



DEPARTMENT OF
ECOLOGY
State of Washington

STATEMENT OF BASIS

**Proposed Permit Modification, 8C.2018.5D, of the
*Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste
Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste,*
Part III, Operating Unit Group 10, Waste Treatment and Immobilization Plant,
WA7890008967**

March 2018

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Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste,*
Part III, Operating Unit Group 10, Waste Treatment and Immobilization Plant,
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Permittees

United States Department of Energy
Office of River Protection
PO Box 450
Richland, Washington 99352

Bechtel National, Inc.
2435 Stevens Center Place
Richland, Washington 99354

The Washington State Department of Ecology (Ecology) developed this Statement of Basis to fulfill the requirements of Washington Administrative Code (WAC) 173-303-840(2)(f)(iv).

The Statement of Basis provides information about Ecology's decision to modify the *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste*, Part III, Operating Unit Group 10, Waste Treatment and Immobilization Plant (WTP), hereafter called the "WTP Permit."

This permit modification, 8C.2018.5D, includes supporting technical information, reports and engineering drawings for the design and construction of the Tank Systems and Ancillary Equipment in the Effluent Management Facility (EMF) within the WTP.

The EMF is being built to support the Direct Feed Low Activity Waste (DFLAW) configuration. Specifically, the EMF will manage effluents transferred from the Low Activity Waste (LAW) facility and Analytical Laboratory (LAB). The DFLAW configuration permits LAW Facility operations prior to the completion of the High-Level Waste (HLW) and Pretreatment (PT) facilities. In the DFLAW configuration pre-treated waste is delivered directly to the LAW facility. When the PT and HLW vitrification facilities become operational, operations will shift from DFLAW to the baseline configuration. In baseline configuration, it is anticipated that the EMF will be placed in standby until the treatment of the waste has been completed. DFLAW operations are designed for a forty year service life and will operate for ten years. This allows time to resolve technical issues with the HLW and PT processes and finish the construction of those facilities.

This proposed permit modification includes:

- Piping and Instrumentation Diagrams
- General Arrangement Drawings
- Independent, Qualified, Registered Professions Engineer (IQRPE) reports
- Process Flow Diagrams
- Engineering Documents

- Mechanical Drawings
- Mechanical Data Sheets
- Equipment Specifications
- Revised permit chapters and Unit Specific Conditions

Ecology chose to prepare a Statement of Basis as described in WAC 173-303-840(2)(f)(iv), rather than a Fact Sheet. We prepared a Statement of Basis for previous major WTP Permit modifications. This process will be followed for all permit modifications that incorporate similar design package information and other changes to the WTP Permit Conditions.

This Statement of Basis is divided into four sections:

- 1.0 Hanford Facility Resource Conservation and Recovery Act Permit (Site-wide Permit).
- 2.0 The WTP Permitting Process.
- 3.0 Procedures for Reaching a Final Decision on the Draft WTP Permit Modification.
- 4.0 Proposed Modifications to the WTP Permit.

Also included at the end of the Statement of Basis is a table, listing the design documents and drawings submitted by the Permittees for incorporation into the WTP Permit.

1.0 HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY ACT PERMIT (SITE-WIDE PERMIT)

Ecology issued the Site-wide Permit in 1994. The Site-wide Permit provides standard and general facility conditions, as well as unit-specific conditions for the operation, closure, and post-closure care of mixed and dangerous waste Treatment, Storage, and Disposal (TSD) units at Hanford. Approximately forty TSD units are operating or closing under Resource Conservation and Recovery Act final status standards.

Conditions of the Site-wide Permit are presented in six parts:

- Part I Standard Conditions.
- Part II General Facility Conditions.
- Part III Unit-Specific Conditions for Final Status Operating Units.
- Part IV Corrective Action for Past Practice Units.
- Part V Unit-Specific Conditions for Units Undergoing Closure.
- Part VI Unit-Specific Conditions for Units in Post-Closure.

The WTP TSD Unit was added to Part III of the Site-wide Permit on September 25, 2002. The WTP Permit portion was effective on October 25, 2002. The WTP TSD Unit is currently being constructed under final permit status standards.

The Washington State Dangerous Waste Regulations in WAC 173-303-830 describe the types of changes or modifications that may be made to a Dangerous Waste Permit issued by Ecology.

The WTP Permit is modified as needed, typically one or more times a year, to incorporate Class 1, ¹1, 2, and 3 modifications; Agency-Initiated modifications; and minor changes in grammar, consistency, and presentation.

2.0 THE WTP PERMITTING PROCESS

We are using a phased (or stepped) approach to permit the WTP TSD Unit. The first phase was completed on September 25, 2002, with issuance of a final Dangerous Waste Permit allowing construction of the LAW, PT, HLW, LAB, and Balance of Facilities (BOF) facilities to start.

This second phase of permitting is included in the WTP Interim Compliance Schedule (Appendix 1.0), and requires the Permittees to submit design and other information for Ecology approval before regulated portions of the WTP TSD Unit are constructed.

A WTP Interim Compliance Schedule for the United States Department of Energy provides Ecology additional detailed information addressing the submittal of design documents necessary to support construction of the rest of the WTP TSD Unit, and its eventual operation.

The third phase of permitting is implementation of the last portion of the interim compliance schedule. This requires updating portions of the Dangerous Waste Permit Application and then modifying the WTP Permit prior to facility start-up operations. These portions (for example, Contingency Plan, Closure Plan, and Training Plan) of the WTP Permit are operational in nature and cannot be completed before the design is nearly complete.

When the three phases of permitting are completed, the WTP TSD Unit will comply with all applicable requirements of WAC 173-303. Then, after receiving written permission from Ecology, the Permittees can begin treatment and storage of dangerous and mixed waste at the WTP.

Originally, the design submittals (second permitting phase) were structured to allow the Permittees to provide design information in roughly the same order as the WTP facilities are constructed.

The design packages started at the base level of the facilities (below-grade levels) and were submitted for regulated areas of each level before construction began. This process was adjusted for some design packages. When the facility process systems are installed on more than one level, the design packages will address the associated components for each level. This prevents confusion caused by one process system description being segmented into multiple design packages.

The WTP Permit organizes design packages into three general groups by the type of regulated equipment:

1. Primary containment (i.e., tanks, miscellaneous units [evaporators and melters], and containment buildings).
2. Secondary containment.
3. Other associated regulated equipment (i.e., ancillary equipment, equipment associated with miscellaneous units, and instrumentation).

Using tank systems as an example, secondary containment packages include details of the design of secondary containment that must be in place in regulated areas when the floors and walls are built for that level of each facility (for example, the floor slope, and sump locations).

The installation of tanks and other large equipment usually follows construction of the floors and walls. Therefore, a tank package on that level will be included in the WTP Permit before installation. The tank package would contain, for example, structural details for those tanks or miscellaneous units showing nozzle locations, unit volumes, and tank shell thickness.

The last equipment usually installed on a level for a tank system is the ancillary equipment (for example, piping, pumps, process instrumentation, and electrical equipment). Therefore, the ancillary equipment package provides details for the equipment on that level that will be included in the WTP Permit before installation. For example, information in the package would include, materials of construction, pump types and their operating limits.

Because the WTP facilities are so complex, multiple design packages are submitted for each facility. For the Effluent Management Facility (EMF), one more design package is planned to be incorporated into the WTP Permit.

The WTP Permit allows Permittees to reference previously submitted design information, therefore some design packages may consist mostly of references to information already provided.

The EMF is a facility that is being incorporated into the WTP Operating Unit Group 10. Therefore, it will be permitted in the same phased approach as the rest of the WTP TSD Units and will have a specific associated Interim Compliance Schedule. This draft modification is limited to the design and construction of the Tank Systems and Ancillary Equipment within the EMF.

3.0 PROCEDURES FOR REACHING A FINAL DECISION ON THE DRAFT WTP PERMIT MODIFICATION

The Washington State Hazardous Waste Management Act (Chapter 70.105, Revised Code of Washington) and the rules declared in WAC Chapter 173-303 regulate the management of dangerous waste in Washington State. WAC 173-303-800 requires facilities that treat, store, and/or dispose of dangerous waste to obtain a permit for these activities.

Regulatory requirements for public notice and involvement as part of an Agency Initiated permit modification are described in WAC 173-303-840(3) and (4). As required by WAC 173-303-840(3)(d), draft modifications to the WTP Permit will have at least a 45-day public comment period. The public comment period for this proposed permit modification, 8C.2018.5D, begins on March 5, 2018, and ends on April 18, 2018.

Comments must be post-marked, received by e-mail, or hand-delivered no later than close of business (5:00 p.m. PST) April 18, 2018. Direct all written comments to:

Daina McFadden
Washington State Department of Ecology
3100 Port of Benton Blvd.
Richland, Washington 99354

Electronic comment link: <http://wt.ecology.commentinput.com/?id=56Thj>

In accordance with WAC 173-303-840(10)(c), when a permit is modified, only the conditions subject to modification are open for comment. All other aspects of the existing Permit remain in effect for the duration of the modification.

Ecology will consider and respond to all significant comments on this permit modification submitted by the deadline. Ecology will then make a final permit decision, which will become effective 30 days after Ecology provides notice of the decision to the Permittees and to all who commented. If the final decision includes substantial changes to the WTP Permit because of public comment, we will initiate a new public comment period.

Ecology will provide a *Response to Comments* document and a notification of the final permit decision to the Permittees and all others who commented. The final permit decision may be appealed within 30 days after issuance of that decision.

Copies of the WTP Permit, including the proposed permit modification, are available for review at the Hanford Public Information Repositories. For additional information email hanford@ecy.wa.gov.

Hanford Public Information Repositories

Richland

Washington State Department of Ecology
Nuclear Waste Program Resource Center
3100 Port of Benton Boulevard
Richland, Washington 99354

United States Department of Energy
Administrative Record
2440 Stevens Drive
Richland, Washington 99354

Washington State University Tri-Cities,
Department of Energy Reading Room
2770 Crimson Way, Room 101L
Richland, Washington 99354

Portland

Portland State University
Branford Price Millar Library
1875 Southwest Park Avenue
Portland, Oregon 97201

Seattle

University of Washington
Suzzallo Library
4000 15th Avenue Northeast
Seattle, Washington 98195

Spokane

Gonzaga University

Foley Center Library
502 East Boone Avenue
Spokane, Washington 99258

This Statement of Basis and Public Notice for the proposed permit modification is also available online at <http://www.ecy.wa.gov/programs/nwp/commentperiods.htm>. If special accommodations are needed for public comment, contact Ecology, at (509) 372-7950 or hanford@ecy.wa.gov.

4.0 PROPOSED MODIFICATIONS TO THE WTP PERMIT

This proposed permit modification contains engineering, design, and permitting details. New or revised documents submitted with the modification are listed below. The complete list of documents included in the package for public comment is indicated by a “Y” in the “Included Column” in Table 1. If there is an “N” in the “Included Column” it indicates either the modification information was included in or where in the permit the information can be found.

This proposed permit modification addresses the design and construction of the permitted tanks, vessels, evaporator, reboiler, condenser, and ancillary equipment that will be housed in the EMF. There are four permitted tank systems in the EMF located at the (-) 39’ and 0’ elevations. The evaporator/separator, reboiler, and the condensers are located at the 0’ elevation. Other equipment includes pumps, valves and other ancillary equipment. Together the equipment will be used to manage and treat the effluents from the LAW Facility and the LAB. Once treatment has been completed the effluents will be transferred back to the LAW facility for vitrification, to the Liquid Effluent Treatment Facility (LERF)/Effluent Treatment Facility (ETF), or to the Tank Farms. This modification is applicable to the following buildings: the Process (Bldg. 25) and Low Point Drain (Bldg. 25A) at the EMF.

This proposed permit modification consists of information to be incorporated into the WTP Permit Conditions, Chapters and Appendices:

- Independent, Qualified, Registered, Professional Engineer (IQRPE) report
- General Arrangement Drawings
- Process Flow Diagrams
- Piping and Instrument Diagrams
- Material Selection Documentation
- Mechanical Drawings
- Mechanical Data Sheets
- Engineering Specifications

4.1 Incorporation of Class 1 and Class ¹1 Permit Modifications (PCNs) and Permit Equivalency Notices (PENs)

Previously approved Class 1 and Class ¹1 PCNs and PENs are incorporated through the Quarterly Modifications. There will be no PCNs or PENs incorporated through this proposed modification.

4.2 Supplemental Design Information

Table 1 lists the design information included in this proposed permit modification and the proposed location in the WTP Permit. At issuance of the final WTP Permit, Ecology will specify where each drawing or report resides in the WTP Permit.

Paper copies of the page changes to the WTP Permit that result from this modification will be placed in the Administrative Record.

The letter issuing the final WTP Permit decision to the Permittees and Hanford contractors will include the current WTP Permit with the modifications on a DVD.

4.3 Identifying Changes in this Proposed Permit Modification

As the WTP TSD Unit is constructed, Ecology will modify the WTP Permit for many reasons, including to clarify text, add new conditions, delete existing conditions, correct errors, and/or add information. To communicate the changes, proposed permit modifications will include page changes showing all significant proposed changes to the WTP Permit. The text to be deleted will be struck-out with a single line, and the new text will be redlined. Only the text being changed in the current modification will be indicated by redlines and strikeouts.

Newly added documents and drawings are provided for review in this proposed permit modification. New document and drawing numbers and titles are shown in redline/strikeout text in the affected appendix drawing lists.

When a WTP Permit modification is issued, “clean” pages incorporating permit modifications will be issued to the Permittees and placed in the Administrative Record. All redlines and strikeouts will be removed. Documents and drawings listed in the appendices will not be redlined and will be incorporated by reference only.

Ecology publication number 07-05-006, *Responsiveness Summary* (September 27, 2007), explains the reason for replacing permit version documents with source documents to which the WTP is constructed. Source documents are in a state of constant revision as design details are finalized and additional information is added to provide clarity and to correct typographical errors.

The Permittees use Document Change Notices (DCNs) to track changes not yet incorporated into source documents. In some cases, DCNs are issued at the time of Ecology’s review. These are not provided for public comment, but will appear in the next revision of the WTP Permit for review. Source documents have been replacing permit version documents since September 2007.

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**Table 1 – Design Information Submitted by Permittees
For Incorporation into the WTP Permit**

Table of Contents

Document Title	Document Number	Revision	Permit Condition	Included	Remarks
IQRPE Reports					
IQRPE Structural Integrity Assessment Report for DFLAW DEP Evaporator (DEP-EVAP-00001), Reboiler (DEP-RBLR-00001), and Condensers (DEP-COND-00001/2/3) (IA-3020598-000)	24590-CM-HC4-HXYG-00240-02-00024	00A	III.10.M.9.c.i	Y	To be added to Appendix 13.11
IQRPE Structural Integrity Assessment Report for DFLAW DEP Vessels (DEP-VSL-00001, DEP-VSL-00002, and DEP-VSL-00003A/B/C) (IA-3020599-000)	24590-CM-HC4-HXYG-00240-02-00025	00A	III.10.E.9.d.i	Y	To be added to Appendix 13.11
IQRPE Structural Integrity Assessment Report for DFLAW EMF Miscellaneous Plant Items – Pumps, Heat Exchanger, and Filters (IA-3020600-000)	24590-CM-HC4-HXYG-00240-02-00026	00A	III.10.E.9.d.i	Y	To be added to Appendix 13.11
General Arrangement Drawings					
Balance of Facilities LAW Effluent Process Bldg. & LAW Effluent Drain Tank Bldg. General Arrangement Plan at Elev. 0 Ft. -0 In.	24590-BOF-P1-25-00001	1	III.10.E.9.c.ii	N	In BOF 15-003
Balance of Facilities LAW Effluent Utility Bldg. & LAW Effluent Electrical Bldg. General Arrangement Plan at Elev. 0 Ft. -0 In.	24590-BOF-P1-26-00001	1	III.10.E.9.c.ii	N	In BOF 15-003
Process Flow Diagrams					
Process Flow Diagram- Direct Feed Effluent Transfer (System DEP)	24590-BOF-M5-V17T-00011	0	III.10.E.9.c.ii	N	In Appendix 13.1
Process Flow Diagram- Direct Feed Effluent Evaporator (System DEP)	24590-BOF-M5-V17T-00012	0	III.10.E.9.c.ii	N	In Appendix 13.1
Process Flow Diagram- Direct Feed Process Condensate Transfer (System DEP and DVP)	24590-BOF-M5-V17T-00013	0	III.10.E.9.c.ii	N	In Appendix 13.1
Process Flow Diagram- Direct Feed Process Condensate Transfer (System DEP)	24590-BOF-M5-V17T-00014	0	III.10.E.9.c.ii	N	In Appendix 13.1
Piping and instrumentation Diagrams					

Document Title	Document Number	Revision	Permit Condition	Included	Remarks
P&ID- BOF/EMF Direct Feed LAW- EMF Process System Low Point Drain Vessel- DEP-VSL-00001	24590-BOF-M6-DEP-00001001	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF- Process System- Low Point Drain Vessel Pumps- DEP-PMP-00001A/B	24590-BOF-M6-DEP-00001002	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF – Direct Feed LAW EMF Process System –Evaporator Feed Vessel-DEP-VSL-00002	24590-BOF-M6-DEP-00002001	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF – Process System Evaporator –Feed Vessel Recirculation Pumps - DEP-PMP-00012A/B/C	24590-BOF-M6-DEP-00002002	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF-Process System Evap Feed Vessel Trans Pumps-DEP-PMP-00002A/B	24590-BOF-M6-DEP-00002003	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF- Process System Evaporator Feed Vessel - Prefilter- DEP-FILT-00003	24590-BOF-M6-DEP-00002004	2	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF- Process System Evaporator Chemical Mixing DEP-MTEE-00001/00002	24590-BOF-M6-DEP-00002005	0	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF- Process System Evaporator Concentrate/Feed - LAW Effluent Cooler DEP-HX-00001	24590-BOF-M6-DEP-00002006	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF- Process System- Evaporator Separator- DEP-EVAP-0001	24590-BOF-M6-DEP-00003001	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Evaporator Reboiler- DEP-RBLR-00001	24590-BOF-M6-DEP-00003002	1	III.10.E.9.c.ii	Y	To be incorporated into Appendix 13.2
<ul style="list-style-type: none"> DCN for Updates to P&IDs 24590-BOF-M6-DEP-00003001, 24590-BOF-M6-DEP-00003002, 24590-BOF-M6-DEP-00003003, 24590-BOF-M6-DEP-00003004, 24590-BOF-M6-DEP-00003005, 24590-BOF-M6-DEP-00003006, and Associated CIS Lists 	24590-BOF-M6N-DEP-00048	N/A		Y	To be incorporated into Appendix 13.2
P&ID- BOF/EMF Direct Feed LAW EMF Process System Evaporator Concentrate Discharge Pumps - DEP-PMP-00007A/B	24590-BOF-M6-DEP-00003003	1	III.10.E.9.c.ii	N	In BOF 15-003

Document Title	Document Number	Revision	Permit Condition	Included	Remarks
P&ID- BOF/EMF Direct Feed LAW EMF Process System Evaporator Condensers- DEP-COND-00001/2/3	24590-BOF-M6-DEP-00003004	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Evaporator Condensate Pumps DEP-PMP-00006A/B	24590-BOF-M6-DEP-00003005	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Reboiler Condensate DEP-VSL-00008	24590-BOF-M6-DEP-00003006	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Overhead Sampling Vessel DEP-VSL-00004A	24590-BOF-M6-DEP-00004001	2	III.10.E.9.c.ii	N	In BOF 15-003
P&ID - BOF/EMF Direct Feed LAW EMF Process System Overhead Sampling Vessel DEP-VSL-00004B	24590-BOF-M6-DEP-00004002	2	III.10.E.9.c.ii	N	In BOF 15-003
P&ID - BOF/EMF Direct Feed LAW EMF Process System Overhead Sampling VSL Pumps DEP-PMP-00004A/B/C	24590-BOF-M6-DEP-00004003	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID - BOF/EMF Direct Feed LAW EMF Process System Evaporator Concentrate Vessel DEP-VSL-00003A	24590-BOF-M6-DEP-00005001	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Evaporator Concentrate Vessel DEP-VSL-00003B	24590-BOF-M6-DEP-00005002	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Evaporator Concentrate Vessel DEP-VSL-00003C	24590-BOF-M6-DEP-00005003	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Evap. Conc. VSL Recirculation/Transfer Pumps DEP-PMP-00003A/B	24590-BOF-M6-DEP-00005004	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System EVAP Concentrate Vessel Recirculation	24590-BOF-M6-DEP-00005005	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Condensate Lab Storage Vessel DEP-VSL-00005A	24590-BOF-M6-DEP-00006001	2	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Process Concentrate Lag Storage Vessel-DEP-VSL-00005B	24590-BOF-M6-DEP-00006002	2	III.10.E.9.c.ii	N	In BOF 15-003

Document Title	Document Number	Revision	Permit Condition	Included	Remarks
P&ID- BOF/EMF Direct Feed LAW EMF Process System Lag Storage Vessel Transfer Pumps DEP-PMP-00005A/B	24590-BOF-M6-DEP-00006003	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Lag Storage Vessel Recirc Pumps DEP-PMP-00015A/B/C	24590-BOF-M6-DEP-00006004	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Process Area Sumps DEP-SUMP-00002A/B	24590-BOF-M6-DEP-00009001	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Process Vessel Area Sumps DEP-SUMP-00004A/B	24590-BOF-M6-DEP-00009002	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID - BOF/EMF Direct Feed LAW EMF Process System Miscellaneous Sumps DEP-SUMP-00008	24590-BOF-M6-DEP-00009003	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID - BOF/EMF Direct Feed LAW EMF Process System Process Area Sumps DEP-SUMP-00003A/B	24590-BOF-M6-DEP-00009004	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID - BOF/EMF Direct Feed LAW EMF Process System Process Vessel Area Sumps DEP SUMP-00005A/B	24590-BOF-M6-DEP-00009005	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Process System Underground Transfer Lines	24590-BOF-M6-DEP-00010001	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID - BOF/EMF Direct Feed LAW EMF Process System Effluent Facility Leak Detection DEP-LDB-00001 Thru DEP-LDB-00006	24590-BOF-M6-DEP-00011001	1	III.10.E.9.c.ii	N	In BOF 15-003
P&ID - BOF/EMF Direct Feed LAW EMF Process System Sampling Pumps DEP-PMP-00042A/B	24590-BOF-M6-DEP-00012001	0	III.10.E.9.c.ii	N	In BOF 15-003
P&ID- BOF/EMF Direct Feed LAW EMF Vessel Vent Process System- DVP-EXHR-00001A/B	24590-BOF-M6-DVP-00001001	1	III.10.E.9.c.ii	N	In BOF 15-003
Material Selection Documentation					
Corrosion Evaluation DEP-VSL-00001- Low Point Drain Vessel	24590-BOF-N1D-DEP-00001	1	III.10.E.9.c.v	Y	To be incorporated into Appendix 13.9
Corrosion Evaluation DEP-VSL-00002- Evaporator Feed Vessel	24590-BOF-N1D-DEP-00002	1	III.10.E.9.c.v	Y	To be incorporated into Appendix 13.9
Corrosion Evaluation DEP-VSL-00003A/B/C - Evaporator Concentrate Vessels	24590-BOF-N1D-DEP-00003	1	III.10.E.9.c.v	Y	To be incorporated into Appendix 13.9

Document Title	Document Number	Revision	Permit Condition	Included	Remarks
Corrosion Evaluation DEP-COND-00001, 00002 & 00003 - DEP Evaporator Primary Condenser, Inter-Condenser, and After-Condenser	24590-BOF-N1D-DEP-00007	1	III.10.M.9.c.v	Y	To be incorporated into Appendix 13.9
Corrosion Evaluation DEP-HX-00001- Evaporator Concentrate/Feed LAW Effluent Cooler (Heat Exchanger)	24590-BOF-N1D-DEP-00008	0	III.10.M.9.c.v	Y	To be incorporated into Appendix 13.9
Corrosion Evaluation DEP-RBLR-00001 - DEP Evaporator Reboiler	24590-BOF-N1D-DEP-00009	2	III.10.M.9.c.v	Y	To be incorporated into Appendix 13.9
Corrosion Evaluation DEP-EVAP-00001 - DEP Evaporator Separator Vessel	24590-BOF-N1D-DEP-00010	2	III.10.M.9.c.v	Y	To be incorporated into Appendix 13.9
Mechanical Drawings					
Equipment Assembly Low-Point Drain Vessel DEP-VSL-00001	24590-CM-POA-MVSC-00005-07-00001, Sheet 3 of 23, Sheet 4 of 23	00D	III.10.E.9.c.ii	Y	To be incorporated into Appendix 13.6
Equipment Assembly Evaporator Feed Vessel DEP-VSL-00002	24590-CM-POA-MVSC-00005-07-00002, Sheet 3 of 18, Sheet 4 of 18	00C	III.10.E.9.c.ii	Y	To be incorporated into Appendix 13.6
Equipment Assembly Evaporator Concentrate Vessel DEP-VSL-00003A	24590-CM-POA-MVSC-00005-07-00003, Sheet 3 of 18, Sheet 4 of 18	00D	III.10.E.9.c.ii	Y	To be incorporated into Appendix 13.6
Equipment Assembly Evaporator Concentrate Vessel DEP-VSL-00003B	24590-CM-POA-MVSC-00005-07-00004, Sheet 3 of 18, Sheet 4 of 18	00C	III.10.E.9.c.ii	Y	To be incorporated into Appendix 13.6
Equipment Assembly Evaporator Concentrate Vessel DEP-VSL-00003C	24590-CM-POA-MVSC-00005-07-00005, Sheet 3 of 18, Sheet 4 of 18	00C	III.10.E.9.c.ii	Y	To be incorporated into Appendix 13.6
Equipment Assembly DEP Evaporator Separator Vessel DEP-EVAP-00001	24590-CM-POA-MEVV-00003-05-00002, Sheet 2 of 6, Sheet 5 of 6	00D	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6
Equipment Assembly DEP Evaporator Reboiler DEP-RBLR-00001	24590-CM-POA-MEVV-00003-05-00003, Sheet 2 of 4, Sheet 3 of 4	00C	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6
Equipment Assembly for Heat Exchanger DEP-HX-00001	24590-CM-POA-MEP0-00006-04-00004, D3334	00A	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6
Equipment Assembly DEP Evaporator Primary Condenser DEP-COND-00001	24590-CM-POA-MEVV-00003-05-00001, Sheet 2 of 5, Sheet 3 of 5	00C	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6

Document Title	Document Number	Revision	Permit Condition	Included	Remarks
Equipment Assembly for Inter-Condenser DEP-COND-00002	24590-CM-POA-ME00-00003-04-00004, Sheet 2 of 3, Sheet 3 of 3	00C	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6
Equipment Assembly for After-Condenser DEP-COND-00003	24590-CM-POA-ME00-00003-04-00001, Sheet 2 of 3, Sheet 3 of 3	00C	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6
Equipment Assembly for Evaporator Feed Prefilter DEP-FILT-00003	24590-CM-POA-MLF0-00005-05-00004 Sheet 1 of 3	00C	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6 Code 1
Mechanical Data Sheets					
Mechanical Data Sheet for Low-Point Drain Vessel DEP-VSL-00001	24590-BOF-MVD-DEP-00002	2	III.10.E.9.c.ii	Y	To be incorporated into Appendix 13.6
<ul style="list-style-type: none"> EMF Process Vessels - Applying Corrosion/Erosion Allowance to Internal Vessel Components and Design Life Analysis Exception 	24590-WTP-SDDR-MS-17-00118	N/A		Y	To be incorporated into Appendix 13.6
Mechanical Data Sheet for Concentrate Feed Vessel DEP-VSL-00002	24590-BOF-MVD-DEP-00003	1	III.10.E.9.c.ii	Y	To be incorporated into Appendix 13.6
<ul style="list-style-type: none"> EMF Process Vessels - Substitute Seamless Pipe with Welded Pipe 	24590-WTP-SDDR-MS-17-00106	N/A		Y	To be incorporated into Appendix 13.6
Mechanical Data Sheet for Concentrate Vessel DEP-VSL-00003 A/B/C	24590-BOF-MVD-DEP-00004	1	III.10.E.9.c.ii	Y	To be incorporated into Appendix 13.6
<ul style="list-style-type: none"> Eductor Configuration for DEP-VSL-00003A/B/C 	24590-WTP-SDDR-MS-17-00128	N/A		Y	To be incorporated into Appendix 13.6
Mechanical Data Sheet for Evaporator Separator Vessel DEP-EVAP-00001	24590-BOF-MVD-DEP-00009	1	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6
<ul style="list-style-type: none"> Material Change for DEP-EVAP-00001 and DEP-RBLR-00001 Body Flanges and Location Change for DEP-EVAP-00001 Trunnions 	24590-BOF-MEN-DEP-00001	N/A		Y	To be incorporated into Appendix 13.6
<ul style="list-style-type: none"> DEP-EVAP-00001 Nozzle N06 Material 	24590-WTP-SDDR-MS-17-00056	N/A		Y	To be incorporated into Appendix 13.6
<ul style="list-style-type: none"> DEP-EVAP-00001 and DEP-RBLR-00001 Nozzle Materials 	24590-WTP-SDDR-MS-17-00097	N/A		Y	To be incorporated into Appendix 13.6
Mechanical Data Sheet for Evaporator Reboiler DEP-RBLR-00001	24590-BOF-MBD-DEP-00001	1	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6
<ul style="list-style-type: none"> Updating Corrosion Allowance for DEP Evaporator Reboiler and DEP Evaporator Primary Condenser Data Sheets 	24590-BOF-M0N-DEP-00001	N/A		Y	To be incorporated into Appendix 13.6

Document Title	Document Number	Revision	Permit Condition	Included	Remarks
• Exceeding NTE Weight for DEP-RBLR-00001	24590-WTP-SDDR-MS-17-00135	N/A		Y	To be incorporated into Appendix 13.6
Mechanical Data Sheet for Plate and Frame Heat Exchanger DEP-HX-00001	24590-BOF-MED-DEP-00001	0	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6
• Design Pressure and Temperature for Plate and Frame Heat Exchangers	24590-WTP-SDDR-MS-17-00140	N/A		Y	To be incorporated into Appendix 13.6
Mechanical Data Sheet for Evaporator Primary Condenser DEP-COND-00001	24590-BOF-MED-DEP-00004	1	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6
Mechanical Data Sheet for Evaporator Inter-Condenser DEP-COND-00002	24590-BOF-MED-DEP-00005	1	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6
• Exceeding NTE Dimensions and Weights for DEP-COND-00002 and -00003 and Using 300# Flanges for DEP-EJCTR-00001A/B and -00002A/B	24590-WTP-SDDR-MS-17-00131	N/A		Y	To be incorporated into Appendix 13.6
• SDDR for SA-312 instead of SA-240 for DEP-COND-00002 and -00003 Shell and Channel	24590-WTP-SDDR-MS-17-00139	N/A		Y	To be incorporated into Appendix 13.6
Mechanical Data Sheet for DEP Evaporator After-Condenser DEP-COND-00003	24590-BOF-MED-DEP-00006	1	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6
Mechanical Data Sheet for Evaporator Feed Prefilter DEP-FILT-00003	24590-CM-POA-MLF0-00005-08-00001	00D	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.6
Specifications					
Engineering Specification for DFLAW Effluent Management Facility Atmospheric Process Vessels	24590-BOF-3PS-MVSC-T0002	3	III.10.E.9.c.ii	Y	To be incorporated into Appendix 13.7
Engineering Specification for DEP Evaporator Separator Vessel, DEP Evaporator Reboiler and DEP Evaporator Primary Condenser	24590-BOF-3PS-MEVV-T0001	2	III.10.E.9.c.ii	Y	To be incorporated into Appendix 13.7
Engineering Specification for DFLAW Effluent Management Facility Plate and Frame Heat Exchangers	24590-BOF-3PS-MEP0-T0001	1	III.10.M.9.c.ii	Y	To be incorporated into Appendix 13.7
• Extent of PMI on Plate and Frame Heat Exchangers	24590-WTP-SDDR-MS-17-00083	N/A		Y	To be incorporated into Appendix 13.7
Engineering Specification for EMF DFLAW Low Point Drain Vessel Discharge Pumps	24590-BOF-3PS-MPV0-T0001	1	III.10.E.9.d.ii	Y	To be incorporated into Appendix 13.7
Engineering Specification for DFLAW EMF Evaporator Feed Prefilter	24590-BOF-3PS-MLF0-T0002	1	III.10.E.9.d.ii	Y	To be incorporated into Appendix 13.7
Engineering Specification for EMF Centrifugal Pumps	24590-BOF-3PS-MPC0-T0001	2	III.10.E.9.d.ii	Y	To be incorporated into Appendix 13.7

Document Title	Document Number	Revision	Permit Condition	Included	Remarks
• SCN for Correction Typos in DFLAW EMF Specifications	24590-BOF-3PN-M40T-00001	N/A		Y	To be incorporated into Appendix 13.7
• SDDR for DEP-PMP-00015C Seal Chamber Cover Casting PMI	24590-WTP-SDDR-MS-17-00136	N/A		Y	To be incorporated into Appendix 13.7
Engineering Specification for Submersible Centrifugal Sump Pumps	24590-BOF-3PS-MPVS-T0001	1	III.10.E.9.d.ii	Y	To be incorporated into Appendix 13.7
• EMF Sump Pumps – Motors Testing	24590-WTP-SDDR-MS-17-00022	N/A		Y	To be incorporated into Appendix 13.7
• EMF Sump Pumps – Nameplates	24590-WTP-SDDR-MS-17-00032	N/A		Y	To be incorporated into Appendix 13.7
• Destructive PMI Testing for EMF Sump Pumps	24590-WTP-SDDR-MS-17-00158	N/A		Y	To be incorporated into Appendix 13.7
Engineering Specification for Positive Material Identification (PMI) for Shop Fabrication	24590-WTP-3PS-G000-T0002	9	III.10.E.9.c.ii	N	In Appendix 7.7
Permit Documents					
Permit Document- System Logic Description for the Direct Feed LAW Effluent Management Facility Process System (DEP)	24590-BOF-PER-J-16-001	1	III.10.E.9.d.v.ii	Y	To be incorporated into Appendix 13.13
Permit Document- Description of Access for Conducting Integrity Assessments	24590-WTP-PER-M-02-005	2	III.01.E.9.b.ix	N	In Appendix 7.15
Administrative Record					
System Design Description- WTP Direct Feed Low Activity Waste (DFLAW) Facility and System Design Descriptions	24590-BOF-3ZD-25-00001	1	III.10.E.9.d.viii III.10.E.9.d.x	Y	To be incorporated into Administrative Record
Process Inputs Basis of Design (PIBOD) for LAW and EMF (mass balance document)	24590-WTP-DB-PET-17-001	0	III.10.E.9.d.xi III.10.E.9.d.x	Y	To be incorporated into Administrative Record
Permit Document- Control of Toxic Vapors and Emissions from WTP Tank and Miscellaneous Unit Systems	24590-WTP-PER-PR-03-002	4	III.10.E.9.c.xii III.10.M.9.c.xii	Y	To be incorporated into Administrative Record
Permit Document- Prevention of Hydrogen Accumulation in WTP Tank Systems and Miscellaneous Treatment Unit Systems	24590-WTP-PER-PR-03-001	2	III.10.E.9.c.xi III.10.M.9.c.xi	N	In Administrative Record
Supplemental Documents to Support Review					
Equipment Assembly DEP Evaporator Separator Vessel DEP-EVAP-00001	24590-BOF-ME-DEP-00001001	1		N	Included to support the public review
Equipment Assembly DEP Evaporator Reboiler DEP-RBLR-00001	24590-BOF-ME-DEP-00002001	1		N	Provided to support the public review

Document Title	Document Number	Revision	Permit Condition	Included	Remarks
Equipment Assemble DEP Evaporator Primary Condenser DEP-COND-00001	24590-BOF-ME-DEP-00003001	1		N	Provided to support the public review
Design Proposal Drawing Equipment Assemble Low Point Drain Vessel DEP-VSL-00001	24590-BOF-MV-DEP-00001001	1		N	Provided to support the public review
Design Proposal Drawing Equipment Assembly Evaporator Feed Vessel DEP-VSL-00002	24590-BOF-MV-DEP-00002001	1		N	Provided to support the public review
Design Proposal Drawing Equipment Assembly Evaporator Concentrate Vessel DEP-VSL-00003A	24590-BOF-MV-DEP-00003001	1		N	Provided to support the public review
Design Proposal Drawing Equipment Assembly Evaporator Concentrate Vessel DEP-VSL-00003B	24590-BOF-MV-DEP-00004001	1		N	Provided to support the public review
Design Proposal Drawing Equipment Assembly Evaporator Concentrate Vessel DEP-VSL-00003C	24590-BOF-MV-DEP-00005001	1		N	Provided to support the public review