QUALITY LEVEL AND SEISMIC CATEGORY. REVISED/ADDED/DELETED NOTES.
20. REVISION 5: INCORPORATED 24590-HLW-M6N-RLD-00158, -00175 AND 24590-HLW-M6N-M80T-00002. REVISED SEISMIC AND QUALITY DESIGNATIONS. REVISED/ADDED/DELETED NOTES AND ADDED REFERENCES. DELETED STRAINERS. ADDED AND REVISED SLOPES.
21. SLOW OPENING VALVE REQUIRED.
22. LOCATE ACTUATED VALVE AT HIGH POINT IN LINE ABOVE RACK HEADER
23. DELETED
24. THE GEOMETRY OF JOGGLED (OFFSET) PENETRATIONS IS QUALITY LEVEL Q FOR RADIATION PROTECTION. THE QUALITY LEVEL AND SEISMIC CATEGORY DESIGNATIONS OF PIPING WITHIN JOGGLES ARE THE SAME AS CONNECTING PIPING.
25. REVISED TO INCORPORATE 24590-HLW-M6N-M80T-00007 AND PIPE JOGGLES. CHANGED PIPE SPEC FROM S11B TO S14E. REVISED SLOPES. DELETED SEISMIC/QUALITY BREAKS. ADDED/DELETED/REVISED NOTES.

HOLD/OPEN ITEMS:

1-5. DELETED

REFERENCES:

1. DELETED
2. 24590-HLW-M5-V17T-00007001, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 1)."
3. 24590-HLW-M5-V17T-00007002, PROCESS FLOW DIAGRAM, "HLW VITRIFICATION LIQUID WASTE EFFLUENT (SYSTEM RLD) (SHEET 2)."
4. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE DESCRIBED IN THE SOFTWARE REQUIREMENTS SPECIFICATION FOR RADIOACTIVE LIQUID WASTE DISPOSAL (RLD) SYSTEM, 24590-HLW-3PS-RLD-T0001.
5. FOR RADAR INSTALLATION SEE DRAWINGS 24590-WTP-J8-50-00001 AND 24590-WTP-J8-50-00004. HLW INSTRUMENT INSTALLATION DETAIL RADAR PIPE ANTENNA SUMP ASSEMBLY.

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REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
6	REVISED PER NOTE 25	[illegible]	RDP	CSR [illegible]	[illegible]	1/25/07
5	REVISED PER NOTE 20	RDP	SJ	JJ	JP	5/31/06
4	REVISED PER NOTE 19	SJ	PLJ	EI	JFS	12/23/04
0	ISSUED FOR CONSTRUCTION	DR	JK	NA	GMD	10/8/02

REVISION HISTORY

Q
QUALITY DESIGNATOR

ISSUED BY: RPP-WTP PDC
ISSUE STAMP

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
	BY	DATE
ORIGINATOR	DEVENDER REDDY	10/6/02
CHECKER	RAO RAVULA	10/6/02
APPROVER	GM DUNCAN	10/8/02
REVIEWER	NA	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-016 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES: [illegible]

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREG-002

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

P&ID - HLW
RADIOACTIVE LIQUID WASTE DISPOSAL SYSTEM MISCELLANEOUS SUMPS MELTER 2

SCALE: NONE
24590-HLW-M6-RLD-20005
REV 6

E-SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

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FORM E_SDN.DGN 02/2003