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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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

July 23, 2007

Mr. David A. Brockman, Manager  
Richland Operations Office  
United States Department of Energy  
P.O. Box 550, MSIN: A7-50  
Richland, Washington 99352

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

Mr. Pete J. Garcia Jr., Director  
Safety and Engineering Division  
United States Department of Energy  
P.O. Box 550, MSIN: A5-17  
Richland, Washington 99352

Mr. Charles G. Spencer, President  
Washington Closure Hanford, LLC  
2620 Fermi Avenue, MSIN: H4-24  
Richland, Washington 99354

Ms. Jennifer L. Nuzum, Director  
Environmental Protection  
Fluor Hanford Inc.  
P.O. Box 1000, MSIN: H8-12  
Richland, Washington 99352

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

Mr. Roby D. Enge, Director  
Environment, Safety, Health and Quality  
Pacific Northwest National Laboratory  
P.O. Box 999, MSIN: K1-38  
Richland, Washington 99352

Mr. Moussa N. Jaraysi, Vice President  
Environmental Programs  
CH2M HILL Hanford Group, Inc.  
P.O. Box 1500, MSIN: H6-03  
Richland, Washington 99352

Re: United States Department of Energy Letter, dated July 10, 2007, *Class 1 Modifications to the Hanford Facility Dangerous Waste and Resource Conservation and Recovery Act Permit (Quarter Ending June 30, 2007)*

Dear Ladies and Gentlemen:

The Department of Ecology reviewed the referenced quarterly Class 1 and Class 1<sup>1</sup> Modifications. You will find the results of that review on the following page. Enclosed are Modification Notification Forms indicating the changes.

RECEIVED  
JUL 30 2007

EDMC



**Part III, Operating Unit 3, LERF/ETF**

<b>Page 2 of 77:</b>	Hanford Facility RCRA Permit, III.3	Approved
<b>Page 3 of 77:</b>	Chapter 3.0, §3.1	Approved
<b>Page 4 of 77:</b>	Chapter 3.0, §3.1.1	Approved
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<b>Page 7 of 77:</b>	Chapter 3.0, Figure 3.1	Approved
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Mr. David A. Brockman *et al.*

July 23, 2007

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Page 48 of 77:	Chapter 4.0, Table 4.5	Approved
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Page 54 of 77:	Chapter 6.0, §6.3.1.2	Approved
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Page 57 of 77:	Chapter 7.0, §7.0	Approved
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Page 75 of 77:	Chapter 7.0, §7.5	Approved
Page 76 of 77:	Chapter 7.0, §7.6	Approved
Page 77 of 77:	Chapter 7.0, §7.7	Approved

**Part III, Operating Unit 4, 242A Evaporator**

Page 2 of 4:	Hanford Facility RCRA Permit, III.4	Approved
Page 3 of 4:	Chapter 4.0, §4.1.3	Approved
Page 4 of 4:	Chapter 4.0, §4.1.8	Approved

Mr. David A. Brockman *et al.*  
July 23, 2007  
Page 4

**Part III, Operating Unit 10, WTP**

24590-HLW-PCN-ENV-06-016	4-17-07	Approved
24590-PTF-PCN-ENV-06-012	6-04-07	Approved
24590-HLW-PCN-ENV-06-010	6-06-07	Approved
24590-WTP-PCN-ENV-07-001	6-07-07	Approved
24590-HLW-PCN-ENV-06-021	6-26-07	Denied

If you have any questions, please contact me at 509-372-7894.

Sincerely,



Greta P. Davis  
Dangerous Waste Permitting Coordinator  
Nuclear Waste Program

pll

Enclosures

cc w/enc:

Tony McKarns, USDOE  
Woody Russell, USDOE  
Tony Miskho, FH  
Suzette Thompson, FH  
Megan Proctor, WCH  
Stuart Harris, CTUIR  
Gabriel Bohnee, NPT  
Russell Jim, YN  
Susan Leckband, HAB  
Ken Niles, ODOE  
Administrative Record: HSWP H-0-2  
Environmental Portal  
HF OR Gen. File

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Hanford Facility RCRA Permit III.3:

**PART III, OPERATING UNIT 3 UNIT-SPECIFIC CONDITIONS**

**Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility**

The Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility (LERF and 200 Area ETF) consists of an aqueous waste treatment system that provides storage and treatment for a variety of aqueous mixed waste located in the 200 East Area.

This document sets forth the operating conditions for the LERF and 200 Area ETF.

**III.3.A COMPLIANCE WITH PERMIT CONDITIONS**

The Permittees shall comply with all requirements set forth in the Hanford Facility RCRA Permit (Permit) as specified in Permit Attachment 3, Permit Applicability Matrix, including all approved modifications. All chapters, subsections, figures, tables, and appendices included in the following unit-specific Permit Conditions are enforceable in their entirety.

In the event that the Part III-Unit-Specific Conditions for Operating Unit 3, LERF and 200 Area ETF conflict with the Part I-Standard Conditions and/or Part II-General Facility Conditions of the Permit, the unit-specific conditions for Operating Unit 3, LERF and 200 Area ETF prevail.

**OPERATING UNIT 3:**

- Chapter 1.0 Part A Form, Revision 0, dated May 2005
- Chapter 2.0, §2.1 Topographic Map (refer to Chapter 1.0)
- Chapter 3.0 Waste Analysis Plan, dated ~~June 30, 2007~~ ~~October 2006~~
- Chapter 4.0 Process Information, dated ~~June 30, 2007~~ ~~October 2006~~
- Chapter 5.0 Groundwater Monitoring (PNNL-11620 & WHC-SD-EN-AP-024), dated ~~October 2006~~
- Chapter 6.0 Procedures to Prevent Hazards, dated ~~June 30, 2007~~ ~~March 31, 2007~~ (also refer to Permit Attachment 33, §6.1)
- Chapter 7.0 Contingency Plan, dated ~~June 30, 2007~~ ~~March 31, 2007~~
- Chapter 8.0 Personnel Training, dated October 2006
- Chapter 11.0 Closure and Postclosure Requirements, dated October 2006
- Chapter 12.0 Reporting and Recordkeeping (refer to Permit Attachment 33, Table 12.1)

**III.3.B UNIT-SPECIFIC CONDITIONS FOR LERF AND 200 AREA ETF**

**III.3.B.1** Portions of Permit Attachment 4, *Hanford Emergency Management Plan*, (DOE/RL-94-02) that are not made enforceable by inclusion in the applicability matrix for that document are not made enforceable by reference in this document.

WAC 173-303-830 Modification Class	Class 1	Class '1	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*G. P. Davis* 6/5/07

G. P Davis

Date

### Hanford Facility RCRA Permit Modification Notification Form

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.1:

**3.1 INTRODUCTION**

In accordance with the federal and state regulations set forth in 40 Code of Federal Regulations (CFR) 264.13 and in Washington State Department of Ecology (Ecology) *Dangerous Waste Regulations*, Washington Administrative Code (WAC) 173-303-300, this waste analysis plan (WAP) has been prepared for operation of the Liquid Effluent Retention Facility (LERF) and the 200 Area Effluent Treatment Facility (200 Area ETF) located in the 200 East Area on the Hanford Site, Richland, Washington.

The Permittees shall comply with all the requirements, subsections, figures, tables, and appendices, included this Waste Analysis Plan for Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility, ~~except that the "Wastewater Profile Sheet Form" is included as an example only. The actual Wastewater Profile Sheet format may vary, but will contain the same substantive information as the example form.~~

The purpose of this WAP is to document the sampling and analytical methods, and describe the procedures used for all dangerous waste managed in the specific treatment storage, and disposal (TSD) units identified in Chapter 1.0 (Part A Form). This WAP also documents the requirements for generators sending aqueous waste to the LERF or 200 Area ETF for treatment. Throughout this WAP, the term generator includes any Hanford Site unit, including TSD units, whose process produces an aqueous waste.

The TSD units include a surface impoundment (LERF), which provides treatment and storage, a tank system at 200 Area ETF, which provides treatment and storage, and a container management area at 200 Area ETF, which provides drum storage and treatment. Additionally, this WAP discusses the sampling and analytical methods for the treated effluent (treated aqueous waste) that is discharged from 200 Area ETF as a non-dangerous, delisted waste to the State-Approved Land Disposal Site (SALDS). Specifically, the WAP delineates the following:

- Influent Waste Acceptance Process - determines the acceptability of a particular aqueous waste at the LERF or 200 Area ETF pursuant to applicable Permit conditions, regulatory requirements, and operating capabilities prior to acceptance of the waste at the LERF or 200 Area ETF for treatment or storage. Refer to Section 3.2.
- Special Management Requirements - identifies the special management requirements for aqueous wastes managed in the LERF or 200 Area ETF. Refer to Section 3.3.
- Influent Aqueous Waste Sampling and Analysis - describes influent sampling and analyses used to characterize an influent aqueous waste to ensure proper management of the waste and for compliance with the special management requirements. Also includes rationale for analyses. Refer to Section 3.4.
- Treated Effluent Sampling and Analysis - describes sampling and analyses of treated effluent (i.e., treated aqueous waste) for compliance with State Waste Discharge Permit (Ecology 1995a2000) and Final Delisting [40 CFR 261, Appendix IX, Table 2, 70 FR 44496 (EPA, 19952005)] limits. Also includes rationale for analyses. Refer to Section 3.5.
- 200 Area ETF Generated Waste Sampling and Analysis - describes the sampling and analyses used to characterize the secondary waste streams generated from the treatment process and to characterize waste generated from maintenance and operations activities. Also includes rationale for analyses. Refer to Section 3.6.
- Quality Assurance and Quality Control - ensures the accuracy and precision of sampling and analysis activities. Refer to Section 3.7.

This WAP meets the specific requirements of the following:

- Land Disposal Restrictions Treatment Exemption for the LERF under 40 CFR 268.4, U.S. Environmental Protection Agency, December 6, 1994 (Appendix CEPA 1994)
- Final Delisting for 200 Area ETF, 40 CFR 261, Appendix IX, Table 2, (EPA-199570 FR 44496 (EPA 2005))
- Washington State Waste Discharge Permit, No. ST 4500, as amended, (Ecology 2000)
- Hanford Facility RCRA Permit WA7890008967 (Permit)
- This plan also includes the specific elements of a WAP, as identified in the *Dangerous Waste Permit Application Requirements* (Ecology 1996a).
- Chapter 5.0, Groundwater Monitoring addresses groundwater monitoring.

The conditions of the Washington State Discharge Permit, Number ST 4500 (Discharge Permit) are included in this WAP for completeness, although they are not within the scope of RCRA or WAC 173-303. Therefore, revisions of this WAP that are not governed by the requirements of WAC 173-303 will not be considered as a modification subject to review or approval by Ecology. However, any revisions to this WAP will be incorporated into the Permit at least annually through the modification process.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

G. P. Davis 6/5/07

G. P Davis

Date

### Hanford Facility RCRA Permit Modification Notification Form

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, §3.1.1:

**3.1.1 Liquid Effluent Retention Facility and Effluent Treatment Facility Description**

The LERF and 200 Area ETF comprise an aqueous waste treatment system located in the 200 East Area (Figure 3-1). Both LERF and 200 Area ETF may receive aqueous waste through several inlets. 200 Area ETF generally receives can receive aqueous waste through three inlets. First, 200 Area ETF can receive aqueous waste directly from the LERF. However, Second, aqueous waste can be transferred from the Load-In Station to 200 Area ETF. Third, aqueous waste can be transferred from containers (e.g., carboys, drums) to the 200 Area ETF through either the Secondary Waste Receiving Tanks or the Concentrate Tanks. The Load-In Station is located just east of 200 Area ETF and currently consists of two 37,854-liter storage tanks and a pipeline that connects to either LERF or 200 Area ETF through fiberglass pipelines with secondary containment.

The LERF can receive aqueous waste through four inlets. First, aqueous waste can be transferred to LERF through a dedicated pipeline from the 200 West Area. Second, aqueous waste can be transferred through a pipeline that connects LERF with the 242-A Evaporator. Third, aqueous waste also can be transferred to LERF from a pipeline that connects LERF to the Load-In Station at 200 Area ETF. Finally, aqueous waste can be transferred into LERF through a series of sample ports located at each basin.

The LERF consists of three lined surface impoundments with a nominal capacity of 29.5 million liters each. Aqueous waste from LERF is pumped to 200 Area ETF through a double-walled fiberglass pipeline. The pipeline is equipped with leak detection located in the annulus between the inner and outer pipes. Each basin is equipped with six available sample risers constructed of 6-inch-perforated pipe. A seventh sample riser in each basin is dedicated to influent waste receipt piping, and an eighth riser in each basin contains liquid level instrumentation. Each riser extends along the sides of each basin from the top to the bottom of the basin. Detailed information on the construction and operation of the LERF is provided in Chapter 4.0.

200 Area ETF is designed to treat the contaminants anticipated in process condensate (PC) from the 242-A Evaporator and other aqueous wastes from the Hanford Site. Section 3.1.2 provides more information on the sources of these wastes.

The capabilities of 200 Area ETF were confirmed through pilot plant testing. A pilot plant was used to test surrogate solutions that contained constituents of concern anticipated in aqueous wastes on the Hanford Site. The pilot plant testing served as the basis for a demonstration of the treatment capabilities of 200 Area ETF in the 200 Area Effluent Treatment Facility Delisting Petition (DOE/RL-92-72).

200 Area ETF consists of a primary and a secondary treatment train (Figure 3.12). The primary treatment train removes or destroys dangerous and mixed waste components from the aqueous waste. In the secondary treatment train, the waste components are concentrated and dried into a powder. This waste is containerized, and transferred to a waste TSD unit.

Each treatment train consists of a series of operations. The primary treatment train includes the following:

- Surge tank
- Rough filter
- Ultraviolet light oxidation (UV/OX)
- pH adjustment
- Hydrogen peroxide decomposer
- Fine filter
- Degasification
- Reverse osmosis (RO)
- Polisher [ion exchange (IX) column]
- Final pH adjustment and verification

The secondary treatment train uses the following systems:

- Secondary waste receiving tanks
- Evaporator (mechanical vapor recompression)
- Concentrate tank
- Thin film dryer
- Container handling
- Supporting systems

A dry powder waste is generated from the secondary treatment train, from the treatment of an aqueous waste. The secondary waste treatment system typically receives and processes by-products generated from the primary treatment train. However, in an alternate operating scenario, some aqueous wastes may be fed to the secondary treatment train before the primary treatment train. Detailed information on the treatment trains and the unit operations is provided in Chapter 4.0.

The treated effluent is contained in verification tanks where the effluent is sampled to confirm that the effluent meets the 'delisting' criteria. Under 40 CFR 261, Appendix IX, Table 2, 70 FR 44496, the treated effluent from 200 Area ETF is considered a delisted waste; that is, the treated effluent is no longer a dangerous or hazardous waste subject to the hazardous waste management requirements of RCRA. The treated effluent is discharged under the Discharge Permit as a nondangerous, delisted waste to the SALDS, located in the 600 Area, north of the 200 West Area (Figure 3-1). Some delisted [treated] wastewater is recycled in from the treatment process. Verification tank water is recycled throughout the facility; for example, it is used to dilute bulk acid and caustic to meet processing needs reducing the demand for process water.

<b>WAC 173-303-830 Modification Class</b>	<b>Class 1</b>	<b>Class 1</b>	<b>Class 2</b>	<b>Class 3</b>
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

G. P. Davis 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.1.2:

**3.1.2 Sources of Aqueous Waste**

200 Area ETF was intended and designed to treat a variety of mixed wastes. However, PC from the 242-A Evaporator was the only mixed waste identified for storage and treatment in the LERF and 200 Area ETF. As cleanup activities at Hanford progress, many of the aqueous wastes generated from site remediation and waste management activities are sent to the LERF and 200 Area ETF for treatment and storage.

The PC is a dangerous waste because it is derived from a listed, dangerous waste stored in the Double-Shell Tank (DST) System and because of the ammonia content. The DST waste is transferred to the 242-A Evaporator where the waste is concentrated through an evaporation process. The concentrated slurry waste is returned to the DST System, and the evaporated portion of the waste is recondensed, collected, and transferred as PC to the LERF.

Other aqueous wastes that are treated and stored at the LERF and 200 Area ETF include, but are not limited to the following Hanford wastes: contaminated groundwater from pump-and-treat remediation activities, such as groundwater from the 200-UP-1 Operable Unit; purgewater from groundwater monitoring activities; water from deactivation activities, such as water from the spent fuel storage basins at deactivated reactors (e.g., N Reactor); laboratory aqueous waste from unused samples and sample analyses; and leachate from landfills, such as the Environmental Restoration Disposal Facility.

Most of these aqueous wastes are accumulated in batches in a LERF basin for interim storage and treatment through pH and flow equalization before final treatment in 200 Area ETF. However, some aqueous wastes, such as 200-UP-1 Groundwater, may flow through LERF en route to 200 Area ETF for final treatment. The constituents in these aqueous wastes are common to the Hanford Site and were considered in pilot plant testing or vendor tests, either as a constituent or as a family of constituents.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1'	Class 2	Class 3
X			

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*G. P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.2.1.1:

**3.2.1.1 Waste Characterization**

Because the constituents in the individual aqueous waste streams vary, each stream is characterized and evaluated for acceptability on a case-by-case basis. The generator is required to designate an aqueous waste, which generally will be backed up by analytical data. However, a generator may use process knowledge to substantiate the waste designation, or for general characterization information. Examples of acceptable process knowledge include the following:

- Documented data or information on processes similar to that which generated the aqueous waste stream
- Information/documentation that dangerous waste constituents are from specific, well documented processes, e.g., F-listed wastes
- Information/documentation that sampling/analyzing a waste stream would pose health and safety risks to personnel
- Information/documentation that the waste does not lend itself to collecting a laboratory sample, for example, wastewater collected (e.g., sump, tank) where the source water characterization is documented.

When a generator submits process knowledge for the characterization of a dangerous and/or mixed waste stream, LERF and 200 Area ETF personnel review the process knowledge as part of the waste acceptance process. Specifically, LERF and 200 Area ETF personnel review the generator's processes to verify the integrity of the process knowledge, and determine whether the process knowledge is current and consistent with current regulations. LERF/200 Area ETF management or their designee determines the final decision on the adequacy of the process knowledge. The persons reviewing generator process knowledge and those making decisions on the adequacy of process knowledge are trained according to the requirements of the Dangerous Waste Training Plan (Chapter 8.0).

The generator is also responsible for identifying Land Disposal Restrictions (LDRs) that would be applicable to the influent aqueous waste as part of the characterization, as required under 40 CFR 268.40 and WAC 173-303-140. Because the 200 Area ETF is a Clean Water Act - equivalent TSD unit (40 CFR 268.37(a)), the generator is not required to identify the underlying hazardous constituents (40 CFR 286.48).

WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class 1	Class 2	Class 3
	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*G. P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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Description of Modification:

Chapter 3.0, Figure 3.1:

Figure 3.1. Location of the LERF and 200 Area ETF, and the State Approved Land Disposal Site

Delete and renumber figures.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*G. P. Davis*      6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.2.1.2:

**3.2.1.2 Aqueous Waste Profile Sheet**

The WPS documents the characterization of each new aqueous waste stream. The profile includes a detailed description of the volume, source, ~~regulatory history~~ waste designation, and the chemical and physical nature of the aqueous waste. For an aqueous waste to be accepted for treatment or storage in the LERF or 200 Area ETF, each new waste stream generator is required to complete and provide this form to LERF and 200 Area ETF management. Each generator also is required to provide the analytical data and process knowledge used to designate the aqueous waste stream, and to determine the chemical and physical nature of the waste. ~~This form could be modified to accommodate changes in regulations, operational concerns at the LERF or ETF, Hanford Facility needs, or other needs. However, the basic elements of the example form (e.g., waste source information) will be maintained in any future revision.~~

The LERF and 200 Area ETF management determine whether the information on the WPS is sufficient. The LERF and 200 Area ETF management use this information to evaluate the acceptability of the aqueous waste for storage and treatment in the LERF and 200 Area ETF, and to determine if the aqueous waste can be handled properly.

WAC 173-303-830 Modification Class	Class 1	Class 1	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*G. P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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Description of Modification:

Chapter 3.0, §3.2.2.1:

**3.2.2.1 Regulatory Acceptability**

Each aqueous waste stream is evaluated on a case-by-case basis to determine if there are any regulatory concerns that would preclude the storage or treatment of a waste in the LERF or 200 Area ETF. Before an aqueous waste can be stored or treated in either the LERF or 200 Area ETF, the regulatory history waste designation must be determined. Information on the regulatory history waste designation of an aqueous waste is documented in the WPS. This information is used to confirm that treating or storing the aqueous waste in the LERF or 200 Area ETF is allowed under and in compliance with WAC 173-303, ~~Operating Unit 3~~ RCRA Permit, Final Delisting for 200 Area ETF, and the Discharge Permit for 200 Area ETF.

WAC 173-303-830 Modification Class	Class 1	Class 1	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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A.1. General Permit Provisions, Administrative and informational changes

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*G. P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:

**LERF/200 Area ETF**

Permit Part

**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.2.2.1.1:

**3.2.2.1.1. Dangerous Waste Regulations/Permits**

Before an aqueous waste stream is sent to the LERF or 200 Area ETF, the generator will characterize and designate the stream with the appropriate dangerous/hazardous waste numbers according to WAC 173-303-070. The LERF and 200 Area ETF Part A Form, and the Final Delisting for 200 Area ETF identify the specific waste numbers for dangerous/mixed waste that can be managed in the LERF and 200 Area ETF. Dangerous waste designated with waste numbers not specified in Chapter 1.0 (Part A Form) cannot be treated or stored in the LERF or 200 Area ETF, ~~until unless~~ the ~~Part A Form~~ Permit is modified.

Additionally, aqueous wastes designated with listed waste numbers identified in the Final Delisting will be managed in accordance with the conditions of the delisting, or an amended delisting. Accordingly, the acceptance criteria in this evaluation are satisfied through compliance with the Chapter 1.0, (Part A Form), and the Final Delisting.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1

Class 1

Class 2

Class 3

X

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

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Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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Description of Modification:

Chapter 3.0, §3.2.2.1.2:

**3.2.2.1.2 State Waste Permit Regulations/Permit**

Compliance with the Discharge Permit constitutes another waste acceptance criterion. In accordance with the conditions of the Discharge Permit, the constituents of concern in each new aqueous waste stream must be identified. The ~~regulatory history~~ waste designation and characterization data provided by the generator are used to identify these constituents. A constituent of concern, under the conditions of the Discharge Permit, in an aqueous waste stream is defined as any contaminant with a maximum concentration greater than one of the following:

- Any limit in the Discharge Permit (Ecology ~~1995a~~2000)
- Groundwater Quality Criteria (WAC 173-200)
- Final Delisting levels (EPA ~~1995~~2005)
- Background groundwater concentrations as measured at 200 Area ETF disposal site. The practical quantification limit (POL) is used for the groundwater background concentration for constituents not analyzed or not detected in the SALDs background data.

The conditions of the Discharge Permit also require a demonstration that 200 Area ETF can treat the constituents of concern to below discharge limits.

WAC 173-303-830 Modification Class	Class 1	Class 1	Class 2	Class 3
Please mark the Modification Class:	X			

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A.1. General Permit Provisions, Administrative and informational changes

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Reason for denial:

Reviewed by Ecology:

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G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.2.2.1.3:  
3.2.2.1.3 Treatability

The process of determining treatability involves two steps. The first step is to establish the treatment efficiencies for the constituents of concern in an influent aqueous waste. The treatment efficiencies must be sufficient such that the treated effluent will meet the Discharge Permit and Delisting limits. The pilot plant testing provided destruction and removal (i.e., treatment) efficiencies for most of the anticipated constituents in aqueous waste streams at the Hanford Site, and are documented in the *200 Area Effluent Treatment Facility Delisting Petition* (DOE/RL-92-72). Information or studies from the vendors of the individual treatment units' studies may also be used on a case-by-case basis to develop treatment efficiencies for 200 Area ETF or for the individual treatment units. Chapter 4.0 provides a detailed discussion of the individual treatment units. Treatment efficiencies also may be determined or confirmed by 200 Area ETF operating data.

The second step in determining treatability is to identify those physical and chemical properties in an aqueous waste that would interfere with, or foul 200 Area ETF treatment process. This step focuses on the potential of a waste stream to interfere with the destruction efficiency of organic compounds in the UV/OX system, rejection rates of the RO membranes, or foul the filtration systems. Generally, the operating parameters or operating configuration at the LERF or 200 Area ETF can be adjusted or modified to accommodate these properties. However, in those cases where a treatment process or operating configuration cannot be modified, the aqueous waste stream will be excluded from treatment or storage at the LERF or 200 Area ETF.

Additionally, an aqueous waste stream is evaluated for the potential to deposit solids in a LERF basin (i.e., an aqueous waste that contains sludge). This evaluation will also consider whether the blending or mixing of two or more aqueous waste streams will result in the formation of a precipitate. However, because the waste streams managed in the LERF and 200 Area ETF are generally dilute, the potential for mixing waste streams and forming a precipitate is low; no specific compatibility tests are performed. If necessary, filtration at the waste source could be required before acceptance into LERF based on total suspended solids analysis or process knowledge of the waste.

To determine if an aqueous waste meets the criterion of treatability, specific information is required. Treatment efficiencies will be developed from characterization data provided by the generator. Generators will also provide characterization data to identify those physical and chemical properties that would interfere with, or foul 200 Area ETF treatment process. In some instances, process knowledge may be adequate to identify a chemical or physical property that would be of concern. For example, the generator could provide process knowledge that the stream has two phases (an oily phase and an aqueous phase). In this case, if the generator could not physically separate the two phases, the aqueous waste stream would be rejected because the oily phase could compromise some of the treatment equipment. Typically, analyses for the following parameters are required to evaluate treatability and operational concerns:

- total dissolved solids
- total organic carbon
- total suspended solids
- magnesium specific conductivity
- potassium pH
- barium alkalinity
- nitrate ammonia
- sulfate
- manganese barium
- bromide calcium
- chloride
- specific conductivity fluoride
- pH iron
- calcium magnesium
- sodium nitrate
- silicate nitrite
- iron phosphate
- chloride potassium
- aluminum silicon
- phosphate sodium
- sulfate

These constituents are identified in Table 3.2

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1'	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

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G. P Davis

Date

### Hanford Facility RCRA Permit Modification Notification Form

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.2.2.1.4:

**3.2.2.1.4 Compatibility**

**Corrosion Control.** Because of the materials of construction used in 200 Area ETF, corrosion is generally not a concern with new aqueous waste streams. Additionally, these waste streams are managed in a manner that minimizes corrosion. To ensure that a waste will not compromise the integrity of 200 Area ETF tanks and process equipment, each waste stream is assessed for its corrosion potential as part of the compatibility evaluation. This assessment usually focuses on chloride and fluoride concentrations; however, the chemistry of each new waste also is evaluated for other parameters that could cause corrosion.

**Compatibility with Liquid Effluent Retention Facility Liner and Piping.** As part of the acceptance process, the criteria of compatibility with the LERF liner materials are evaluated for each aqueous waste stream. The evaluation for liner compatibility is documented as part of the waste acceptance process. The chemical parameters or constituents considered for liner compatibility are identified in Table 3.1. The analytical methods for these parameters and constituents are provided in Section 3.499.

The high-density polyethylene liners in the LERF basins potentially are vulnerable to the presence of certain constituents that might be present in some aqueous waste. Using EPA SW-846 Method 9090 (EPA-1996), the liner materials were tested to evaluate compatibility between aqueous waste stored in the LERF and synthetic liner components. Based on the data from the compatibility test and vendor data on the liner materials, several constituents and parameters were identified as potentially harmful (at high concentrations) to the integrity of the liners. From these data and the application of safety factors, concentration limits in Table 3.1 were established.

~~Except for PC, the~~ The strategy for protecting the integrity of a LERF liner is to establish upfront that an aqueous waste is compatible before the waste is accepted into LERF. Characterization data on each new aqueous waste stream are compared to the limits outlined in Table 3.1 to ensure compatibility with the LERF liner material before acceptance into the LERF.

~~PC from each 242 A Evaporator campaign is sampled and analyzed, and the results compared to the limits in Table 3.1 to ensure continued compatibility with the liner. Additionally, before~~ Before a waste stream is processed at the 242-A Evaporator, the generator reviews DST analytical data are reviewed and administrative and process controls a PC profile is developed and implemented to ensure that PC is compatible with the LERF liner. For flow-through aqueous wastes like the 200-UP-1 Groundwater, characterization data will be reviewed quarterly to ensure that liner compatibility is maintained.

In some instances, process knowledge may be adequate to determine that an aqueous waste is compatible with the LERF liner. In those instances where process knowledge is adequate, the waste characterization would likely not require analysis for these parameters and constituents. Stormwater is an example where process knowledge is adequate to determine that this aqueous waste is compatible with the LERF liner.

**Compatibility with Other Waste.** Some aqueous wastes, especially small volumes, are accumulated in the LERF with other aqueous waste. Before acceptance into the LERF, the aqueous waste stream is evaluated for its compatibility with the resident aqueous waste(s). The evaluation focuses on the potential for an aqueous waste to react with another waste (40 CFR 264, Appendix V, *Examples of Potentially Incompatible Wastes*). However, the potential for problems associated with commingling aqueous wastes is very low due to the dilute nature of the wastes; this evaluation confirms the compatibility of two or more aqueous wastes from different sources. Compatibility is determined by evaluating parameters such as pH, ammonia, and chloride. No specific analytical test for compatibility is performed.

If it is determined that an aqueous waste stream is incompatible with other aqueous waste streams, alternate management scenarios are available. For example, another LERF basin that contains a compatible aqueous waste(s) might be used, or the aqueous waste stream might be fed directly into 200 Area ETF for treatment. In any case, potentially incompatible waste streams are not mixed, and all aqueous waste is managed in a way that precludes a reaction, degradation of the liner, or interference with 200 Area ETF treatment process.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class '1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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Reason for denial:

Reviewed by Ecology:

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Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, Table 3.1:

Table 3.1. General Limits for Liner Compatibility

Chemical Family	Constituent(s) or Parameter(s) <sup>1</sup>	Limit (mg/L) <sup>2</sup> (sum of constituent concentrations)
Alcohol/glycol	benzyl alcohol, 1-butanol	500,000
Alkanone <sup>3</sup>	acetone, 2-hexanone, methyl ethyl ketone, methyl isobutyl ketone, and 2-pentanone	200,000
Alkenone <sup>4</sup>	none targeted	NA
Aromatic/cyclic hydrocarbon	acetophenone, benzene, chlorobenzene, carbazole, chrysene, cresol, 1,4-dichlorobenzene, 2,4-dinitrotoluene, di-n-octyl phthalate, naphthalene, diphenylamine, isophorone, pyridine, tetrahydrofuran, toluene, xylene	2000
Halogenated hydrocarbon	arochlors, carbon tetrachloride, chloroform, 1,2-dichloroethane, 1,2-dichloroethene, 1,1-dichloroethene, hexachlorobenzene, lindane (gamma-BHC), hexachlorocyclopentadiene, methylene chloride, p-chloroaniline, tetrachloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, vinyl chloride, 2,4,6-trichlorophenol	2000
Aliphatic hydrocarbon	hexachloroethane none targeted	500,000
Ether	2-butoxyethanol, dichloroisopropyl ether	2000
Other hydrocarbons	dimethylnitrosamine, acetone, carbon disulfide, n-nitrosodimethylamine, tributyl phosphate	2000
Oxidizers	none targeted	NA
Acids, Bases, Salts	ammonium, ammonia, cyanide, anions, cations	100,000
pH	pH	0.5 < pH < 13.0

<sup>1</sup> Analytical methods for the parameters and constituents are provided in Section 3.109.

<sup>2</sup> Analytical data for a chemical family (as indicated) are summed/evaluated using the following 'sum of the fraction' technique. The individual constituent concentration, sum concentration (for families), and pH values for a waste stream are then evaluated against the compatibility limit for its chemical family. The sum of the evaluations must be less than 1. pH is not part of this evaluation.

$$\sum_{n=1}^i \left( \frac{\text{Conc}_n}{\text{LIMIT}_n} \right) \leq 1$$

<sup>3</sup> Ketone containing saturated alkyl group(s)

<sup>4</sup> Ketone containing unsaturated alkyl group(s)

Where 'i' is the number of organic constituents detected

mg/L = milligrams per liter

NA = not applicable

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1'	Class 2	Class 3
X			

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A.1. General Permit Provisions, Administrative and informational changes

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Reason for denial:

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Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, Table 3.2:

Table 0.1. Waste Acceptance Criteria

General criteria category	Criteria description																				
1. Characterization	A. Each generator must provide an aqueous waste profile.																				
	B. Each generator must designate the aqueous waste stream.																				
	C. Each generator must provide analytical data and/or process knowledge.																				
2. Regulatory acceptability	A. The LERF and 200 Area ETF can store and treat influent aqueous wastes with waste numbers identified in Chapter 1.0 (Part A Form) for the LERF and 200 Area ETF, and the Final Delisting for 200 Area ETF.																				
	B. The aqueous waste must comply with conditions of the Discharge Permit.																				
3. Operational acceptability	A. Determine whether an aqueous waste stream is treatable, considering: <ol style="list-style-type: none"> <li>1. Whether the removal and destruction efficiencies on the constituents of concern will be adequate to meet the Discharge Permit and Delisting levels</li> <li>2. Other treatability concerns; analyses for this evaluation may include:                             <table style="margin-left: 20px;"> <tr><td>total dissolved solids</td><td><del>manganese</del>iron</td></tr> <tr><td>total organic carbon</td><td>magnesium</td></tr> <tr><td>total suspended solids</td><td>nitrate</td></tr> <tr><td>specific conductivity</td><td>nitrite</td></tr> <tr><td>alkalinity</td><td>phosphate</td></tr> <tr><td><del>ammonia</del>aluminum</td><td>potassium</td></tr> <tr><td>barium</td><td>silica/silicon</td></tr> <tr><td>calcium</td><td>sodium</td></tr> <tr><td>chloride</td><td>sulfate</td></tr> <tr><td><del>fluoride</del>bromide</td><td>pH</td></tr> </table> </li> </ol>	total dissolved solids	<del>manganese</del> iron	total organic carbon	magnesium	total suspended solids	nitrate	specific conductivity	nitrite	alkalinity	phosphate	<del>ammonia</del> aluminum	potassium	barium	silica/silicon	calcium	sodium	chloride	sulfate	<del>fluoride</del> bromide	pH
	total dissolved solids	<del>manganese</del> iron																			
total organic carbon	magnesium																				
total suspended solids	nitrate																				
specific conductivity	nitrite																				
alkalinity	phosphate																				
<del>ammonia</del> aluminum	potassium																				
barium	silica/silicon																				
calcium	sodium																				
chloride	sulfate																				
<del>fluoride</del> bromide	pH																				
B. Determine whether an aqueous waste stream is compatible, considering: <ol style="list-style-type: none"> <li>1. Whether an aqueous waste stream presents corrosion concerns; analysis may include chloride and fluoride</li> <li>2. Whether an aqueous waste stream is compatible with LERF liner materials, compare characterization data to the liner compatibility limits (Table 3.1).</li> <li>3. Whether an aqueous waste stream is compatible with other aqueous waste(s). (A 40 CFR 264 Appendix V type of comparison will be employed).</li> </ol>																					

200 Area ETF = 200 Area Effluent Treatment Facility

LERF = Liquid Effluent Retention Facility

WAC 173-303-830 Modification Class	Class 1	Class 1	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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A.1. General Permit Provisions, Administrative and informational changes

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Reason for denial:

Reviewed by Ecology:

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Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.3.1:

~~3.3.1 Monitoring the Variability of Process Condensate~~

~~The Discharge Permit (Ecology 1995a, Section S5) requires sampling of PC in the LERF basins until sufficient data are collected, which adequately assess the variability of ammonia and total Kjeldahl nitrogen (TKN). The PC will be analyzed for these parameters to assess the range of concentrations present in the PC and the results reported to Ecology. In addition, the 10 highest concentrations of tentatively identified compounds (TICs) will be reported from each PC sampling event, as required by the discharge permit. Tentatively identified compounds are non-targeted organic compounds or fragments of compounds with unique chromatographic spectra that are qualitatively identified by comparing them to standard databases of spectra. Because these compounds are identified qualitatively, their concentration only can be estimated.~~

Reports have been submitted to Ecology that included the results of ammonia and TKN analysis, and the 10 highest TICs. The data in these reports suggested that there is very little variability in the PC.

WAC 173-303-830 Modification Class	Class 1	Class 1	Class 2	Class 3
Please mark the Modification Class:	X			

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A.1. General Permit Provisions, Administrative and informational changes

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Reason for denial:

*None*

Reviewed by Ecology:

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G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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Description of Modification:

Chapter 3.0, §3.4.1.1:

**3.4.1.1 Batch Samples**

In those cases where an aqueous waste is sampled in a LERF basin, samples are collected from four of the six available sample risers located in each basin, i.e., four separate samples. When LERF levels are low, fewer than four samples can be taken provided that the sampling approach is still representative. Though there are eight sample risers at each basin, one is dedicated to liquid level instrumentation and another is dedicated as an influent port. Operating experience indicates that four samples adequately capture the variability of an aqueous waste stream. Specifically, sections of stainless steel (or other compatible material) tubing are inserted into the sample riser to an appropriate depth. Using a portable pump, the sample line is flushed with the aqueous waste and the sample collected. The grab sample containers typically are filled for volatile organic compounds (VOC) first, followed by the remainder of the containers for the other parameters.

Several sample ports are also located at 200 Area ETF, including a valve on the recirculation line at 200 Area ETF surge tank, and a sample valve on a tank discharge pump line at 200 Area ETF Load-In Station. All samples are obtained at the LERF or 200 Area ETF are collected in a manner consistent with SW-846 procedures (EPA 1986as amended).

WAC 173-303-830 Modification Class

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Class 1	Class 1	Class 2	Class 3
X			

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Reason for denial:

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Unit:  
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Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, 3.4.2:

**3.4.2 Analytical Rationale**

As stated previously, each generator is responsible for designating and characterizing its aqueous waste stream. Accordingly, each generator samples and analyzes an influent waste stream using the target list of parameters (Table 3.3) for the waste acceptance process. At the discretion of the LERF and 200 Area ETF management, a generator may provide process knowledge in lieu of some analyses as discussed in Section 3.2.1.1. The LERF and 200 Area ETF personnel will work with the generator to determine which parameters are appropriate for the characterization.

The analytical methods for these parameters are provided in Section 3.9. All methods are EPA methods. Additional analyses may be required if historical information and process knowledge indicate that an influent aqueous waste contains constituents not included in the target list of parameters. For example, if process knowledge indicates that an aqueous waste contains a parameter that is regulated by the Groundwater Quality Criteria (WAC 173-200), that parameter(s) would be added to the suite of analyses required for that aqueous waste stream.

The analytical data for the parameters presented in Table 3.3, including VOC, SVOC, metals, anions, and general chemistry parameters are used to define the physical and chemical properties of the aqueous waste to:

- Set operating conditions in the LERF and 200 Area ETF (e.g., to determine operating configuration - refer to Section 3.2.2.2)
- Identify concentrations of some constituents which may also interfere with, or foul 200 Area ETF treatment process (e.g., fouling of the RO membranes - refer to Section 3.2.2.2)
- Evaluate LERF liner and piping material compatibility
- Determine treatability to evaluate if applicable constituents in the treated effluent will meet Discharge Permit and Delisting limits
- Estimate concentrations of some constituents in the waste generated in the secondary treatment train (i.e., dry powder waste).

Some analyses also are required/performed to address special conditions (Section 3.3) or for other specific purposes as indicated below:

- Formate, cyanide, and vanadium analysis is required for compliance with special conditions for PC (refer to Section 3.3.2).
- ~~Total Kjeldahl nitrogen (TKN) analysis~~ required under the Discharge Permit to meet special conditions for PC (until discharge permit is modified, refer to Section 3.3.1).

Total dissolved solids analysis; to predict volume of powder waste from the secondary treatment train.

WAC 173-303-830 Modification Class

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X			

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Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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**Description of Modification:**

Chapter 3.0, Table 3.3:

Table 3.3. Target Parameters for Influent Aqueous Waste Analyses

VOLATILE ORGANIC COMPOUNDS	SEMIVOLATILE ORGANIC COMPOUNDS
Acetone <u>Acetonitrile</u> Benzene 1-Butyl alcohol (1-Butanol) <u>Carbon disulfide</u> Carbon tetrachloride Chlorobenzene Chloroform 1,2-Dichloroethane (total) 1,1-Dichloroethylene 2-Hexanone Methylene ethylchloride ketone (2-Butanone) Methyl isobutyl ketone (Hexone, 4-Methyl-2-pentanone) 2-Pentanone Tetrachloroethylene Tetrahydrofuran Toluene 1,1,2-Trichloroethane Vinyl chloride 1,1,1-Trichloroethane Trichloroethylene	Acetophenone Benzyl alcohol 2-Butoxyethanol Cresol (o, p, m) 1,4-Dichlorobenzene Dimethylnitrosamine (N-Nitrosodimethylamine) <u>Dichloroisopropyl ether (bis(2-chloropropyl)ether)</u> Di-n-octyl phthalate <u>Diphenylamine</u> Hexachlorobenzene Hexachlorocyclopentadiene <u>Iosophorone</u> <u>Lindane (gamma-BHC)</u> N-nitrosodimethylamine Naphthalene Pyridine Tributyl phosphate 2,4,6-Trichlorophenol
TOTAL METALS	ANIONS
Aluminum Arsenic Barium Beryllium Cadmium Calcium Chromium Copper Iron Lead Antimony Magnesium Manganese Mercury Nickel Potassium Selenium Silicon Silver Sodium Uranium Vanadium Zinc	Chloride Fluoride Formate <sup>1</sup> Nitrate Nitrite Phosphate Sulfate
	GENERAL CHEMISTRY PARAMETERS
	Ammonia Total Kjeldahl nitrogen Cyanide pH Total suspended solids Total dissolved solids Total organic carbon Specific conductivity

<sup>1</sup> Parameter only required for 242-A Evaporator process condensate (refer to Section 3.3.2)

WAC 173-303-830 Modification Class	Class 1	Class '1	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (state reason for denial) Reason for denial:	Reviewed by Ecology: <div style="text-align: center; font-size: 1.2em;"> </div> G. P Davis <span style="float: right;">6/5/07</span> Date
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**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.5.1:

**3.5.1 Rationale for Effluent Analysis Parameter Selection**

The parameters measured in the treated effluent are required by the following regulatory documents:

- Delisting criteria from the Final Delisting (EPA 19952005)
- Effluent limits from the State Waste Discharge Permit (Ecology 1995a2000)
- Early warning values from the State Waste Discharge Permit (Ecology 1995a2000).

The Final Delisting provides two testing regimes for the treated effluent. ~~Under the initial~~ Initial verification-testing regime, ~~the first three is performed when a new influent wastestream is processed through the 200 Area ETF. For each 200 Area ETF influent, the first generated verification tanks-tank must be sampled and analyzed, and the data submitted to the U.S. Environmental Protection Agency (EPA). Following EPA approval, the subsequent verification testing regime is implemented, where every 10<sup>th</sup> tank is analyzed for the all delisting constituents- and conductivity. Subsequent verification sampling and analysis of all delisting parameters is performed on every 15<sup>th</sup> tank of that 200 Area ETF influent type. If the concentration of any analyte is found to exceed a Discharge Permit enforcement limit or a Delisting criterion, the contents of the verification tank are reprocessed and/or re-analyzed. The next verification tank generated is also sampled for all delisting constituents. If the concentration of any analyte exceeds an early warning value, as a monthly average from treated effluent that is discharged, an early warning value report is prepared and submitted to Ecology.~~

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1

Class 1

Class 2

Class 3

X

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*G. P. Davis* 6/5/07

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Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.5.2:

**3.5.2 Effluent Sampling Method and Location**

Samples of treated effluent are collected and analyzed to verify the treatment process using 200 Area ETF-specific sampling protocol. These verification samples can be collected at two locations. At the first sampling location, a representative grab sample is collected from a sampling port on the verification tank recirculation line. The second sampler is located upstream of the verification tanks where flow proportional composite samples are collected for all analyses except VOC analysis. For VOCs, a zero headspace, time proportional sampler capable of collecting a sample over a multiple day period is used. Section 3.109 presents the sample containers, preservatives, and holding times for each parameter monitored in the effluent.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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Reason for denial:

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Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.5.2.3:

**3.5.2.3 Frequency of Sampling**

Treated effluent is tested for all parameters listed in Table 3.4 on a frequency consistent with the conditions of the Discharge Permit and the Final Delisting. This effluent must meet the Discharge Permit and Delisting limits associated with these parameters. ~~Under normal operating conditions, grab~~ Grab samples are collected from each verification tank. ~~When a composite sample is called for, the sample is collected over the period required to fill one verification tank.~~

During operation of 200 Area ETF, if one or more of the constituents exceeds a Delisting criterion, the Delisting conditions require the analysis of samples from the following ~~two verification tanks volumestank volume~~ before effluent can be discharged. Treated effluent that does not meet Delisting criteria and Discharge Permit is not discharged to the SALDS until the tank has been retreated and is recycled for further treatment/or analyzed.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1

Class 1

Class 2

Class 3

X

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

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**Hanford Facility RCRA Permit Modification Notification Form**

Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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Description of Modification:

Chapter 3.0, §3.6.1.1:

**3.6.1.1 Rationale for Selection of Parameters for Analysis**

200 Area ETF secondary waste is anticipated to consist primarily of sulfate salts with minor amounts of metals ~~and mixed waste~~. The designation of 200 Area ETF secondary waste is based on influent characterization data. These data are used to assign applicable listed waste numbers to the secondary waste and to determine if the secondary waste would designate as a characteristic waste because of toxic metals.

Concentrations of metals in the secondary waste are projected by comparing the influent metals data to the removal efficiencies of 200 Area ETF treatment process. When the influent data indicate that the secondary waste will not designate as a characteristic waste, the secondary waste, as slurry, sludge, or dry powder, is not sampled and analyzed for metals.

The influent data, in conjunction with knowledge of 200 Area ETF treatment processes, also are used to determine the LDR status of 200 Area ETF secondary waste. Knowledge of the treatment process indicates that VOCs and SVOCs (i.e., listed waste constituents) are not expected in the secondary waste because of the organic destruction capability of the UV/OX and the temperatures of the thin film dryer. Accordingly, when the influent data indicate that the secondary waste meets the LDR treatment standards, the secondary waste, as slurry, sludge, or dry powder, is not sampled and analyzed for VOCs or SVOCs.

The parameters for analysis of 200 Area ETF secondary waste are provided in Table 3.5. The specific analytical methods for these analyses are provided in Section 3.409. Additionally, samples of slurry or sludge undergo a total solids analysis to convert the analytical data on other parameters to dry weight concentrations.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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A.1. General Permit Provisions, Administrative and informational changes

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**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, §3.6.1.2:

**3.6.1.2 Sampling Methods**

The dry powder waste and containerized sludge are sampled from containers using the principles presented in SW-846 (EPA 1986 as amended) and ASTM Methods (American Society for Testing Materials), as referenced in WAC 173-303-110(2). The sample container requirements, sample preservation requirements, and maximum holding times for each of the parameters analyzed in either matrix are presented in Section 3.10.9.

Concentrate tank waste samples are collected from recirculation lines, which provide mixing in the tank during pH adjustment and prevent caking. The protocol for concentrate tank sampling prescribes opening a sample port in the recirculation line to collect samples directly into sample containers. The sample port line is flushed before collecting a grab sample. The VOC sampling typically is performed first for grab samples. Each VOC sample container will be filled such that cavitation at the sample valve is minimized and the container has no headspace. The remainder of the containers for the other parameters will be filled next.

WAC 173-303-830 Modification Class  
Please mark the Modification Class:

Class 1	Class '1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

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Date

### Hanford Facility RCRA Permit Modification Notification Form

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, Table 3.4:

Table 3.4. Rationale for Parameters to Be Monitored in Treated Effluent

Parameter	(Cas No.)	Final Delisting <sup>1</sup>	Discharge Permit <sup>2</sup>	
			Enforcement Limit	Early Warning Value
<b>VOLATILE ORGANIC COMPOUNDS</b>				
Acetone	(67-64-1)	X		
Acetonitrile	(75-05-8)	X		
Benzene	(71-43-2)	X		X
1-Butanol-aleohol	(71-36-3)	X		
Carbon disulfide	(75-15-0)	X		
Carbon tetrachloride	(56-23-5)	X	X	
Chlorobenzene		X		
Chloroform	(67-66-3)	X		X
1,2-Dichloroethane		X		
1,1-Dichloroethylene		X		
Methylene Chloride	(75-09-2)		M	
Methyl ethyl ketone (2-Butanone)		X		
Methyl isobutyl ketone (4-methyl-2-Pentanone)		X		
1,1,1-Tetrachloroethylene	(127-18-4)	X	X	
1,1,2-Tetrahydrofuran	(109-99-9)	X		X
Toluene		X		
Trichloroethylene		X		
Vinyl chloride		X		

WAC 173-303-830 Modification Class	Class 1	Class '1	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.  
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6/5/07

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Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, Table 3.4:

Parameter	(Cas No.)	Final Delisting <sup>1</sup>	Discharge Permit <sup>2</sup>	
			Enforcement Limit	Early Warning Value
<b>SEMIVOLATILE ORGANIC COMPOUNDS</b>				
Acetophenone	(98-86-2)		X	X
Benzyl alcohol		X		
Carbazole	(86-74-8)	X		
Cresol (total)		X		
1,4 Dichlorobenzene		X		
Dimethylnitrosamine			X	
Di-n-octyl phthalate		X		
Hexachloroethane		X		
Naphthalene		X		
Tributyl phosphate		X		
p-Chloroaniline	(106-47-8)	X		
Chrysene	(218-01-9)	X		
Cresol (total)	(1319-77-3)	X		
Dichloroisopropyl ether (bis(2-chloroisopropyl)ether)	(108-60-1)	X		
Di-n-octyl phthalate	(117-84-0)	X		
Diphenylamine	(122-39-4)	X		
Hexachlorobenzene	(118-74-1)	X		
Hexachlorocyclopentadiene	(77-47-4)	X		
Isophorone	(78-59-1)	X		
Lindane (gamma-BHC)	(58-89-9)	X		
N-nitrosodimethylamine	(62-75-9)	X	X	
Pyridine	(110-86-1)	X		
Tributyl phosphate	(126-73-8)	X		
2,4,6-Trichlorophenol	(88-06-2)	X		

WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class '1	Class 2	Class 3
	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

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Reason for denial:

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G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, Table 3.4:

Parameter	(Cas No.)	Final Delisting <sup>1</sup>	Discharge Permit <sup>2</sup>	
			Enforcement Limit	Early Warning Value
<b>PCBs</b>				
<u>Aroclor 1016</u>	<u>(12674-11-2)</u>	<u>X</u>		
<u>Aroclor 1221</u>	<u>(11104-28-2)</u>	<u>X</u>		
<u>Aroclor 1232</u>	<u>(11141-16-5)</u>	<u>X</u>		
<u>Aroclor 1242</u>	<u>(53469-21-9)</u>	<u>X</u>		
<u>Aroclor 1248</u>	<u>(12672-29-6)</u>	<u>X</u>		
<u>Aroclor 1254</u>	<u>(11097-69-1)</u>	<u>X</u>		
<u>Aroclor 1260</u>	<u>(11096-82-5)</u>	<u>X</u>		
<b>TOTAL METALS<sup>3</sup></b>				
<u>Antimony</u>		<u>X</u>		
<u>Arsenic</u>	<u>(7440-38-2)</u>	<u>X</u>	<u>X</u>	
<u>Barium</u>	<u>(7440-39-3)</u>	<u>X</u>		
<u>Beryllium</u>	<u>(7740-41-7)</u>	<u>X</u>	<u>X</u>	<u>X</u>
<u>Cadmium</u>	<u>(7440-43-9)</u>	<u>X</u>		<u>X</u>
<u>Chromium</u>	<u>(7440-47-3)</u>	<u>X</u>	<u>X</u>	
<u>Copper</u>	<u>(7440-50-8)</u>			<u>X</u>
<u>Lead</u>	<u>(7439-92-1)</u>	<u>X</u>		<u>X</u>
<u>Mercury</u>	<u>(7439-97-6)</u>	<u>X</u>		<u>X</u>
<u>Nickel</u>	<u>(7440-02-0)</u>	<u>X</u>		
<u>Selenium</u>	<u>(7782-49-2)</u>	<u>X</u>		
<u>Silver</u>	<u>(7440-22-4)</u>	<u>X</u>		
<u>Vanadium</u>	<u>(7440-62-2)</u>	<u>X</u>		
<u>Zinc</u>	<u>(7440-66-6)</u>	<u>X</u>		

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class '1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*G. P. Davis* 6/5/07

G. P Davis

Date

### Hanford Facility RCRA Permit Modification Notification Form

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, Table 3.4:

Parameter	(Cas No.)	Final Delisting <sup>1</sup>	Discharge Permit <sup>2</sup>	
			Enforcement Limit	Early Warning Value
<b>ANIONS</b>				
Chloride	(16887-00-6)		<u>X</u>	
Fluoride	(16984-48-8)	X		
Nitrate (as N)	(14797-55-8)		X	
Nitrite (as N)	(1479765-0)		<u>X</u>	X
Sulfate	(14808-79-8)		<u>X</u>	X
<b>OTHER ANALYSES</b>				
Ammonia <sup>4</sup> (as N)	(7664-41-7)	X	<u>X</u>	X
Total Kjeldahl nitrogen (as N)				X
Cyanide	(57-12-5)	X		
Total dissolved solids				X
Total organic carbon			<u>X</u>	X
Total suspended solids			<u>X</u>	X
Specific conductivity			M	

<sup>1</sup> Parameters required by the current conditions of the Final Delisting, 40 CFR 261, Appendix IX, Table 2, 70 FR 44496 (EPA 1995~~2005~~)

<sup>2</sup> Parameters required by the current conditions of the State Waste Discharge Permit, No. ST 4500 (Ecology 1995~~a2000~~)

<sup>3</sup> Metals reported as total concentrations

<sup>4</sup> Although the Final Delisting lists "ammonium" (NH<sub>4</sub><sup>+</sup>), the standard analytical methods measure ammonia (NH<sub>3</sub>). Ammonia is assumed the contaminant of concern.

X Rationale for measuring this parameter in treated effluent

M Monitor only; no limit defined

PCBs = polychlorinated biphenyls

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1

Class 1'

Class 2

Class 3

X

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

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Reason for denial:

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Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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Description of Modification:

Chapter 3.0, §3.6.1.3

**3.6.1.3 Sampling Frequency**

200 Area ETF secondary waste is sampled ~~at on a frequency of two containers per batch basis~~. A batch is defined as any volume of aqueous waste that is being treated under consistent and constant process conditions. The secondary waste will be resampled under the following changes in process conditions:

- Change in an influent source ~~(e.g., change in well head)~~
- Change in process chemistry, as indicated by in-line monitoring of conductivity and pH.

~~Up to a maximum of three~~ One representative samples will be collected from the concentrate tanks, if waste from the concentrate tanks is used for characterization of a batch of influent waste. ~~These samples~~ The sample will be analyzed for the appropriate parameters identified in Table 3.5 based on the needs identified from evaluating influent sampling and analysis data. When personnel exposures are of concern, analytical results from concentrate tank samples or influent data will be used to represent the powder waste generated from the treatment of that aqueous waste(s). The dry powder, solidified waste block, or concentrate tanks will be re-sampled in the following situations:

- The LERF and 200 Area ETF management have been notified, or have reason to believe that the process generating the waste has changed (for example, a source change such as a change in the well-head for groundwater that significantly changes the aqueous waste characterization).
- The LERF and 200 Area ETF management note an increase or decrease in the concentration of a constituent in an aqueous waste stream, beyond the range of concentrations that was described or predicted in the waste characterization.

WAC 173-303-830 Modification Class	Class 1	Class '1	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

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Reason for denial:

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G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, Table 3.5:

**Table 3.5. 200 Area Effluent Treatment Facility Generated Waste - Sampling and Analysis**

Parameter <sup>1</sup>	Rationale
• Total solids or percent water <sup>2</sup>	• Calculate dry weight concentrations
• Volatile organic compounds <sup>3</sup>	• LDR - verify treatment standards
• Semivolatile organic compounds <sup>3</sup>	• LDR - verify treatment standards
• Metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver)	• Waste designation • LDR - verify treatment standards
• Nitrate Cation and anions of concern	• Address receiving TSD <u>unit</u> waste acceptance requirements
• pH	• Waste designation

<sup>1</sup> For influent and concentrate tank samples, the total sample (solid plus liquid) is analyzed and the analytical result is expressed on a dry weight basis. The result for toxicity characteristic metal and organic is divided by a factor of 20 and compared to the toxicity characteristic (TC) constituent limits [WAC 173-303-090(8)]. If the TC limit is met or exceeded, the waste is designated accordingly. All measured parameters are compared against the corresponding treatment standards.

<sup>2</sup> Total solids or percent water are not determined for unknown waste and dry powder waste samples and are analyzed in maintenance waste and sludge samples, as appropriate ( i.e., percent water might not be required for such routine maintenance waste as aerosol cans, fluorescent tubes, waste oils, batteries, etc., or sludge that has dried).

<sup>3</sup> VOC and/or SVOC analysis of secondary waste is required unless influent characterization data and process knowledge indicate that the constituent will not be in the final secondary waste at or above the LDR.

LDR = land disposal restrictions

TSD = treatment, storage, and/or disposal

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1'	Class 2	Class 3
X			

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Reason for denial:

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**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.7:

**3.7 QUALITY ASSURANCE/QUALITY CONTROL**

The following quality assurance/quality control (QA/QC) information for LERF and 200 Area ETF is provided as required by WAC 173-303-810(6). The sampling and analysis activities at LERF and 200 Area ETF conform to the requirements of an LERF and 200 Area ETF-specific quality assurance project plan and are in accordance with the following EPA guidance documents:

- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, as amended, U.S. Environmental Protection Agency, Washington, DC, ~~July 1992~~ as amended, as referenced in WAC 173-303-110.
- *Methods for Chemical Analysis of Water and Wastes*, EPA-600/4-7-9/020, U.S. Environmental Protection Agency, ~~Environmental Monitoring and Support~~ National Exposure Research Laboratory, Cincinnati, Ohio, ~~March 1993~~ 1983.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

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Reason for denial:

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Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.7.1:

**3.7.1 Sampling Program**

Typically, generators are responsible for the sampling and analysis of an influent aqueous waste. However, samples of influent aqueous waste can be collected at the LERF or the Load-In Station. Samples of treated effluent are collected at the verification tanks. Secondary waste generated from the treatment process ~~generally is typically sampled in the dry powder form; however, the secondary waste also could be sampled characterized based on influent data or by sampling while in slurry form for characterization.~~ Sampling of influent aqueous waste, treated effluent, and secondary waste is discussed in Sections 3.4, 3.5, and 3.6, respectively, of the WAP.

Specific information on sample holding times, preservatives, and sample containers is provided in Section 3.409. The selection of the sample collection device depends on the type of sample, the sample container, the sampling location, and the nature and distribution of the waste components. In general, the methodologies used for specific materials correspond to those referenced to WAC 173-303-110(2). The selection and use of the sampling device is supervised or performed by a person thoroughly familiar with the sampling requirements. Samples are collected according to LERF and 200 Area ETF-specific sampling protocol.

Sampling equipment is constructed of nonreactive materials such as glass, plastic, aluminum, or stainless steel, as indicated by the nature and matrix of the waste. Care is taken in the selection of the sampling device to prevent contamination of the sample and to ensure compatibility of materials. For example, plastic bottles are not used to collect some organic wastes.

WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class 1	Class 2	Class 3
	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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Description of Modification:

Chapter 3.0, §3.7.2:

**3.7.2 Analytical Program**

The onsite laboratory employed by LERF and 200 Area ETF organization is required to have a program of quality control practices and procedures to ensure that precision and accuracy are maintained. The QA/QC program for sampling complies with the applicable Hanford Site standard requirements in the Tri-Party Agreement Action Plan, Section 6.5 (TPA) and the regulatory requirements regulations. All analytical data are defensible and traceable to specific, related QC samples and calibrations. Offsite laboratories employed by LERF and 200 Area ETF must meet the same QA/QC requirements as onsite laboratories and must demonstrate quality control practices that are comparable to the onsite laboratory's program. A review of an offsite laboratory may be conducted to ensure that the quality control of LERF and 200 Area ETF data is maintained. The SW-846 and EPA-600 analytical methods are followed (as indicated in Section 3.409). However, other methods may be substituted for a parameter if the PQL can be met.

The chemical parameters and associated analytical methods identified in Section 3.409 are used to characterize an influent aqueous waste, effluent waste, and 200 Area ETF secondary waste. The analytical data on these parameters are also used to establish that key decision limits pertinent to proper waste management are met. These key decision limits are numerical thresholds, which include:

- liner compatibility limits for an influent aqueous waste as managed in LERF (may include blending a waste with other wastes to meet these limits)
- the LDR status of 200 Area ETF secondary waste
- delisting limits for treated effluent

Where analytical data are used in key decision-making, the PQL of an analytical parameter (or sum of the PQLs, as indicated by the decision) must be at or below the key decision limit. In cases where the decision limit is below the PQL, the method detection limit (MDL) is used in the key decision-making process.

Good laboratory practices, which encompass sampling, sample handling, housekeeping, and safety, are maintained at all laboratories. The following section describe the specific practices which are implemented at the onsite laboratory to maintain the precision and accuracy goals of ~~±20 percent~~ in Section 3.9 for quality control samples which include method blank, quality control check, matrix spike, and duplicate samples.

The decision to re-analyze if the stated precision and accuracy goals are not met will depend on the use of the analytical results. Generally, only analytical results used in key decisions would require re-analysis if precision and accuracy goals were not met. For example, if the precision and accuracy goals are not met in a liner compatibility analysis, the sample would generally be re-analyzed if the results were close to a compatibility limit. However, if the analytical results suggested that concentrations were an order of magnitude below a liner compatibility limit, generally re-analysis would not be required. The decision to re-analyze a waste in a key decision situation will be made on a case-by-case basis.

WAC 173-303-830 Modification Class	Class 1	Class '1	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*G. P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 3.0, §3.8:

**3.8 REFERENCES**

- DOE/RL-92-72, *200 Area Effluent Treatment Facility Delisting Petition*, Revision 1, 1993, U.S. Department of Energy-Richland Operations Office, Richland, Washington.
- DOE/RL-97-03, *Hanford Facility Dangerous Waste Permit Application, Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- Ecology, 1994, *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion*, WA7890008967, (Revision 3, December 1996 as amended), Washington State Department of Ecology, Olympia, Washington.
- Ecology, 2000, *State Waste Discharge Permit No. ST 4500, as amended, for 200 Area Effluent Treatment Facility, Hanford Facility*, Washington State Department of Ecology, Olympia, Washington, August 1, 2000.
- Ecology, 1995b, *Listed Waste from Hanford Laboratories*, letter from M. Wilson, Washington State Department of Ecology, to J. Rasmussen, U.S. Department of Energy, Richland Operations Office, March 7, 1995.
- Ecology, 1996a, *Dangerous Waste Permit Application Permit Requirements*, #95-402, June 1996, Washington State Department of Ecology, Olympia, Washington.
- Ecology, 1996b, *The Washington State Department of Ecology (Ecology) Regulatory Interpretation of the Liquid Effluent Retention Facility (LERF) Land Disposal Restriction Exemption*, letter from Washington State Department of Ecology to T. Teynor, U.S. Department of Energy and A. DiLiberto, Westinghouse Hanford Company, September 9, 1996.
- Ecology, 2000, *State Waste Discharge Permit No. ST 4500, as amended, for 200 Area Effluent Treatment Facility, Hanford Facility*, Washington State Department of Ecology, Olympia, Washington, August 1, 2000.
- EPA 1983, *Methods for Chemical Analysis of Water Wastes*, EPA-600/4-79/020, (as amended), National Exposure Research Laboratory, Cincinnati, Ohio
- EPA, 1986, *Test Methods for Evaluating Solid Waste Physical/Chemical Methods, SW-846* (Third Edition, November 1986, as amended), U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, D.C.
- EPA, 1994, *Liquid Effluent Retention Facility (LERF) Land Disposal Restrictions Treatment Exemption-Regulatory Interpretation EPA/Ecology ID No: WA7890008967*, letter from U.S. Environmental Protection Agency, Region 10 to J. Hennig, U.S. Department of Energy, December 6, 1994.
- EPA, 1995/2005, *Final Delisting [Exclusion]*, issued to U.S. Department of Energy, 40 CFR 261, Appendix IX, Table 2 (60(70 FR 31115, June 13, 1995/44496, August 3, 2005), U.S. Environmental Protection Agency, Washington, D.C

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Class 2

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A.1. General Permit Provisions, Administrative and informational changes

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**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, Table 3.6:

Table 0.2. Sample and Analysis Criteria for Influent Aqueous Waste and Treated Effluent

Parameter	Analytical method <sup>a</sup>	Method PQL <sup>b</sup> Sensitivity <sub>2</sub>	Accuracy/ Precision for Method <sup>c3</sup> (percent)	Sample container <sup>e4</sup> / Preservative <sup>e4</sup> / Holding time <sup>e5</sup>
<b>VOLEATILE ORGANIC COMPOUNDS</b>				
Acetone	SW-846 8260A	40	50-10060-120	Sample container 23 x 40-mL amber glass with septum <sup>1</sup> Preservative 1:1 HCl to pH<2; 4EC <sup>1</sup> Holding time 14 days
Acetonitrile		820	60-120	
Benzene		5	60-12040-150	
1-Butyl alcohol (1-Butanol)		1600500	60-12040-150	
Carbon Disulfide		1500	60-120	
Carbon tetrachloride		5	60-12065-130	
Chlorobenzene		5	40-150	
Chloroform		5	50-130	
1,2-Dichloroethane		5	50-150	
1,2-Dichloroethene		5	50-150	
1,1-Dichloroethylene		5	60-130	
2-Hexanone		50	60-130	
Methylene chloride <sup>f</sup>		5	50-150	
Methyl ethyl ketone (2-Butanone)		100	65-130	
Methyl isobutyl ketone (Hexone, 4-Methyl-2-pentanone)		50	50-160	
2-Pentanone		10	50-160	
Tetrachloroethylene		5	65-140	
Tetrahydrofuran		100	60-12047-150	
Toluene		5	50-160	
1,1,1-Trichloroethane		5	50-150	
1,1,2-Trichloroethane	5	50-150		
Trichloroethylene	5	70-155		
Xylene	5	50-150		
Vinyl chloride	10	40-130		

WAC 173-303-830 Modification Class  
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G. P Davis Date

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Unit:  
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Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, Table 3.6:

Parameter	Analytical method <sup>a</sup>	Method PQL <sup>b</sup> Sensitivity <sup>2</sup>	Accuracy/Precision for Method <sup>3</sup> (percent)	Sample container <sup>4</sup> /Preservative <sup>4</sup> /Holding time <sup>5</sup>
<b>SEMIVOLATILE ORGANIC COMPOUNDS</b>				
Acetophenone	SW-846 8270B	10	70-110	Sample container 4 x 1-liter amber glass Preservative 4EC Holding time 7 days for extraction; 40 days for analysis after extraction
Benzyl alcohol		20	70-120	
2-Butoxyethanol		1000	65-105	
Carbazole		110	50-120	
p-Chloroaniline		76	50-120	
Chrysene		350	50-120	
Cresol (o, p, m)		76010	50-12055-115	
1,4-Dichlorobenzene		10	45-95	
Dimethylnitrosamine		10	50-120	
2,4-Dinitrotoluene		10	65-100	
Di-n-octyl phthalate		30010	50-12070-130	
Diphenylamine		350	50-120	
Hexachloroethane		10	50-110	
Hexachlorobenzene		2	50-120	
Hexachlorocyclopentadiene		110	50-120	
Isophorone		2600	50-120	
Lindane (gamma-BHC)		1.9	50-120	
Naphthalene		10	60-120	
N-nitrosodimethylamine		10	50-120	
Pyridine		15	50-120	
Tributyl phosphate	76100	50-12075-125		
2,4,6-Trichlorophenol	230	50-120		

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	X			

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G. P. Davis Date

### Hanford Facility RCRA Permit Modification Notification Form

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, Table 3.6:

Parameter	Analytical method <sup>a</sup>	Method PQL <sup>b</sup> Sensitivity <sup>2</sup>	Accuracy/Precision for Method <sup>3</sup> (percent)	Sample container <sup>4</sup> / Preservative <sup>4</sup> / Holding time <sup>5</sup>	
<b>POLYCHLORINATED BIPHENYLS (PCBs)</b>					
Aroclor-1016	SW-846 8082	0.4	50-110	Sample container 4 x 1-liter amber glass Preservative - 4EC Holding time 7 days for extraction; 40 days for analysis after extraction	
Aroclor-1221		0.4	50-110		
Aroclor-1232		0.4	50-110		
Aroclor-1242		0.4	50-110		
Aroclor-1248		0.4	50-110		
Aroclor-1254		0.4	50-110		
Aroclor-1260		0.4	50-110		
<b>TOTAL METALS</b>					
Aluminum	6010A/EPA-600 200.7	450	75 - 125	Sample container 1 x 0.5-liter plastic/glass Preservative 1:1 HNO3 to pH<2 Holding time 180 days; mercury 28 days	
Antimony	EPA-600-200.8	30	75 - 125		
Arsenic	EPA-600 200.8	1115	70-13075 - 125		
Cadmium		5	70-13075 - 125		
Chromium		20	70-13075 - 125		
Copper		70	70-13075 - 125		
Lead		10	70-13075 - 125		
Mercury		2	70-13075 - 125		
Selenium		20	70-13075 - 125		
Barium		6010A/EPA-600 200.7	1200		75 - 125
Beryllium			3440		75 - 125
Calcium			200100		75 - 125
Iron	100		75 - 125		
Magnesium	400300		75 - 125		
Manganese	50		75 - 125		
Nickel	34075		75 - 125		
Potassium	10,000		75 - 125		
Silicon	580		75 - 125		
Silver	8370		75 - 125		
Sodium	2500290	75 - 125			
Vanadium	12080	75 - 125			
Zinc	510020	75 - 125			

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Class 1	Class 1'	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.  
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A.1. General Permit Provisions, Administrative and informational changes

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G. P Davis Date 6/15/07

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Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, Table 3.6:

Parameter	Analytical method <sup>a</sup>	Method PQL <sup>b</sup> Sensitivity <sup>2</sup>	Accuracy/Precision for Method <sup>3</sup> (percent)	Sample container <sup>4</sup> / Preservative <sup>4</sup> / Holding time <sup>5</sup>
<b>GENERAL CHEMISTRY</b>				
Bromide		2000	75-125	
Chloride	EPA-600 300.0	1000	70-13075-125	Sample container 1 x 1-liter glass Preservative -4EC Holding time -28 days
Fluoride		880500	70-13075-125	
Formate <sup>6g</sup>		1250	70-13075-125	
Nitrate (as N)		100	70-13075-125	
Nitrite (as N)		100	70-13075-125	
Phosphate		1500	70-13075-125	
Sulfate		10,000	70-13075-125	
Ammonia <sup>9</sup>	EPA-600 350.3/350.1	40	70-13075-125	Sample container 2501 x 50- mL glass or plastic Preservative -H <sub>2</sub> SO <sub>4</sub> to pH<2; 4EC Holding time - 28 days
Total Kjeldahl nitrogen	EPA-600 351.2	600	75-125	
Cyanide	9010A-7 EPA-600 335.2/335.3	350100	70-13075-125	Sample container 5001 x 250- mL glass or plastic polyethylene Preservative - 6M NaOH to pH>12; 4EC Holding time - 14 days
Alkalinity	EPA-600 310.1/310.2	ND	ND	Sample container - 1 x 50- mL glass or plastic Preservative - 4EC Holding time - 14 days
Total dissolved solids	EPA-600 160.1	NDRL 10,000	ND75-125	Sample container 1 x 500-mL glass or plastic Preservative -4EC None Holding time -7 days for pH—as soon as practical

WAC 173-303-830 Modification Class  
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Class 1	Class 1	Class 2	Class 3
X			

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G. P Davis Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, Table 3.6:

Parameter	Analytical method <sup>a</sup>	Method PQL <sup>b</sup> Sensitivity <sup>2</sup>	Accuracy/Precision for Method <sup>3</sup> (percent)	Sample container <sup>4</sup> /Preservative <sup>4</sup> /Holding time <sup>5</sup>
<b>GENERAL CHEMISTRY</b>				
Total suspended solids	EPA-600 160.2	NDRL 4,000	ND75-125	Sample container -1 x 1-L glass or plastic Preservative -4EC Holding time -7 days
Specific conductivity	EPA-600 120.1 (in lab)	NDRL 10 <sup>6</sup>	ND75-125	Sample container -1 x 100-mL glass or plastic Preservative -4EC Holding time -28 days
Ph <sup>7h</sup>	EPA-600 150.1/9040	NDRL +/- 0.1	ND75-125	Sample container -1 x 25-mL glass or plastic Preservative -None Holding time -Analyze immediately
Total organic carbon	SW-846 9060A	NDRL 1,000	ND75-125	Sample container -1 x 250-mL glass Preservative -HCl or H <sub>2</sub> SO <sub>4</sub> to pH<2; 4EC Holding time -28 days

<sup>1</sup> SW-846 or EPA-600 methods are presented unless otherwise noted. Other methods might be substituted if the applicable PQL can be met.

<sup>2b</sup> PQL is determined from ST4500 required method PQL or Delisting Exclusion targeted method sensitivity/detection level (MDL), where PQL = 10 x MDL (for reagent grade water); however, PQL is affected by sample matrix. PQL units limit, which ever is lower. Units are parts per billion unless otherwise noted.

<sup>e3</sup> Accuracy/precision used to confirm or re-establish MDL

<sup>4</sup> Sample bottle and preservatives could be adjusted, as applicable, to minimize sample volume.

<sup>5d</sup> Holding time = time between sampling and analysis.

<sup>e</sup> Although the Final Delisting lists "ammonium" (NH<sub>4</sub><sup>+</sup>), the standard analytical methods measure ammonia (NH<sub>3</sub>). Ammonia is assumed the contaminant of concern. <sup>f</sup> Conductivity reported in micromhos per centimeter

<sup>6</sup> pH monitored in influent aqueous waste only.

<sup>6</sup> Analysis for formate only required if detected in the influent aqueous waste.

<sup>7</sup> pH monitored in influent aqueous waste only

<sup>i</sup> Accuracy/precision used to confirm or re-establish MDL.

<sup>j</sup> VOC refrigerated composite sampler with syringe requires no chemical preservative.

L = liter      NA = not applicable      MDL = method detection level  
mL = milliliter      ND = not determined      PQL = practical quantitation limit  
RL = reporting limit

WAC 173-303-830 Modification Class	Class 1	Class '1	Class 2	Class 3
Please mark the Modification Class:	X			

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A.1. General Permit Provisions, Administrative and informational changes

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*Greta P. Davis* 6/5/07  
G. P Davis Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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Description of Modification:  
Chapter 3.0, Table 3.7:  
  
Table 3.7 Sample Containers, Preservative Methods, and Holding Times for 200 Area ETF Generated Waste

Parameter	Analytical Method	Method PQL	Accuracy/Precision for Method (percent)	Sample container <sup>1</sup> / Preservative <sup>1</sup> / Holding time <sup>2</sup>
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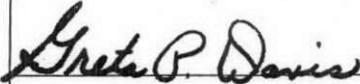
**Liquid Matrix**

For methods other than total solids, analyze using the methods and QA/QC in Table 3.6. For each method, analyze the target compound list

Total solids	EPA-600 160.3	ND 75-125	ND	Sample container 1 x 500-mL glass or plastic Preservative - 4EC Holding time - 7 days
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WAC 173-303-830 Modification Class	Class 1	Class '1	Class 2	Class 3
Please mark the Modification Class:	X			

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Unit:  
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Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 3.0, Table 3.7:

Parameter	Analytical Method	Method PQL	Accuracy/Precision for Method (percent)	Sample container <sup>1</sup> / Preservative <sup>1</sup> / Holding time <sup>2</sup>
<b>Solid Matrix</b>				
Volatile organic compounds (combined method target compound lists)	SW-846 8260	Refer to Table 3.6	Refer to Table 3.6	Sample container 23 x 40-mL amber glass with septum Preservative -4EC none Holding time -14.7 days
Semivolatile organic compounds (method target compound list)	SW-846 8270B	Refer to Table 3.6	Refer to Table 3.6	Sample container glass - 50 g of sample 4 1,000mL amber glass Preservative -4EC None Holding time -14.7 days for extraction; 40 days for analysis after extraction
PCBs (method target compound list)	SW-846 8082	Refer to Table 3.6	Refer to Table 3.6	Sample container glass - 50 g of sample Preservative -4EC Holding time -14 days for extraction; 40 days for analysis after extraction
RCRA Metals (method target compound list)	EPA-600 200.8	Refer to Table 3.6	Refer to Table 3.6	Sample container glass or plastic - 10 g of sample
Total Metals (method target compound list)	SW-846 6010A EPA-600 200.8 -6020/7000 Series	Refer to Table 3.6	Refer to Table 3.6	Preservative -none, mercury 4EC Holding time -180 days; mercury 28 days
Anions (method target compound list)	EPA-600 300.0	Refer to Table 3.6	Refer to Table 3.6	Sample container glass or plastic - 10 g of sample Preservative -none Holding time -6 months for extraction; 28 days for analysis after extraction, nitrate and nitrite 48 hours for analysis after extraction
Ammonia	EPA-600 300.7	Refer to Table 3.6	Refer to Table 3.6	Sample container glass or plastic - 100 g of sample Preservative -none Holding time -6 months for extraction; 28 days for analysis after extraction

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class '1	Class 2	Class 3
X			

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*Gretchen P. Davis*

G. P Davis

Date

### Hanford Facility RCRA Permit Modification Notification Form

Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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Description of Modification:  
Chapter 3.0, Table 3.7:

Parameter	Analytical Method	Method PQL	Accuracy/Precision for Method (percent)	Sample container <sup>1</sup> /Preservative <sup>1</sup> /Holding time <sup>2</sup>
<b>Solid Matrix</b>				
pH	SW-846 9045 WAC 173-303-110 (3)(a)(ii) <sup>g</sup> / EPA-600 150.1/9040	ND ≠0.1	ND 75-125	Sample container glass or plastic – 100 g of sample 1-L-glass Preservative –none Holding time –noneASAP
Toxicity Characteristic Leaching Procedure <sup>3</sup>	SW-846 1311	NA	NA	Sample container Refer to specific method being performed after TCLP – 125 g of sampleN/A Preservative –None (after TCLP, preserve extract per method being performed)N/A Holding time –Metals: 180 days for TCLP extraction, mercury 28 days for TCLP extraction SVOA: 14 days for TCLP extraction (after TCLP, refer to specific methods for time for analysis after extraction)N/A
Nitrate	EPA-600 300.0/9056	Refer to Table 3.6		Preservative Holding time 28 days
Mercury	EPA-600-200.8, 245.1/6020	Refer to Table 3.6	75-125	Container 500-ml plastic/glass Preservative None Holding time Mercury 28 days; 6 months all others
Selenium	EPA-600 200.8/6020	Refer to Table 3.6		
Arsenic	EPA-600 200.8/6020	Refer to Table 3.6		
Cadmium	EPA-600-200.8/6020	Refer to Table 3.6		

<sup>1</sup> Sample bottle and preservatives could be changed as directed by the laboratory, or as required by the analytical method.  
<sup>2a</sup> Holding time equals time between sampling and analysis.  
<sup>2b</sup> Extraction procedure, as applicable: extract analyzed by referenced methods [WAC 173-303-110(3)(c)]  
<sup>a</sup> SW-846 methods are presented unless otherwise noted. Other methods might be substituted if the applicable PQL can be met.  
<sup>b</sup> PQL is determined from method detection level (MDL), where PQL = 10 x MDL (may vary depending on matrix). PQL units are parts per billion unless otherwise noted.  
<sup>c</sup> Container size and type could be changed as directed by the laboratory, or as required by the analytical method  
<sup>d</sup> No preservatives are added to containers because of the anticipated high concentrations of salts.  
<sup>e</sup> For solid waste.

g = grams                      NA = not applicable                      PQL = practical quantitation limit  
 mL = milliliter              ND = not determined                      TCLP = toxicity characteristic leaching procedure

WAC 173-303-830 Modification Class	Class 1	Class 1'	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.  
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Modification Approved: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (state reason for denial) Reason for denial:	Reviewed by Ecology:  G. P Davis                      Date <span style="float: right;">6/5/07</span>
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**Hanford Facility RCRA Permit Modification Notification Form**

Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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Description of Modification:  
Chapter 4.0, §4.2

**4.2 EFFLUENT TREATMENT FACILITY PROCESS DESCRIPTION**

The ETF is designed as a flexible treatment system that provides treatment for contaminants anticipated in process condensate and other onsite aqueous waste. The design influent flow rate into the ETF is approximately 570 liters per minute, with planned outages for activities such as maintenance on the ETF systems. Maintenance outages typically are scheduled between treating a batch of aqueous waste, referred to as treatment campaigns. The effluent flow (or volume) is equivalent to the influent flow (or volume).

The ETF generally receives aqueous waste directly from the LERF. However, aqueous waste also can be transferred from tanker trucks at the Load-In Station to the ETF and from containers (e.g., carboys, drums) directly to ETF. Aqueous waste is treated and stored in the ETF process area in a series of tank systems, referred to as process units. Within the ETF, waste also is managed in containers through treatment and/or storage. Figure 4.2 provides the relative locations of the process and container storage areas within the ETF.

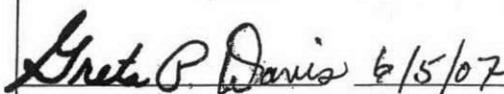
The process units are grouped in either the primary or the secondary treatment train. The primary treatment train provides for the removal or destruction of contaminants. Typically, the secondary treatment train processes the waste by-products from the primary treatment train by reducing the volume of waste. In the secondary treatment train, contaminants are concentrated and dried to a powder. The liquid fraction is routed to the primary treatment train. Figure 4.3 provides an overview of the layout of the ETF, 2025E Building). Figure 4.4 presents the ETF floor plan, the relative locations of the individual process units and associated tanks within the ETF, and the location of the Load-In Station.

The dry powder waste and maintenance and operations waste are containerized and stored or treated in the container storage area or in collection or treatment areas within the Process Area. Secondary containment is provided for all containers and tank systems (including ancillary equipment) housed within the ETF. The trenches and floor of the ETF comprise the secondary containment system. The floor includes approximately a 15.2-centimeter rise (berm) along the containing walls of the process and container storage areas. Any spilled or leaked material from within the process area or container storage area is collected into trenches that feed into either sump tank 1 or sump tank 2. From these sump tanks, the spilled or leaked material (i.e., waste) is fed to either the surge tank and processed in the primary treatment train or the secondary waste receiving tanks and processed in the secondary treatment train. All tank systems outside of the ETF are provided with a secondary containment system.

In the following sections, several figures are provided that present general illustrations of the treatment units and the relation to the process.

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**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 4.0, §4.2.4:

**4.2.4 Secondary Treatment Train**

The secondary treatment system typically receives and processes the following by-products generated from the primary treatment train: concentrate from the first RO stage, filter backwash, regeneration waste from the ion exchange system, and spillage or overflow received into the process sumps. Depending on the operating configuration, however, some aqueous waste could be processed in the secondary treatment train before the primary treatment train (refer to Figures 4.5 and 4.6 for example operating configurations).

The secondary treatment train provides the following processes:

- Secondary waste receiving - tank receiving and chemical addition
- Evaporation - concentrates secondary waste streams
- Concentrate staging - concentrate receipt and pH adjustment in concentrate tanks, and chemical addition
- Thin film drying - dewatering of secondary waste streams
- Container handling - packaging of dewatered secondary waste.

**Secondary Waste Receiving.** Waste to be processed in the secondary treatment train is received into two secondary waste receiving tanks, where the pH can be adjusted with sulfuric acid or sodium hydroxide for optimum evaporator performance. Chemicals, such as reducing agents, may be added to waste in the secondary waste receiving tanks to reduce the toxicity or mobility of constituents in the powder.

**Evaporation.** The ETF evaporator is fed alternately by the two secondary waste receiving tanks. One tank serves as a waste receiver while the other tank is operated as the feed tank. The ETF evaporator vessel (also referred to as the vapor body) is the principal component of the evaporation process (Figure 4.12).

Feed from the secondary waste receiving tanks is pumped through a heater to the recirculation loop of the ETF evaporator. In this loop, concentrated waste is recirculated from the ETF evaporator, to a heater, and back into the evaporator where vaporization occurs. As water leaves the evaporator system in the vapor phase, the concentration of the waste in the evaporator increases. When the concentration of the waste reaches the appropriate density, a portion of the concentrate is pumped to one of the concentrate tanks.

The vapor that is released from the ETF evaporator is routed to the entrainment separator, where water droplets and/or particulates are separated from the vapor. The 'cleaned' vapor is routed to the vapor compressor and heater. The steam from the vapor compressor/heater is used to heat the recirculating concentrate in the ETF evaporator. From the vapor compressor/heater, the steam is condensed and fed to the distillate flash tank, where the saturated condensate received from the heater drops to atmospheric pressure and cools to the normal boiling point through partial flashing (rapid vaporization caused by a pressure reduction). The resulting distillate is routed to the surge tank. A vacuum blower to the vessel off gas system exhausts noncondensable vapors, such as air.

**Concentrate Staging.** The concentrate tanks make up the head end of the thin film drying process. From the ETF evaporator, concentrate is pumped into two concentrate tanks, and pH adjusted chemicals, such as reducing agents, may be added to reduce the toxicity or mobility of constituents when converted to powder. Waste is transferred from the concentrate tanks to the thin film dryer for conversion to a powder. The concentrate tanks function alternately between concentrate receiver and feed tank for the thin film dryer.

...

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1

Class '1

Class 2

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**Hanford Facility RCRA Permit Modification Notification Form**

Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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Description of Modification:

Chapter 4.0, §4.3

**4.3 CONTAINERS**

This section provides specific information on container storage and treatment operations at the ETF, including descriptions of containers, labeling, and secondary containment structures.

A list of dangerous and/or mixed waste managed in containers at the ETF is presented in Chapter 1.0. The types of dangerous and/or mixed waste managed in containers in the ETF could include the following secondary waste generated by the ETF processes:

- Waste generated from the treatment process
- Miscellaneous waste generated by operations and maintenance activities.

The secondary treatment train processes the waste by-products from the primary treatment train, which are concentrated and dried into a powder. Containers are filled with dry powder waste from the thin film dryer via a remotely controlled system. Miscellaneous waste generated from maintenance and operations activities are stored at the ETF. The waste could include process waste, such as used filter elements; spent RO membranes; damaged equipment, and decontamination and maintenance waste, such as contaminated rags, gloves, and other personal protective equipment. Liquids generally are packaged with absorbents at a 2 to 1 ratio.

Several container collection areas could be located within the ETF process and container handling areas. These collection areas are used only to accumulate waste in containers. Once a container is filled, the container is transferred to a container storage area (Figure 4.3 and Figure 4.4), to another TSD unit, or to a less-than-90-day storage pad. Containers stored in the additional storage area (Figure 4.4) are elevated or otherwise protected from contact with accumulated liquids. The container storage area within ETF is, a 22.9 x 8.5-meter room, is located adjacent to the ETF process area. The containers within the container storage area are clearly labeled, and access to these containers is limited by barriers and by administrative controls. The ETF floor provides secondary containment, and the ETF roof and walls protects all containers from exposure to the elements.

Waste also could be placed in containers for treatment as indicated in Chapter 1.0. For example, sludge that accumulates in the bottoms of the process tanks is removed periodically and placed into containers. In this example, the waste is solidified by decanting the supernate from the container and the remainder of the waste is allowed to evaporate, or absorbents are added, as necessary, to address remaining liquids. Following treatment, this waste either is stored at the ETF or transferred to another TSD unit.

WAC 173-303-830 Modification Class

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Class 1	Class 1	Class 2	Class 3
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Description of Modification:  
 Chapter 4.0, §4.4.4.4.1.1:  
**4.4.4.4.1.1 Common Elements**

...

**Containment Materials.** The concrete floor consists of cast-in-place and preformed concrete slabs. All slab joints and floor and wall joints have water stops installed at the mid-depth of the slab. In addition, filler was applied to each joint.

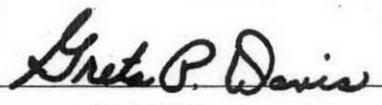
Except for the verification tank dike walls and sump tank vaults, all of the concrete surfaces in the secondary containment system, including berms, trenches, and pits, are coated with a chemical-resistant, high-solids, epoxy coating that consists of a primer, filler, and a top coating. This coating material is compatible with the waste being treated, and with the sulfuric acid, sodium hydroxide, and hydrogen peroxide additives to the process. The coating protects the concrete from contact with any chemical materials that might be harmful to concrete and prevents the concrete from being in contact with waste material. Table 4.87 summarizes the specifies types of filler, primer, second, and finish coats specified for the concrete and masonry surfaces in the ETF. The epoxy coating is considered integral to the secondary containment system for the tanks and ancillary equipment.

The concrete containment systems are maintained such that any cracks, gaps, holes, and other imperfections are repaired in a timely manner. Thus, the concrete containment systems do not allow spilled liquid to reach soil or groundwater. There are a number of personnel doorways and vehicle access points into the ETF process area. Releases of any spilled or leaked material to the environment from these access points are prevented by 15.2-centimeter concrete curbs, sloped areas of the floor (e.g., truck ramp), or trenches.

...

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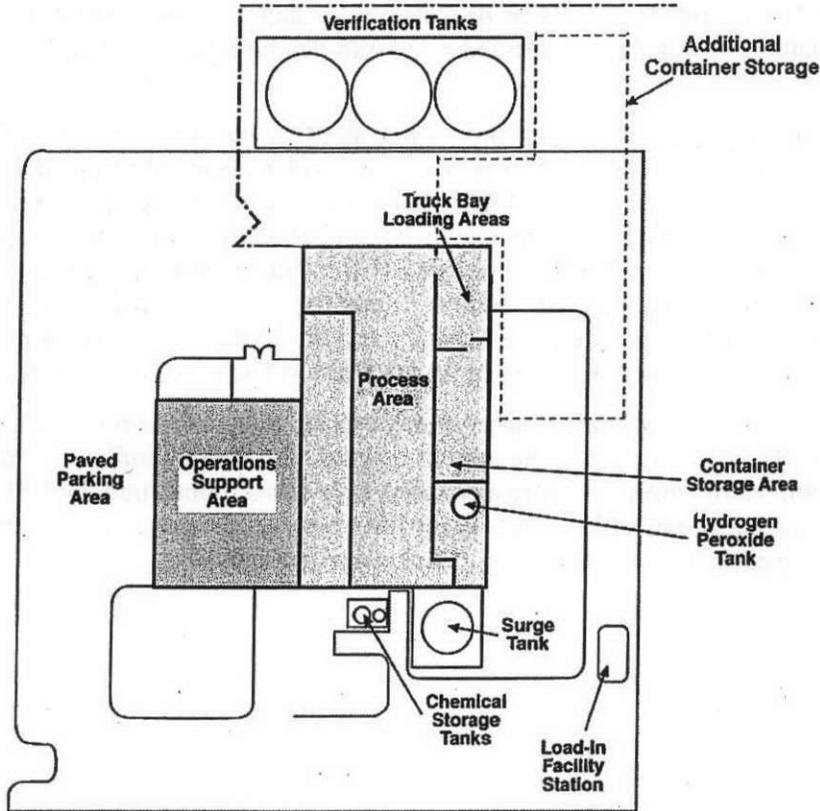
Unit:  
**LERF/200 Area ETF**

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**Part III, Operating Unit 3**

Description of Modification:

Chapter 4.0, Figure 4.4: added additional container storage area

**Figure 4.4. 200 Area Effluent Treatment Facility**



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4-21-07

WAC 173-303-830 Modification Class

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**LERF/200 Area ETF**

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**Part III, Operating Unit 3**

**Description of Modification:**

Chapter 4.0, Table 4.5: Split Table 4.5 into two tables (Tables 4.5 & 4.6), no information was changed.

**Table 4.5. 200 Area Effluent Treatment Facility Tank Systems Information**

Tank Description	Material of Construction	Maximum Tank Capacity <sup>1</sup> liters	Inner diameter meters	Height meters	Shell Thickness <sup>2</sup> centimeters	Corrosion Protection <sup>3</sup>
Load-in tanks (2)	304 SS	37,900	3.6	4.7	0.64	Type 304 SS
Surge tank	304 SS	461,820	7.9	9.2	0.48	Type 304 SS
pH adjustment tank	304 SS	16,660	3.0	2.5	0.64	Type 304 SS
First RO feed tank	304 SS	20,440	3.0	3.2	0.64	Type 304 SS
Second RO feed tank	304 SS	7,600	Nonround tank 3.0 m x 1.5 m	1.5	0.48 w/rib stiffeners	Type 304 SS
Effluent pH adjustment tank	304 SS	14,390	2.4	3.6	0.64	Type 304 SS
Verification tanks (3)	Carbon steel with epoxy lining	2,763,340	18.3	11.4	0.79	epoxy coating
Secondary waste receiving tanks (2)	304 SS	75,700	4.3	5.7	0.64	Type 304 SS
Concentrate tanks (2)	316L SS	24,980	3.0	3.8	0.64	Type 316 SS
ETF evaporator (Vapor Body)	Alloy 625	20,800	2.4	6.8	variable	Alloy 625
Distillate flash tank	304 SS	950	Horizontal tank 0.76	Length 2.2	0.7	304 SS
Sump tank 1	304 SS	4,160	1.5 x 1.5	3.4	3/16	304 SS
Sump tank 2	304 SS	4,160	1.5 x 1.5	3.4	3/16	304 SS

The maximum operating volume of the tanks is identified. For the load-in tanks and the second RO feed tank, the maximum operating volume is also the operating capacity.

The nominal thickness of ETF tanks is represented.

Type 304 SS, 304L, 316 SS and alloy 625 provide corrosion protection.

304 SS = stainless steel type 304 or 304L.

316L SS = stainless steel type 316L.

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Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 4.0, Table 4.6: Split Table 4.5 into two tables (Tables 4.5 & 4.6), no information was changed.

Table 0.3. 200 Area Effluent Treatment Facility Additional Tank System Information

Tank Description	Liner Materials	Pressure Controls	Foundation Materials	Structural Support	Seams	Connections
Load-in tanks (2)	None	vent to atmosphere	concrete slab	SS skirt bolted to concrete	welded	flanged
Surge tank	None	pressure indicator/vacuum breaker valve	reinforced concrete ring plus concrete slab	structural steel on concrete base	welded	flanged
pH adjustment tank	None	pressure indicator/vent to VOG	concrete slab	carbon steel skirt	welded	flanged
First RO feed tank	None	pressure indicator/vent to VOG	concrete slab	carbon steel skirt	welded	flanged
Second RO feed tank	None	pressure indicator/vent to VOG	concrete slab	carbon steel frame	welded	flanged
Effluent pH adjustment tank	None	pressure indicator/vent to VOG	concrete slab	carbon steel skirt	welded	flanged
Verification tanks (3)	Epoxy	pressure indicator/filtered vent to atmosphere	reinforced concrete ring plus concrete slab	structural steel on concrete base	welded	flanged
Secondary waste receiving tanks (2)	None	pressure indicator/vent to VOG	concrete slab	carbon steel skirt	welded	flanged
Concentrate tanks (2)	None	pressure indicator/vent to VOG	concrete slab	carbon steel skirt	welded	flanged
ETF evaporator (vapor body)	None	pressure indicator/vapor vent - to DFT/VOG	concrete slab	carbon steel frame	welded	flanged
Distillate flash tank	None	vent to VOG	concrete slab	carbon steel I-beam and cradle	welded	flanged
Sump tank 1	None	vent to VOG	concrete containment	reinforced concrete containment basin	welded	flanged
Sump tank 2	None	vent to VOG	concrete containment	reinforced concrete containment basin	welded	flanged

DFT = distillate flash tank  
VOG = vessel off gas system

WAC 173-303-830 Modification Class

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**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 4.0, Table 4.7:

**Table 4.7. Ancillary Equipment and Material Data**

System	Ancillary Equipment	Number	Material
...			
Thin film dryer	Concentrate feed pump	2025E-60J-P-2	316 SS
	Dryer feed preheater	2025E-60J-E-3	316 SS
	Thin film dryer	2025E-60J-D-1	Interior surfaces: alloy 625 Rotor and blades: 316 SS
...			

WAC 173-303-830 Modification Class  
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Class 1	Class 1	Class 2	Class 3
X			

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Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 6.0, §6.1

**6.1 SECURITY [F-1]**

The following sections describe the security measures, equipment, and warning signs used to control entry to LERF and ETF. Hanford Facility security measures are discussed in Permit Attachment 33, § 6.1, General Information Portion (DOE/RL-91-28) Security.

WAC 173-303-830 Modification Class

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**Part III, Operating Unit 3**

Description of Modification:

Chapter 6.0, §6.3.1

**6.3.1 Equipment Requirements [F-3a]**

The following sections describe the internal and external communications systems and the emergency equipment required that could be activated by the LERF/200 Area ETF BED. Hanford Facility-wide equipment is identified in Permit Attachment 4, Hanford Emergency Management Plan, (DOE/RL-94-02).

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	X			

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Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 6.0, §6.3.1.1

**6.3.1.1 Internal Communications**

When operators are present at the LERF, the operators carry mobile (hand-held) two-way radios to maintain contact with ETF personnel. The operators at LERF are informed of emergencies (e.g., building and/or area evacuations, take-cover events, high airborne contamination, fire, and/or explosion), and are provided with emergency instructions by several systems. These systems include the mobile two-way radios, and the telephone in the LERF instrument building.

The ETF is equipped with an internal communication system to provide immediate emergency instruction to personnel. The onsite communication system at the ETF includes telephones, mobile two-way radios, a public address system, and alarm systems. The telephone and radio systems provide for intraplant communication as well as external communication. Provisions are made to respond appropriately to various emergencies, including the following alarm-activated emergencies: building evacuations, fire and/or explosion, loss of essential services, loss of ventilation, ~~radioactive~~ discharges, and high airborne contamination. Chapter 7.0 provides additional information on the response activities.

Immediate emergency instruction to personnel is provided by a public address system via speaker horns and ceiling-mounted speakers located throughout the building. The public address system is coupled to building telephone systems to provide telephone accessed voice paging. The ETF alarms are annunciated via elements of the public address system. The general telephone system carries various communication signals (e.g., telephone, crash alarm), is linked to the Hanford Site integrated voice data telecommunications system.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

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**Part III, Operating Unit 3**

Description of Modification:

Chapter 6.0, §6.3.1.2

**6.3.1.2 External Communications [F-3a(2)]**

The LERF and its operators are equipped with devices for summoning emergency assistance from the Hanford Fire Department, the Hazardous Materials Response Team, and/or local emergency response teams Hanford patrol, as necessary. External communication to summon emergency assistance is made by either a telephone communication system or mobile two-way radios-hand held radio as described in Permit Attachment 4, Hanford Emergency Management Plan, (DOE/RL-94-02). The LERF telephone is available in the instrumentation building. ~~Personnel assigned to emergency response organizations are reached in the following ways:~~

- ~~• Telephone number 911 is the contact point for the Hanford Site; on notification, the Hanford Patrol Operations Center notifies and/or dispatches required emergency responders~~
- ~~• Telephone number 373-3800 single point of contact for the emergency duty officer; this number can be dialed from any Hanford Site telephone~~
- ~~• Two-way radio system consists of hand held; the system accesses the Hanford Site emergency network and can summon the Hanford Fire Department, Hanford Patrol, and/or any other assistance needed to deal with emergencies.~~
- ~~• The ETF is equipped with devices for summoning emergency assistance from the Hanford Fire Department and/or local emergency response teams as necessary. External communication is made via a telephone communication system or two-way radios.~~

~~Telephones are provided at numerous locations throughout the ETF. In addition, the following external communication systems are available for notifying persons assigned to emergency response organizations:~~

- ~~• Fire alarm pull boxes and fire sprinkler flow monitoring devices connected to a system monitored around the clock by the Hanford Fire Department~~
- ~~• Telephone number 911 contact point for the Hanford Site; on notification, the Hanford Patrol Operations Center notifies and/or dispatches required emergency responders~~
- ~~• Telephone number 373-3800 single point of contact for the emergency duty officer; this number can be dialed from any Hanford Facility telephone~~
- ~~• Crash alarm telephone system consists of selected telephones that automatically are disassociated from the regular system and connected to control stations~~
- ~~• Priority message system (Management Bulletin) a network of telefax machines used to disseminate information to personnel~~
- ~~• The DOE RL radio system radio systems and frequencies available for emergency communications. For ETF, fire alarm pull boxes and telephones are used as external communication systems, as described in Permit Attachment 4, Hanford Emergency Management Plan, (DOE/RL-94-02), are provided at numerous locations throughout the ETF.~~

WAC 173-303-830 Modification Class

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**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 6.0, §6.3.1.3

**6.3.1.3 Emergency Equipment [F-3a(3)]**

The LERF and ETF rely primarily on the Hanford Fire Department to respond to fires and other emergencies as described in Permit Attachment 4, *Hanford Emergency Management Plan, (DOE/RL-94-02)*. The Hanford Fire Department is capable of providing rapid response to fires within the 200 East Area. All LERF and ETF operators are familiar with the LERF and ETF contingency plans (Attachment 34, Chapter 7.0) and are trained in the use of emergency pumping of LERF/200 Area ETF systems, fire, and communications equipment. ~~The Hanford Site maintains a sufficient inventory of heavy equipment (i.e., bulldozers, cranes, road graders) for emergency response.~~

Portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment is available at various locations in the ETF.

Fire control equipment is available at the ETF and could include the following:

- Fire extinguishers (all-utility use, dry chemical), good for use on small fires
- Automatic fire suppression systems installed in the ETF control room and electrical room
- Fire alarm pull boxes
- A water spray system is installed in the operating and administrative portions of the ETF.

Respirators, hazardous material protective gear, and special work procedure clothing for ETF personnel are kept in the change room at the ETF. Safety showers are located in convenient locations in the ETF. Portable emergency eyewashes are used at the ETF. Water for these devices is supplied from the ETF sanitary water system.

WAC 173-303-830 Modification Class

Class 1	Class '1	Class 2	Class 3
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Please mark the Modification Class:

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**Part III, Operating Unit 3**

Description of Modification:

Chapter 6.0, §6.3.1.4

**6.3.1.4 Water for Fire Control [F-3a(4)]**

A water main is not provided to the LERF. Water for fire control is supplied by the Hanford Fire Department trucks for fires requiring high water volume and pressure. ~~Each fire station normally has a truck equipped with a hydraulically operated aerial ladder, and one pumper (backup fire engine, without a boom, that is used if the aerial ladder is inoperable). Fire engines have a pumping capacity of at least 5,600 liters of water per minute. Other fire protection equipment uses chemicals rather than water as an extinguishing media described in Permit Attachment 4.~~ Hanford Emergency Management Plan, (DOE/RL-94-02).

The ETF is serviced by two 12-inch raw water lines that are tied into the 200 East Area raw water distribution grid. These lines provide a looped configuration that supplies two independent sources of raw water for fire protection and raw water uses. Connections from the ETF raw water system supply fire hydrants and the wet-pipe sprinkler system.

In the event that water pressure is lost, the Hanford Fire Department is equipped with fire engines to provide needed water.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1

Class 1<sup>1</sup>

Class 2

Class 3

X

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 7.0, §7.0

**7.0 CONTINGENCY PLAN [G]**

The WAC 173-303 requirements for a contingency plan at LERF/200 Area ETF are satisfied in the following documents: Portions of Hanford Facility RCRA Permit, ~~DW Portion, Attachment (Permit) Attachment 4,~~ *Hanford Emergency Management Plan (DOE/RL-94-02)* and this Chapter.

The unit-specific building emergency plan also serves to satisfy a broad range of other requirements [e.g., Occupational Safety and Health Administration standards (29 CFR 1910), *Toxic Substance Control Act of 1976* (40 CFR 761) and U.S. Department of Energy Orders]. Therefore, revisions made to portions of this ~~contingency plan document~~ unit-specific building emergency plan that are not governed by the requirements of WAC 173-303 will not be considered as a modification subject to WAC 173-303-830 or ~~Hanford Facility RCRA Permit (DW Portion)~~ Condition I.C.3.

Table 7.1 identifies ~~which portions~~ the sections of the unit-specific building emergency plan are written to meet WAC 173-303-350(3) contingency plan requirements. In addition ~~to the building emergency plan portions identified in Table 7.1,~~ Section 12.0 of the unit-specific building emergency plan is written to meet WAC 173-303 requirements identifying where copies of ~~the Permit Attachment 4, Hanford Emergency Management Plan (DOE/RL-94-02)~~ and the building emergency plan are located and maintained on the Hanford Facility. Therefore, revisions to Section 12.0 of the building emergency plan and the portions identified in Table 7.1 are considered Chapter 7.0 require a modification subject to WAC 173-303-830 and/or Hanford Facility RCRA Permit (DW Portion) Condition I.C.3.

WAC 173-303-830 Modification Class  
Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

**Description of Modification:**

Chapter 7.0, Table 7.1

Table 7.1. Hanford Facility Documents Containing Contingency Plan Requirements of WAC 173-303-350(3)

Requirement	IP RCRA Permit Attachment 4, Hanford Emergency Management Plan (DOE/RL-94-02)	Building Emergency Plan <sup>1</sup> (HNF-IP-0263-ETF)	Attachment 34 Part III, OU-3, LERF & 200 Area ETF, Chapter 7.0
...			

An "X" indicates requirement applies.

<sup>1</sup> Portions of the ~~Permit Attachment 4, Hanford Emergency Management Plan (DOE/RL-94-02)~~ not enforceable through Appendix A of that document are not made enforceable by reference in the building emergency plan.

<sup>2</sup> ~~Permit Attachment 4, Hanford Emergency Management Plan (DOE/RL-94-02)~~ contains descriptions of actions relating to the Hanford Site Emergency Preparedness System. No additional description of actions are required if at the site level. If other credible scenarios exist or if emergency procedures at the unit are different, the description of actions contained in the building emergency plan will be used during an event by a building emergency director.

<sup>3</sup> Sections 7.1, 7.2 through 7.2.5, and 7.3 of the building emergency plan are those sections subject to the Class 2 "Changes in emergency procedures (i.e., spill or release response procedures)" described in WAC 173-303-830 Appendix I Section B.6.a.

<sup>4</sup> This requirement only applies to TSD units, which receive shipment of dangerous or mixed waste defined as off-site shipments in accordance with WAC 173-303.

<sup>5</sup> Emergency Coordinator names and home telephone numbers are maintained separate from any contingency plan document, on file in accordance with ~~Hanford Facility RCRA Permit, DW Portion, General Condition II.A.4~~ and is updated, at a minimum, monthly.

<sup>6</sup> The Hanford Facility (sitewide) signals are provided in this document. No unit/building signal information is required unless unique devices are used at the unit/building.

<sup>7</sup> An evacuation route for the TSD unit must be provided. Evacuation routes for occupied buildings surrounding the TSD unit are provided through information boards posted within buildings.

WAC 173-303-830 Modification Class  
Please mark the Modification Class:

Class 1	Class 1 <sup>1</sup>	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P. Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 7.0, §7.2

**7.2 BUILDING EMERGENCY DIRECTOR**

Emergency response will be directed by the Building Emergency Director (BED) until the Incident Commander (IC) arrives. The Incident Command System and staff with supporting on-call personnel fulfill the responsibilities of the Emergency Coordinator as discussed in WAC 173-303-360.

During events, ETF/LERF personnel perform response duties under the direction of the BED. The Incident Command Post (ICP) is managed by the senior Hanford Fire Department official, unless the event is determined to be primarily be a security event, in which case the Hanford Fire Department and Hanford Patrol will operate under a unified command system with Hanford Patrol making all decisions pertaining to security. These individuals are designated as the IC and as such, have the authority to request and obtain any resources necessary for protecting people and the environment. The BED becomes a member of the ICP and functions under the direction of the IC. In this role, the BED continues to manage and direct LERF/ETF operations.

A listing of BEDs by title, work location, and work telephone numbers is contained in Section 7.7 of this plan. The BED is on the premises or is available through an "on-call" list 24 hours a day. Names and home telephone numbers of the BEDs are available from the Patrol Operations Center (POC) in accordance with ~~Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.~~

WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class 1	Class 2	Class 3
	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.  
Enter wording of WAC 173-303-830, Appendix I Modification citation:  
A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)  
Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07  
G. P Davis Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 7.0, §7.3

**7.3 IMPLEMENTATION OF THE PLAN**

~~The~~ In accordance with WAC 173-303-360(2)(b) the BED ensures that trained personnel identify the character, source, amount, and areal extent of the release, fire, or explosion to the extent possible. Identification of waste can be made by activities that can include, but are not limited to, visual inspection of involved containers, sampling activities in the field, reference to inventory records, or by consulting with facility personnel. Samples of materials involved in an emergency might be taken by qualified personnel and analyzed as appropriate. These activities must be performed with a sense of immediacy and shall include available information.

The BED shall use the following guidelines to determine if an event has met the requirements of WAC 173-303-360(2)(d):

1. The event involved an unplanned spill, release, fire, or explosion,  

AND
- 2.a The unplanned spill or release involved a dangerous waste, or the material involved became a dangerous waste as a result of the event (e.g., product that is not recoverable.), or
- 2.b The unplanned fire or explosion occurred at the ETF/LERF or transportation activity subject to RCRA contingency planning requirements,  

AND
3. Time-urgent response from an emergency services organization was required to mitigate the event or a threat to human health or the environment exists.

As soon as possible, after stabilizing event conditions, the BED shall determine, in consultation with the FH site contractor environmental single point-of-contact, if notification to the Washington State Department of Ecology (Ecology) is needed to meet WAC 173-303-360 (2)(d) reporting requirements. If all of the conditions under 1, 2, and 3 are met, notifications are to be made to Ecology. Additional information is found in Permit Attachment 4, Hanford Emergency Management Plan, Section 4.2 (DOE/RL-94-02), Section 4.2.

If review of all available information does not yield a definitive assessment of the danger posed by the incident, a worst-case condition will be presumed and appropriate protective actions and notifications will be initiated. The BED is responsible for initiating any protective actions based on their best judgment of the incident.

The BED must assess each incident to determine the response necessary to protect the personnel, facility, and the environment. If assistance from Hanford Patrol, Hanford Fire Department, or ambulance units is required, the Hanford Emergency Response Number (911) must be used to contact the POC and request the desired assistance. To request other resources or assistance from outside the ETF/LERF, the POC business number is used (373-3800).

WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class 1	Class 2	Class 3
	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)  
Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 7.0, §7.3.1.1:

**7.3.1.1 Evacuation**

The objective of a facility evacuation order is to limit personnel exposure to hazardous materials or dangerous/mixed waste by increasing the distance between personnel and the hazard. The scope of the evacuation includes evacuation of the facility because of an event at the facility as well as evacuation of the facility in response to a site evacuation order. Evacuation will be directed by the BED when conditions warrant and will apply to all personnel not actively involved in the event response or emergency plan-related activities.

The BED will initiate the evacuation by directing an announcement be made to evacuate along with the evacuation location over a public address system, facility radios, and, as conditions warrant, by activating the 200 Area site evacuation alarms by calling the POC using 911 or 373-3800 (if using a cellular phone). Personnel proceed to a predetermined staging area (shown in Figure 7.2), or other safe upwind location, as determined by the BED. The BED will determine the operating configuration of the facility and identify any additional protective actions to limit personnel exposure to the hazard.

Emergency organization personnel or assigned operations personnel will conduct a sweep of occupied buildings to ensure that all non-essential personnel and visitors have evacuated. For an immediate evacuation, accountability will be performed at the staging area. The BED will assign personnel as accountability aides and staging managers with the responsibility to ensure that evacuation actions are taken at all occupied buildings at the ~~ETF or LERF complexes~~. All implementing actions executed by the aides/managers are directed by the emergency response procedures. When evacuation actions are complete, the aides/managers will provide a status report to the BED. The BED will provide status to the ~~Incident Commander~~ IC.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/15/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 7.0, §7.3.2:

**7.3.2 Response to Facility Operations Emergencies**

Depending on the severity of the following events, the BED reviews the site wide procedures and ETF/LERF emergency response procedure(s) and, as required, categorizes and/or classifies the event. If necessary, the BED initiates area protective actions and Hanford Site Emergency Response Organization activation. The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1

Class 1

Class 2

Class 3

X

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

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Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 7.0, §7.3.2.4:

**7.3.2.4 Fire and/or Explosion**

In the event, of a fire, the discoverer activates a fire alarm (pullbox); calls 911 (373-3800 if using a cellular phone) or verifies that 911 have been called. Automatic initiation of a fire alarm (through the smoke detectors, sprinkler systems, and pull boxes) is also possible.

- Unless otherwise instructed, personnel shall evacuate the area/building by the nearest safe exit and proceed to the designated staging area for accountability.
- On actuation of the fire alarm, ONLY if time permits, personnel should shut down equipment, secure waste, and lock up classified materials (or hand carry them out). The alarm automatically signals the Hanford Fire Department.
- The BED proceeds directly to the ICP, obtains all necessary information pertaining to the incident and sends a representative to meet Hanford Fire Department.
- The BED provides a formal turnover to the IC when the IC arrives at the ICP.
- The BED informs the Hanford Site Emergency Response Organization as to the extent of the emergency (including estimates of dangerous waste and mixed waste quantities released to the environment).
- If operations are stopped in response to the fire, the BED ensures that systems are monitored for leaks, pressure buildup, gas generation and ruptures.
- Hanford Fire Department firefighters extinguish the fire as necessary.

NOTE: Following a fire and/or explosion, WAC 173-303-640(7) will be addressed for the ETF regarding fitness for use.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

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Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 7.0, §7.3.2.5:

**7.3.2.5 Hazardous Material, Dangerous and/or Mixed Waste Spill**

Spills can result from many sources including process leaks, container spills or leaks, damaged packages or shipments, or personnel error. Spills of mixed waste are complicated by the need to deal with the extra hazards posed by the presence of radioactive Atomic Energy Act materials. These controls include containment berms, dedicated spill control sumps, remote gauges and level indicators as well as spray shields on chemical pipe flanges. LPCS procedures provide alarm response and maintenance actions for leak detection equipment, surveillance of possible leak locations, and response actions for detected spills.

- The discoverer notifies BED and initiates SWIMS response:
  - + Stops work
  - + Warns others in the vicinity
  - + Isolates the area
  - + Minimizes the spill if possible
  - + Requests the BED Secure ventilation.
- If Operations are stopped, the BED ensures that the plant is put in a safe shutdown configuration.
- The BED determines if emergency conditions exist requiring response from the Hanford Fire Department based on classification of the spill and injured personnel, and evaluates need to perform additional protective actions.
- If the Hanford Fire Department resources are not needed, the spill is mitigated with resources identified in Section 9.0 of this plan and proper notifications are made.
- If the Hanford Fire Department resources are needed, the BED calls 911 (373-3800 if using a cellular phone).
- The BED sends a representative to meet the Hanford Fire Department.
- The BED provides a formal turnover to the IC when the IC arrives at the ICP.
- The BED informs the Hanford Site Emergency Response Organization as to the extent of the emergency (including estimates of dangerous waste and mixed waste quantities released to the environment).
- If operations are stopped in response to the spill, the BED ensures that systems are monitored for leaks, pressure buildup, gas generation, and ruptures.
- Hanford Fire Department stabilizes the spill.

NOTE: For response to leaks or spills and disposition of leaking or unfit-for-use tank systems, refer to WAC 173-303-640(7).

WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class 1	Class 2	Class 3
	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.  
 Enter wording of WAC 173-303-830, Appendix I Modification citation:  
 A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)  
Reason for denial:

Reviewed by Ecology:

*Greta P. Davis 6/15/07*  
 G. P Davis Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 7.0, §7.3.3:

**7.3.3 Prevention of Recurrence or Spread of Fires, Explosions, or Releases**

The BED, as part of the ~~incident command system~~ ICP, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The BED will take measures, where applicable, to stop processes and operations, collect and contain released waste, and remove or isolate containers. The BED also monitors for leaks, pressure buildups, gas generation, or ruptures in valves, pipes, or other equipment, whenever this is appropriate.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 7.0, §7.3.4

**7.3.4 Incident Recovery and Restart of Operations**

A recovery plan is developed when necessary in accordance with Permit Attachment 4, Hanford Emergency Management Plan, Section 9.2 (DOE/RL-94-02), Section 9.2. A recovery plan is needed following an event where further risk could be introduced to personnel, the ETF/LERF, or the environment through recovery action and/or to maximize the preservation of evidence.

If this plan was implemented according to Section 7.3 of this plan, ~~the Washington State Department of Ecology is notified before operations can resume.~~ The Permit Attachment 4, Hanford Emergency Management Plan, Section 5.1 (DOE/RL-94-02), Section 5.1 discusses different reports to outside agencies. This notification is in addition to those required reports and includes the following statements:

- There are no incompatibility issues with the waste and released materials from the incident.
- All the equipment has been cleaned, fit for its intended use, and placed back into service.

The notification required by WAC 173-303-360(2)(j) may be made via telephone conference. Additional information that Ecology requests regarding these restart conditions will be included in the required 15-day report identified in Section 7.5 of this plan.

For emergencies not involving activation of the Hanford EOC, the BED ensures that conditions are restored to normal before operations are resumed. If the Hanford Site Emergency Response Organization was activated and the emergency phase is complete, a special recovery organization could be appointed at the discretion of DOE-RL to restore conditions to normal. This process is detailed in DOE-RL and contractor emergency procedures. The makeup of this organization depends on the extent of the damage and the effects. The onsite recovery organization will be appointed by the appropriate contractor's management.

WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class 1	Class 2	Class 3
	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.  
Enter wording of WAC 173-303-830, Appendix I Modification citation:  
A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)  
Reason for denial:

Reviewed by Ecology:

*Greta P. Davis 6/15/07*

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
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Description of Modification:

Chapter 7.0, §7.3.5

**7.3.5 Incompatible Waste**

After an event, the BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by ETF/LERF personnel or other assigned personnel. Permit Attachment 4, Hanford Emergency Management Plan, Section 9.2.3 (DOE/RL-94-02), Section 9.2.3, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of wastes was a factor in the incident, the BED or the onsite recovery organization ensures that the cause is corrected.

WAC 173-303-830 Modification Class  
Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 7.0, §7.3.6

**7.3.6 Post Emergency Equipment Maintenance and Decontamination**

All equipment used during an incident is decontaminated (if practicable) or disposed of as spill debris. Decontaminated equipment is checked for proper operation before storage for subsequent use. Consumable and disposed materials are restocked. Fire extinguishers are recharged.

The BED ensures that all equipment is cleaned and fit for its intended use before operations are resumed. Depleted stocks of neutralizing and absorbing materials are replenished, self-contained breathing apparatus are cleaned and refilled, protective clothing is cleaned or disposed of and restocked, etc..

WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class 1	Class 2	Class 3
	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

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Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/15/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 7.0, §7.4

**7.4 EMERGENCY EQUIPMENT**

Hanford Site emergency resources and equipment are described and listed in Permit Attachment 4, Hanford Emergency Management Plan, Appendix C (DOE/RL-94-02), Appendix C. Emergency resources and equipment for the ETF/LERF are presented in this section.

WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class 1	Class 2	Class 3
	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.  
 Enter wording of WAC 173-303-830, Appendix I Modification citation:  
 A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)  
Reason for denial:

Reviewed by Ecology:  
*Greta P. Davis* 6/5/07  
 G. P Davis Date

### Hanford Facility RCRA Permit Modification Notification Form

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 7.0, §7.4.1:

**7.4.1 Fixed Emergency Equipment**

TYPE	LOCATION	CAPABILITY
Safety shower/eye wash stations (ETF only)	1 - 2025E Rm 122 Decon Station 1 - 2025E South Wall of Process Area 1 - 2025E Rm 134 1 - Outside south 2025E near acid/ caustic tanks 1 - Outside at Load-in station 1 - 2025E Rm 112 Laboratory 1 - 2025E Rm 140	Assist in flushing chemicals/ materials from the body and/ or eyes and face of personnel.
Wet pipe sprinkler (ETF only)	Throughout the ETF except those areas protected by pre-active sprinklers.	Assist in the control of a fire.
Preactive sprinkler (ETF only)	Control room, communications room, electrical equipment room	Assist in the control of a fire. Maintained dry to prevent accidental damage to equipment.
Fire alarm pull boxes (ETF only)	All high traffic areas in operations administration and support areas, truck bay, and process area	Activate the local fire alarm
E-lights	Throughout ETF	1 hour temporary lighting

WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class '1	Class 2	Class 3
	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

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Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P Davis

Date

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Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 7.0, §7.4.3

**11.1.1 Communications Equipment/Warning Systems**

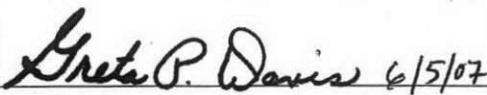
TYPE	LOCATION	CAPABILITY
Fire alarms (ETF only)	Corridors, locker rooms, process area, drum storage, and truck bay	Audible throughout ETF
Take cover/evacuation	<del>Site Emergency Alarm System</del> Throughout the ETF	Audible outside buildings and inside administrative buildings
Public address system (ETF Only)	Throughout the ETF	Audible throughout ETF
Portable radios	Operations and maintenance personnel	Communication to control room
Telephone	ETF – control room, 2025E, 2025EA offices, MO-269, 2025EC71.  LERF – MO-727 and 242AL71 instrument building LERF Garage 242AL11  TEDF – 225E(pump house 1), 225W (pump house 2), 6653 (sample building), 6653A (pump house 3)	Internal and external communications. Allows notification of outside resources (POC, HFD, Hanford Patrol, etc.)
Crash alarms (ETF only)	Control room, 2025EA Rm 101	Audible in ETF control room
Area Monitors, Continuous Air Monitors	Evaporator skid and drum loadout area	Equipment only activated during campaigns for potential ALARA concerns

Note: Site-Wide communications and warning systems are identified in Permit Attachment 4, *Hanford Emergency Management Plan*, (DOE/RL-94-02), Table 5.1.

WAC 173-303-830 Modification Class	Class 1	Class '1	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.  
 Enter wording of WAC 173-303-830, Appendix I Modification citation:  
 A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)  
 Reason for denial:

Reviewed by Ecology:  
  
 G. P Davis Date

### Hanford Facility RCRA Permit Modification Notification Form

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 7.0, §7.4.4

**7.4.4 Personal Protective Equipment**

Self-contained breathing apparatus (SCBA)	4—2025E Rm 116	Breathable air for initial response to emergency, and recovery activities when required for protection.
Acid suits	3 each included in the spill response cabinets in 2025E	Chemical protection for personnel during containment and isolation.
Respirators	2025E Rm 107A201	Filtered air for recovery of known hazards.

WAC 173-303-830 Modification Class  
Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)  
Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit: <b>LERF/200 Area ETF</b>	Permit Part <b>Part III, Operating Unit 3</b>
-----------------------------------	--

**Description of Modification:**

Chapter 7.0, §7.4.5:

**7.4.5 Spill Control and Containment Supplies**

**SPILL KITS AND SPILL CONTROL EQUIPMENT**

TYPE	LOCATION	CAPABILITY
Spill bag, drums, pads, pillow, etc.	1 - TEDF 6653 Disposal Sampling Building 4 - 2025E in process area 1 - 2025E upper level process area 1 - 2025E Rm 125A 1 - 2025E Rm 140 1 - 2025ED Load-In Station 1 - 90-day storage CONEX East of 2025E building 1 - MO-727 Change Trailer	Support containment and cleanup of 6 gallons of acids or bases, hazardous material spills.
Drum spill kit	2 - 2025E building in process area 1 - MO-727 Change Trailer	Support containment and cleanup of 51 gallons of acids or bases.
Spill cart	2 - 2025E building in process area	Support containment and cleanup of 77 gallons of acids or bases.
Spill response cabinet	1 - 2025E Rm 122 1 - outside southeast side of 2025E	Support equipment for spill response for acids and bases.
Spill bag	1 - 2025E Rm 112 1 - 2025E upper level process area	Support containment and cleanup of 10 gallons of acids or bases.

WAC 173-303-830 Modification Class	Class 1	Class 1	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 7.0, §7.4.6

**7.4.6 Incident Command Post**

The ICPs for the ETF/LERF are in ETF control room or ~~the 242 A Evaporator control room~~ 2025 EA/ 101.  
Emergency resource materials are stored at each location. The IC could activate the Hanford Fire Department Mobile Command Unit if necessary.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1	Class 1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 7.0, §7.5

**7.5 REQUIRED REPORTS**

Post incident, written reports are required for certain incidents on the Hanford Site. The reports are described in Permit Attachment 4, Hanford Emergency Management Plan, Section 5.1 (DOE/RL-94-02)), Section 5.1.

Facility management must note in the TSD-unit operating record, the time, date and details of any incident that requires implementation of the contingency plan (refer to Section 7.3 of this plan). Within fifteen (15) days after the incident, a written report must be submitted to Ecology. The report must include the elements specified in WAC 173-303-360(2)(k).

WAC 173-303-830 Modification Class  
Please mark the Modification Class:

Class 1	Class '1	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*Greta P. Davis* 6/5/07

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:

Chapter 7.0, §7.6

**7.6 PLAN LOCATION AND AMENDMENTS**

Copies of this plan are maintained at the following locations:

- ETF control room
- ~~242-A Evaporator control room~~
- Operations Managers office (Building 2025EA, ~~room~~Room 101)
- ~~200 LWPF regulatory file~~

This plan will be reviewed and immediately amended as necessary, in accordance with Permit Attachment 4, Hanford Emergency Management Plan, Section 14.3.1.1 (DOE/RL-94-02), Section 14.3.1.1.

WAC 173-303-830 Modification Class

Please mark the Modification Class:

Class 1

Class 1

Class 2

Class 3

X

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*Greta P. Davis 6/5/07*

G. P Davis

Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**LERF/200 Area ETF**

Permit Part  
**Part III, Operating Unit 3**

Description of Modification:  
Chapter 7.0, §7.7

**7.7 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION**

ETF/LERF Building Emergency Directors		
TITLE	WORK LOCATION	WORK PHONE
Shift Operation Manager (SOM)	2025E Building – ETF control room	373-9000
	or 242 A Evaporator control room	or 373-2737-9500
Operations Manager	2025EA/101	372-3142

Names and home telephone numbers of the BEDs are available from the POC (373-3800) in accordance with Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class '1	Class 2	Class 3
	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.  
 Enter wording of WAC 173-303-830, Appendix I Modification citation:  
 A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)  
 Reason for denial:

Reviewed by Ecology:  
*Greta P. Davis* 6/5/07  
 G. P Davis Date

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**242A Evaporator**

Permit Part  
**Part III Operating Unit 4**

Description of Modification:

Hanford Facility RCRA Permit III.4:

**PART III, OPERATING UNIT 4 UNIT-SPECIFIC CONDITIONS**

**242-A Evaporator**

The 242-A Evaporator is a mixed waste treatment and storage unit consisting of a conventional forced-circulation, vacuum evaporation system to concentrate mixed-waste solutions located in the 200 East Area.

This document sets forth the operating conditions for the 242-A Evaporator.

**II.4.A COMPLIANCE WITH PERMIT CONDITIONS**

The Permittees shall comply with all requirements set forth in the Hanford Facility RCRA Permit (Permit) as specified in Permit Attachment 3, Permit Applicability Matrix, including all approved modifications. All chapters, subsections, figures, tables, and appendices included in the following unit-specific Permit Conditions are enforceable in their entirety.

In the event that the Part III-Unit-Specific Conditions for Operating Unit 4, 242-A Evaporator conflict with the Part I-Standard Conditions and/or Part II-General Facility Conditions of the Permit, the unit-specific conditions for Operating Unit 4, 242-A Evaporator prevail.

**OPERATING UNIT 4:**

- Chapter 1.0 Part A Form, Revision 9, dated May 2005
- Chapter 2.0 Unit Description, dated August 2004
- Chapter 3.0 Waste Analysis Plan, dated December 31, 2005
- Chapter 4.0 Process Information, dated ~~March 31, 2007~~ June 30, 2007
- Appendix 4B Tank Integrity Assessment, dated December 31, 2002
- Chapter 5.0 Groundwater Monitoring, dated (not applicable)
- Chapter 6.0 Procedures to Prevent Hazards, dated March 31, 2007 (also refer to Permit Attachment 33, §6.1, Security)
- Chapter 7.0 Contingency Plan, dated June 30, 2004
- Chapter 8.0 Personnel Training, dated December 31, 2002
- Chapter 11.0 Closure and Post-Closure Requirements, dated December 31, 2005
- Chapter 12.0 Reporting and Recordkeeping (refer to Permit Attachment 33, Table 12.1, Reports and Records)

**II.4.B UNIT-SPECIFIC CONDITIONS FOR 242-A EVAPORATOR**

Portions of Permit Attachment 4 (DOE/RL-94-02) that are not made enforceable by inclusion in the applicability matrix for that document are not made enforceable by reference in this document.

WAC 173-303-830 Modification Class <sup>1 2</sup>	Class 1	Class <sup>1</sup>	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*G. P. Davis* 5-7-07

G. P Davis

Date

<sup>1</sup> Class 1 modifications requiring prior Agency approval.

<sup>2</sup> 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 <sup>1</sup>, if appropriate.

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**242A Evaporator**

Permit Part  
**Part III Operating Unit 4**

**Description of Modification:** Remove and replace Chapter 4.0 with the attached Chapter 4.0 dated June 30, 2007. Chapter 4.0, § 4.1.3:

\*\*\*

Transfer pipelines are 2-inch diameter, carbon steel encased lines which route slurry to a designated underground DST within the 200 East Area. All transfer pipelines are encased in a secondary containment pipe and equipped with leak detectors between the primary and encasement piping. The pipelines are sloped to drain to the valve pit. The detection of any leak by the automated leak detection system automatically shuts off the slurry pump. In lieu of the MCS automated shutdown, the slurry pump (P-B-2) can be manually shutdown at the direction of the Shift Manager or 242-A Evaporator Control Room Operator if a leak occurs.

\*\*\*

WAC 173-303-830 Modification Class <sup>1 2</sup>

Please mark the Modification Class:

Class 1	Class <sup>1</sup>	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: -830(4)(d) Other Modifications

Enter wording of WAC 173-303-830, Appendix I Modification citation: A.1.

A.1. General Permit Provisions, Administrative and informational changes.

Modification Approved:  Yes  No (state reason for denial)

Reason for denial:

Reviewed by Ecology:

*G. P. Davis* 5-7-07

G. P Davis

Date

<sup>1</sup> Class 1 modifications requiring prior Agency approval.

<sup>2</sup> 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 <sup>1</sup>, if appropriate.

**Hanford Facility RCRA Permit Modification Notification Form**

Unit:  
**242A Evaporator**

Permit Part  
**Part III Operating Unit 4**

Description of Modification: Remove and replace Chapter 4.0 with the attached Chapter 4.0 dated June 30, 2007. Chapter 4.0, § 4.1.8:

...

The 242-A Evaporator process is controlled by the MCS. The MCS computer monitors liquid levels in the vapor-liquid separator (C-A-1) and condensate collection tank (C-100). The MCS system manages liquid levels in the C-A-1 using an auto-cascade function that controls feed delivery to the C-A-1 vessel. The MCS system also manages liquid levels in the C-100 using an auto-cascade function to maintain the tank level at approximately 50-percent. The MCS has alarms that annunciate on high-liquid levels for both C-A-1 and C-100 to notify operators that actions must be taken to prevent overfilling of these vessels.

An interlock is activated when high-liquid level in the vapor-liquid separator (C-A-1) is detected, automatically shutting down the feed transfer pump at feed tank 241-AW-102, thereby preventing overfilling of the vessel and carryover of slurry into the process condensate system. The condensate collection tank (C-100) has an overflow line that routes solution to feed tank 241-AW-102 in case of overfilling.

Process and instrumentation drawings are listed in Section 4.3.

The MCS also provides an automated interlock to shutdown the process condensate pump (P-C-100), recirculation pump (P-B-1) and slurry pump (P-B-2) if a leak is detected. The process condensate pump (P-C-100), recirculation pump (P-B-1) and slurry pump (P-B-2), can be shutdown automatically using the MCS interlock and/or manually at the direction of the Shift Manager or 242-A Evaporator Control Room Operator if a leak occurs.

...

WAC 173-303-830 Modification Class <sup>1 2</sup>	Class 1	Class <sup>1</sup>	Class 2	Class 3
Please mark the Modification Class:	X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1.

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

A.1. General Permit Provisions, Administrative and informational changes.

Modification Approved:  Yes  No (state reason for denial)  
Reason for denial:

Reviewed by Ecology:

*G. P. Davis* 5-9-07

G. P Davis

Date

<sup>1</sup> Class 1 modifications requiring prior Agency approval.

<sup>2</sup> 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 <sup>1</sup>, if appropriate.

Quarter Ending March 31, 2007

24590-PTF-PCN-ENV-06-012

Hanford Facility RCRA Permit Modification Notification Form	
Unit: <b>Waste Treatment and Immobilization Plant</b>	Permit Part & Chapter: <b>Part III, Chapter 10 and Attachment 51</b>
Description of Modification:	
<p>The purpose of this modification is to update PTF Mechanical Data Sheet for the Pretreatment Facility Vessel Vent Caustic Scrubber (PVP-SCB-00002) currently located in Appendix 8.6 of the Dangerous Waste Permit (DWP).</p> <p>The following are the major changes to the above mentioned Mechanical Data Sheet:</p> <ul style="list-style-type: none"> <li>• Quantified volume and seismic base moment in <i>Service Data</i></li> <li>• Revised diameter(s), height, and hydrostatic test pressure in <i>Design Data</i></li> <li>• Added fatigue and cyclic blocks in <i>Design Data</i></li> <li>• Quantified weight in <i>Miscellaneous Data</i></li> <li>• Deleted notes 1 and 2 in <i>Notes</i> block</li> <li>• Corrected 3<sup>rd</sup> bullet in note 4 of <i>Notes for Outline Profile of the PTF Vessel Vent Caustic Scrubber</i> to reference note 7 instead of note 4</li> <li>• Added bullets 2 through 6 to note 5 in <i>Notes for Outline Profile of the PTF Vessel Vent Caustic Scrubber</i></li> <li>• Added to note N03 "Dip pipe" (note 7 of <i>Notes for Outline Profile of the PTF Vessel Vent Caustic Scrubber</i>)</li> <li>• Nozzle N13 on scrubber out line moved to correct location on figure <i>Outline Profile of the PTF Vessel Vent Caustic Scrubber</i></li> <li>• Specified low/normal liquid levels, low/normal pH, normal density, packed section normal pressure drop, nozzle N06 normal flow rate, dry packing normal pressure drop, nozzle N07 normal flow rate, and outlet offgas NO<sub>2</sub>, NO, and CO<sub>2</sub> concentrations to the <i>Outline Profile of the PTF Vessel Vent Caustic Scrubber</i> data table</li> </ul> <p>Please note that the following was previously approved under modification numbers indicated, but is not currently reflected in Appendix 8.6 of the DWP:</p> <ul style="list-style-type: none"> <li>• 24590-PTF-MKD-PVP-P0002, Rev. 1 approved under modification 24590-PTF-PCN-ENV-05-011, Rev. 1, on January 6, 2006.</li> </ul>	
Appendix 8.6	
Replace: 24590-PTF-MKD-PVP-P0002, Rev 0	With: 24590-PTF-MKD-PVP-P0002, Rev 2






<sup>1</sup> Class 1 modifications requiring prior Agency approval.

<sup>2</sup> 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.

Quarter Ending March 31, 2007

24590-PTF-PCN-ENV-06-012

WAC 173-303-830 Modification Class: <sup>12</sup>	Class 1	Class 1	Class 2	Class 3
Please mark the Modification Class:	X			
Enter Relevant WAC 173-303-830, Appendix I Modification citation number: A.3				
Enter wording of WAC 173-303-830, Appendix I Modification citation: A.3 General Permit Provisions, Equipment replacement or upgrading with functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls)				
Modification Approved: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (state reason for denial)			Reviewed by Ecology:	
Reason for denial:			 S. Dahl	
			6/4/07 Date	

Quarter Ending 03/31/2007

24590-HLW-PCN-ENV-06-010

### Hanford Facility RCRA Permit Modification Notification Form

Unit:

Waste Treatment and Immobilization Plant

Permit Part &amp; Chapter:

Part III, Chapter 10 and Attachment 51

**Description of Modification:**

The purpose of this modification is to update *Engineering Specification for Vessel-Mounted Vertical Transfer Pumps - HLW Facility*, 24590-WTP-3PS-MPC0-TP009, currently located in Appendix 7.7 of the Dangerous Waste Permit (DWP). The updated specification includes additional design details, such as an upgraded material of construction for wetted components, nuclear safety definitions, operational and maintenance clarifications, editorial changes, and other changes. Changes in this document are marked by sidebars.

The following are the major changes to the above mentioned document:

- Added definitions relative to nuclear safety; such as additional-protection class structures, systems, and components (APC SSC); based on the WTP implementation of DOE-STD-3009-94, *Preparation Guide for U. S. Department of Energy Nonreactor Nuclear Facility Safety analysis Reports* (Section 1.4)
- Editorial change: clarified requirements for exceptions and date or revision of industry codes and standards (Section 2.1.2 and throughout the document)
- Clarified that the normal maintenance period is 5 years (Section 3.2.1)
- Added requirements for "harsh environment" and referenced *Engineering Specification for Environmental Qualification of Control and Electrical Systems and Components* (Section 3.3)
- Expanded design details specified in Section 3.5.7 such as maximum weight and the addition of stabilizing arm for the suction nozzle pin
- Updated design parameters and operational requirements, added a reference to Appendix B (Section 3.6)
- Updated requirements for drive motors, added a reference to Appendix B (Section 3.7)
- Specified solid Stellite 12 material for all wetted components in contact with high-velocity fluid (Section 4.1.4). The Stellite 12 is an upgrade from Ultimet since it may last approximately 2.5 times as long as Ultimet.
- Specified components requiring PMI testing (Section 4.2.1)
- Further clarified fabrication and shop testing criteria (Sections 5 and 6)
- Updated Appendix B Table Typical Chemical Composition of Slurries
- Other editorial changes, such as updated references and standards, are located throughout the document.

Please replace the following document in Appendix 7.7 of the Dangerous Waste Permit.

**Appendix 7.7**

Replace:	24590-WTP-3PS-MPC0-TP009, Rev. 0	With:	24590-WTP-3PS-MPC0-TP009, Rev. 1
----------	----------------------------------	-------	----------------------------------

WAC 173-303-830 Modification Class: <sup>1 2</sup>	Class 1	Class 1 <sup>1</sup>	Class 2	Class 3
Please mark the Modification Class:	X			

Enter Relevant WAC 173-303-830, Appendix I Modification citation number: A.1, A.3

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

**A. General Permit Provisions**

1. Administrative and informational changes
3. Equipment replacement or upgrading with functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls)

<sup>1</sup> Class 1 modifications requiring prior Agency approval.

<sup>2</sup> 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.

Quarter Ending 03/31/2007

24590-HLW-PCN-ENV-06-010

Modification Approved: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (state reason for denial)	Reviewed by Ecology:
Reason for denial:	<i>S. Dahl</i> <u>4/6/07</u> S. Dahl Date

Quarter Ending June 2007

24590-WTP-PCN-ENV-07-001

**Hanford Facility RCRA Permit Modification Notification Form**

Unit: <b>Waste Treatment and Immobilization Plant</b>	Permit Part & Chapter: <b>Part III, Chapter 10 and Attachment 51</b>
--	---

Description of Modification:

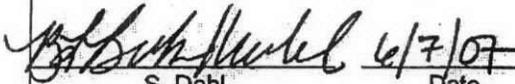
The purpose of this modification is to update the DWP Compliance Schedule located in Attachment 51, Appendix 1, to add an interim compliance schedule date for submittal of a 2007 progress report. Permit condition III.10.C.2.h requires the permittees to establish a compliance schedule date for submittal of a report of progress "if no interim requirement will be completed within a 12 month period."

The proposed interim compliance date for a 2007 progress report is ~~June 16, 2007~~ <sup>June 30, 2007</sup> <sup>BIRK</sup>. This date is 12 months after the last completed compliance schedule item, item 28, "Submit engineering information for HLW Vitrification Miscellaneous Treatment Unit sub-system," submitted to Ecology June 16, 2006. The proposed interim compliance schedule item is:

**36. Submit 2007 Report of Progress - 6/16/2007**

WAC 173-303-830 Modification Class: <sup>1 2</sup> Please mark the Modification Class:	Class 1	Class <sup>1</sup> 1	Class 2	Class 3
		x		

Enter Relevant WAC 173-303-830, Appendix I Modification citation number: A.5.a.  
 Enter wording of WAC 173-303-830, Appendix I Modification citation: "Changes in interim compliance dates, with prior approval of the director," also permit condition III.10.C.2.h, "Progress report Compliance Schedule dates shall be submitted to Ecology as a Class '1...'"

Modification Approved: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (state reason for denial) Reason for denial:	Reviewed by Ecology:  S. Dahl <span style="float: right;">6/7/07</span> <span style="float: right;">Date</span>
--	--

<sup>1</sup> Class 1 modifications requiring prior Agency approval.

<sup>2</sup> 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.