



0062195

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

04-OES-0109

JUL 8 2004

Ms. Greta P. Davis
Nuclear Waste Program
State of Washington
Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99352

RECEIVED
JUL 20 2004
EDMC

Dear Ms. Davis:

**NOTIFICATION OF CLASS 1 MODIFICATIONS TO THE HANFORD FACILITY
RESOURCE CONSERVATION AND RECOVERY ACT PERMIT**

In accordance with Condition I.C.3 of the Hanford Facility Resource Conservation and Recovery Act Permit (Permit), enclosed for your notification are the Class 1 modifications for the quarter ending June 30, 2004. Modifications this quarter included updating information in the List of Attachments, Part I, Part II, and Part III of the Permit. The List of Attachments Class 1 modifications pertain to Attachment 4, Hanford Emergency Management Plan. The Part I Class 1 modifications pertain to Permit Conditions I.A.1 and I.A.4. The Part II Class 1 modifications pertain to Permit Condition II.O.1.b. The Part III Class 1 modifications pertain to the Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility, 242-A Evaporator, and 325 Hazardous Waste Treatment Units. The Class 1 modifications are being made to ensure that all activities are conducted in compliance with the Permit.

If you have any questions, please contact me, or your staff may contact Joel Hebdon, Director, Office of Environmental Services, at (509) 376-6657.

Sincerely,

Keith A. Klein
Manager

OES:ACM

Enclosure

cc: See page 2

Ms. Greta P. Davis
04-OES-0109

-2-

JUL 8 2004

cc w/encl:

L. J. Cusack, Ecology
S. Harris, CTUIR
A. K. Ikenberry, PNNL
F. C. Jamison, Ecology
M. N. Jarayssi, CH2M Hill
R. Jim, YN
R. J. Landon, BHI
J. E. Rasmussen, ORP
P. Sobotta, NPT
J. H. Swailes, ORP
S. A. Thompson, FH
M. A. Wilson, Ecology
Administrative Record
HF Operating Record, H8-12
Ecology NWP Library
Environmental Portal, LMSI

cc w/o encl:

E. S. Aromi, CH2M Hill
K. Conaway, Ecology
R. D. Enge, PNNL
R. H. Gurske, FHI
A. A. Hamar, Ecology
S. J. Skurla, Ecology
J. J. Wallace, Ecology

Hanford Facility RCRA Permit Modification Notification Form
General Permit Conditions

Index

- Page 2 of 4: Permit Condition I.A.1
- Page 3 of 4: Permit Condition I.A.4
- Page 4 of 4: Permit Condition II.O.1.b

Hanford Facility RCRA Permit Modification Notification Form

| | |
|--|---|
| Unit: Hanford Facility RCRA Permit | Permit Part & Chapter: Part I, Permit Condition I.A.1 |
|--|---|

Description of Modification: Hanford Facility RCRA Permit Condition I.A.1:

I.A. EFFECT OF PERMIT

I.A.1 The Permittees are authorized to treat, store, and dispose of dangerous waste in accordance with the Conditions of this Permit and in accordance with the applicable provisions of Chapter 173-303 WAC (including provisions of the Chapter as they have been applied in the FFACO). Any treatment, storage, or disposal of dangerous waste by the Permittees at the Facility that is not authorized by this Permit, or by WAC 173-303-400 (including provisions of this regulation as they have been applied in the FFACO), for those TSD units not subject to this Permit, and for which a Permit is required by Chapter 173-303 WAC, is prohibited.

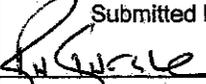
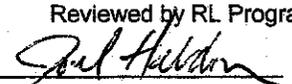
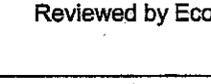
TSD units operating or closing under interim status shall maintain interim status until that TSD unit is incorporated into Part III, V, and/or VI of this Permit, or until interim status is terminated under WAC 173-303-805(8). Interim status units shall be incorporated into this Permit through the Permit Modification process. ~~(Refer to Attachment 27 for TSD unit incorporation).~~

| | | | | |
|--------------------------------------|---------|--------------------|---------|---------|
| Modification Class: ^{1 2 3} | Class 1 | Class ¹ | Class 2 | Class 3 |
| | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: **A.1.**

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

A. General Permit Provisions
 1. Administrative and informational changes

| | | |
|---|--|--|
| Submitted by Co-Operator:  R. H. Gurske | Reviewed by RL Program Office  J. B. Hebdon | Reviewed by Ecology:  G. P. Davis |
| 23 June 04 Date | 7/1/04 Date | Date |

¹ Class 1 modifications requiring prior Agency approval.
² This is only an advanced notification of an intended Class ¹, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.
³ 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 ¹, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

| | |
|--|---|
| Unit: Hanford Facility RCRA Permit | Permit Part & Chapter: Part I, Permit Condition I.A.4 |
|--|---|

Description of Modification: Hanford Facility RCRA Permit Condition I.A.4:

I.A.4 Coordination with the FFACO

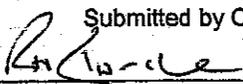
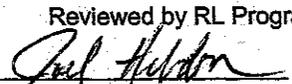
Each TSD unit shall have an application for a final status Permit or closure/post-closure plan submitted to Ecology in accordance with the schedules identified in the FFACO (e.g., Milestone M-20-00) or in accordance with WAC 173-303-830. After completion of the Permit application or closure/post-closure plan review, a final Permit decision will be made pursuant to WAC 173-303-840. Specific Conditions for each TSD unit shall be incorporated into this Permit in accordance with the Class 3 Permit Modification procedure identified in Condition I.C.3.

| | | | | |
|--------------------------------------|---------|--------------------|---------|---------|
| Modification Class: ^{1,2,3} | Class 1 | Class ¹ | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: **A.1**

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

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

| | | | | | |
|--|-----------------------------|---|-------------------------|---|-------------------|
| Submitted by Co-Operator:  R. H. Gurske | Date: 23 June 04 Date | Reviewed by RL Program Office:  J. B. Hebdon | Date: 7/1/04 Date | Reviewed by Ecology: G. P. Davis | Date: Date |
|--|-----------------------------|---|-------------------------|---|-------------------|

¹ Class 1 modifications requiring prior Agency approval.
² This is only an advanced notification of an intended Class ¹, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.
³ 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 ¹, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

| | |
|--|---|
| Unit: Hanford Facility RCRA Permit | Permit Part & Chapter: Part II, Permit Condition II.O.1.b |
|--|---|

Description of Modification: Hanford Facility RCRA Permit Condition II.O.1.b:

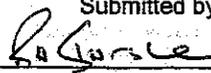
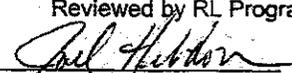
II.O GENERAL INSPECTION REQUIREMENTS

- II.O.1 The Permittees shall inspect the Facility to prevent malfunctions and deterioration, operator errors, and discharges, which may cause or lead to the release of dangerous waste constituents to the environment, or threaten human health. Inspections must be conducted in accordance with the provisions of WAC 173-303-320(2). In addition to the TSD unit inspections specified in Parts III, V, and/or VI, the following inspections will also be conducted:
 - II.O.1.a The 100, 200 East, 200 West, 300, and 400 areas shall be inspected annually.
 - II.O.1.b The Permittees shall inspect the banks of the Columbia River, contained within the Facility boundary, ~~two (2) times once a year~~. ~~One (1) inspection shall occur at the low water mark of the year and one (1) inspection shall occur at a time chosen by the Permittees.~~ These inspections shall be performed from the river, by boat, and the inspectors shall follow the criteria in Condition II.O.1.c.
 - II.O.1.c The Permittees shall visually inspect the areas identified in Conditions II.O.1.a and II.O.1.b for malfunctions, deterioration, operator errors, and discharges which may cause or lead to the release of dangerous waste constituents to the environment, or that threaten human health. Specific items to be noted are as follows:
 - II.O.1.c.i Remains of waste containers, labels, or other waste management equipment;
 - II.O.1.c.ii Solid waste disposal sites not previously identified for remedial action;
 - II.O.1.c.iii Uncontrolled waste containers (e.g., orphan drums);
 - II.O.1.c.iv Temporary or permanent activities that could generate an uncontrolled waste form; and
 - II.O.1.c.v Unpermitted waste discharges.

| | | | | |
|------------------------------------|---------|----------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class '1 | Class 2 | Class 3 |
| Please check one of the Classes: | | X | | |

Relevant WAC 173-303-830, Appendix I Modification: (d) Other modifications.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:
 Class 3 modification request to be reviewed and approved as a Class '1.

| | | |
|---|--|------------------------------------|
| Submitted by Co-Operator:  R. H. Gurske | Reviewed by RL Program Office  J. B. Hebdon | Reviewed by Ecology: G. P Davis |
| Date 23 June 04 | Date 7/1/04 | Date |

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class '1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ 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 '1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Forms

List of Attachments

Attachment 4, Hanford Emergency Management Plan

Index

- Page 2 of 3: Section 3.0, Table 3-1, Page 12 of 16
- Page 3 of 3: Section 3.0, Table 3-1, Page 13 of 16

Hanford Facility RCRA Permit Modification Notification Form

| | |
|---|--|
| Unit: Hanford Emergency Management Plan | Permit Part & Chapter: List of Attachments, Attachment 4 |
|---|--|

Description of Modification:

Section 3.0, Table 3-1, Page 12 of 16:

Table 3-1. Memorandums of Understanding

| PARTIES | SERVICES/AREAS OF COOPERATION | POINTS OF CONTACT | CONSTRAINTS | DATE | EXPIRATION DATE | WHERE ON FILE |
|---------------------------|--|--|---|----------------------|---|---------------|
| State of Washington | Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site. | Washington Emergency Management Division | None | 01/03/04 01/08/04 | 01/03/04 Three years from actual date of signature or until canceled by any party after 60 days written notice to the other parties. | RL SES |
| State of Oregon | Document areas of cooperation between the state of Oregon and RL in the planning for and providing notification and interface in the event of an incident on the Hanford Site. | Oregon Department of Energy | None | 06/21/00 | Continue until canceled by either party by written notice to the other Amendments or modifications to this Agreement may be made upon written agreement by both parties to the Amendment. | RL SES |
| Benton County | Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site. | Benton County Emergency Management | None | 03/16/00 | Continue until canceled by either party by written notice to the other. | RL SES |
| Franklin County | Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site. | Franklin County Emergency Management | None | 01/20/00 | Continue until canceled by either party by written notice to the other. | RL SES |
| Grant County | Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site. | Grant County Emergency Management | None | 05/25/00 | Continue until canceled by either party by written notice to the other. | RL SES |
| Energy Northwest | Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site. | Energy Northwest Emergency Preparedness | The specific areas of assistance will be provided based upon availability, and are limited to those emergency actions necessary to protect onsite personnel, the public health and safety, and the environment in the event of a major emergency at the Hanford Site or Energy Northwest. | 09/07/00 02/11/04 | Continue until canceled by either of the parties upon 30 days written notice to the other party. | RL SES |
| Energy Northwest and HEMF | Treatment of a significantly contaminated and injured person. | Energy Northwest Emergency Preparedness and HEMF | None | 09/08/00 | Continue until canceled by one or more of the parties upon 30 days written notice to the other(s). | RL SES |

Modification Class: ¹²³

Please check one of the Classes:

| | | | |
|---------|----------------------|---------|---------|
| Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

A. General Permit Provisions

1. Administrative and informational changes

| | | | |
|---------------------------------|---------------------------|----------------------|----------------------|
| Submitted by Co-Operator: | Reviewed by RL: | Reviewed by Ecology: | Reviewed by Ecology: |
| <i>Daniel J. Connell</i> 5/3/04 | <i>K. L. Flynn</i> 5/5/04 | Alicia Hamar | G. P. Davis |
| Daniel J. Connell Date | K. L. Flynn Date | Alicia Hamar Date | G. P. Davis Date |

¹ Class 1 modifications requiring prior Agency approval.² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.³ 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 ¹1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

| | |
|---|--|
| Unit: Hanford Emergency Management Plan | Permit Part & Chapter: List of Attachments, Attachment 4 |
|---|--|

Description of Modification:
Section 3.0, Table 3-1, Page 13 of 16:

Table 3-1. Memorandums of Understanding

| PARTIES | SERVICES/AREAS OF COOPERATION | POINTS OF CONTACT | CONSTRAINTS | DATE | EXPIRATION DATE | WHERE ON FILE |
|---|---|------------------------------------|--|----------|---|---------------|
| Framatome ANP (formerly Siemens Power Corporation) | Establishes means by which RL can provide consequence assessment and meteorological information to Framatome ANP during an emergency at the Framatome ANP plant in Richland, Washington | Framatome ANP | Emergencies affecting the Hanford Site or Hanford facilities takes precedence over all other uses of the UDAC facilities and/or staff. | 01/19/00 | Remain in effect for five years from effective date, at which time it shall be reviewed and renegotiated, reissued, or terminated. Either party may withdraw upon 30 days written notice. | RL SES |
| Framatome ANP (formerly Siemens Power Corporation) and HEHF | Treatment of a significantly contaminated and slightly injured person. | Framatome ANP and HEHF | Framatome ANP agrees to undertake all costs and expenses incurred that directly result from this agreement. | 01/03/00 | Continue until canceled by one or more of the parties by written notice to the other(s). | RL SES |
| Allied Technology Group, Inc. (ATG) and HEHF | Treatment of a significantly contaminated and slightly injured person. | ATG and HEHF | ATG agrees to undertake all costs and expenses incurred that directly result from this agreement. | 12/22/99 | Continue until canceled by one or more of the parties by written notice to the other(s). | RL SES |
| National Weather Service | Sharing Meteorological Information. | NWS Western Regional Headquarters. | None | 10/05/94 | Agreement may be terminated by either party upon thirty days written notice to the other party. | RL SES |
| Our Lady of Lourdes Hospital (OLOL) Pasco, Washington | Significantly injured, contaminated persons will be admitted to facility for appropriate medical care. | OLOL Administrator | The responsibilities of OLOL will be limited to activities performed at the hospital. | 08/17/98 | Arrangements may be terminated by OLOL or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof. | RL SES |
| Kadlec Medical Center (KMC) Richland, Washington | Significantly injured, contaminated persons will be admitted to facility for appropriate medical care. | KMC Administrator | KMC will be limited to activities performed at the hospital and at the Emergency Decontamination Facility. | 08/17/98 | Arrangements may be terminated by KMC or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof. | RL SES |
| Kennewick General Hospital (KGH) Kennewick, Washington | Significantly injured, contaminated persons will be admitted to facility for appropriate medical care. | KGH Administrator | KGH will be limited to activities performed at the hospital. | 08/17/98 | Arrangements may be terminated by KGH or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof. | RL SES |

| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

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

| | | | |
|---|--------------------------------------|----------------------|----------------------|
| Submitted by Co-Operator: | Reviewed by RL: | Reviewed by Ecology: | Reviewed by Ecology: |
| <i>D. J. Connell</i> Daniel J. Connell | <i>Karen L. Flynn</i> K. L. Flynn | Alicia Hamar | G. P. Davis |
| 5/4/04 Date | 5/5/04 Date | Date | Date |

¹ Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Forms
Part III, Chapter 4 and Attachment 34
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Index

- Page 2 of 4: Hanford Facility RCRA Permit, III.4
- Page 3 of 4: Chapter 7.0, Chapter 7.0, §7.3.1.1
- Page 4 of 4: Chapter 7.0, §7.3.1.2

Hanford Facility RCRA Permit Modification Notification Form

| | |
|---|--|
| Unit: Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility | Permit Part & Chapter: Part III, Chapter 4 and Attachment 34 |
|---|--|

Description of Modification:

Hanford Facility RCRA Permit, Condition III.4.A:

CHAPTER 4

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

This Chapter sets forth the operating Conditions for the Liquid Effluent Retention Facility (LERF) and the Effluent Treatment Facility (ETF).

III.4.A COMPLIANCE WITH APPROVED PERMIT APPLICATION

The Permittees shall comply with all requirements set forth in Attachment 34, including the Amendments specified in Condition III.4.B, if any exist. Enforceable portions of the application are listed below; all subsections, figures, and tables included in these portions are also enforceable, unless stated otherwise:

- Chapter 1.0 Part A, Dangerous Waste Permit LERF, Revision 6B, and Part A, Dangerous Waste Permit 200 Area ETF, Revision 3B, from Class 1 Modification dated December 31, 2003
- Chapter 2.0 Unit Description from Class 1 Modification dated March, 2003
- Chapter 3.0 Waste Analysis Plan, from Class 1 Modification dated December 31, 2003
- Chapter 4.0 Process Information, from Class 1 Modification dated December 31, 2003
- Chapter 5.0 Ground Water Monitoring (PNNL-11620 and WHC-SD-EN-AP-024), from Class 1 Modification dated March 2003
- Chapter 6.0 Procedures to Prevent Hazards, from Class 1 Modification dated December 31, 2003
- Chapter 7.0 Contingency Plan, from Class 1 Modification dated ~~February~~ June 30, 2004
- Chapter 8.0 Personnel Training, from Class 1 Modification dated March 2003
- Chapter 11.0 Closure and Financial Assurance, from Class 1 Modification dated February 2004

III.4.B. AMENDMENTS TO THE APPROVED PERMIT APPLICATION

- III.4.B.1. Interim status Groundwater Monitoring Plan for the 200 East Area Liquid Effluent Treatment Facility, WHC-SD-EN-AP-024
- III.4.B.2. Permittees must comply with all applicable portions of the RCRA Permit for the Hanford Facility. The facility and unit-specific recordkeeping requirements are distinguished in the RCRA Permit, Attachment 33, General Information Portion, Table 12.1 (DOE/RL-91-28) and are tied to the associated Sitewide RCRA Permit conditions.

| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

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

| | | | |
|--|--|----------------------|----------------------|
| Submitted by Co-Operator: <i>R. Wilde</i> 6/22/04 | Reviewed by RL Program Office: <i>M. S. McCormick</i> 6-22-04 | Reviewed by Ecology: | Reviewed by Ecology: |
| R. T. Wilde Date | M. S. McCormick Date | F. Jamison Date | G. P. Davis Date |

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ 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 ¹, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

| | |
|---|--|
| Unit: Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility | Permit Part & Chapter: Part III, Chapter 4 and Attachment 34 |
|---|--|

Description of Modification: Chapter 7.0: Remove and replace Chapter 7.0 with attached Chapter 7.0

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 identified in Attachment A. 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.

| | | | | |
|--------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ^{1 2 3} | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1

Enter wording of the modification from WAC 173-303-830, Appendix I citation

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

| | | | |
|--|--|----------------------|----------------------|
| Submitted by Co-Operator: <i>R. Wilde</i> 6-10-04 | Reviewed by RL Program Office: <i>M. S. McCormick</i> 6-21-04 | Reviewed by Ecology: | Reviewed by Ecology: |
| R. T. Wilde Date | M. S. McCormick Date | F. Jamison Date | G. P. Davis Date |

RND

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² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.
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Hanford Facility RCRA Permit Modification Notification Form

| | |
|---|--|
| Unit: Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility | Permit Part & Chapter: Part III, Chapter 4 and Attachment 34 |
|---|--|

Description of Modification: Chapter 7.0: Remove and replace Chapter 7.0 with attached Chapter 7.0

Chapter 7.0, §7.3.1.2:

7.3.1.2 Take Cover

The objective of the take cover order is to limit personnel exposure to hazardous materials, or dangerous/mixed waste when evacuation is inappropriate or not practical. Evacuation might not be practical or appropriate because of extreme weather conditions or the material release might limit the ability to safely evacuate personnel.

The BED will initiate the take cover by directing an announcement be made over the public address system, facility radios, and, as conditions warrant, by activating the 200 Area site take cover alarms by calling the POC using 911 or 373-3800 (if using a cellular phone). Actions to complete a facility take-cover will be directed by the emergency response procedure in Attachment A. Protective actions associated with operations include configuring, or shutting down, the ventilation systems. Determination of additional take cover response is based on plant operating configuration, weather conditions, amount and duration of release, and other conditions, as applicable to the event and associated hazard. As a minimum, personnel exposure to the hazard will be minimized. The BED will assign personnel as accountability aides with responsibility to ensure that take-cover actions are taken at all occupied buildings at the ETF complex. All implementing actions executed by the aides/managers are directed by the emergency response procedure in Attachment A. When take cover actions are complete, the aides/manager will provide the BED with a status report.

| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: **A. I**

Enter wording of the modification from WAC 173-303-830, Appendix I citation

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

| | | | |
|---|---|---|---|
| Submitted by Co-Operator: <i>R. Wilde</i> R. T. Wilde | Reviewed by RL Program Office: <i>M. S. McCormick</i> M. S. McCormick | Reviewed by Ecology: <i>F. Jamison</i> F. Jamison | Reviewed by Ecology: <i>G. P. Davis</i> G. P. Davis |
| 6-10-04 Date | 6-21-04 Date | Date | Date |

R.D.

¹ Class 1 modifications requiring prior Agency approval.
² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.
³ 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 ¹1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Forms
Part III, Chapter 5 and Attachment 35
242-A Evaporator

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| Page 2 of 16: | Hanford Facility RCRA Permit, Condition III.5 |
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| Page 7 of 16: | Chapter 7.0, §7.3.1.2 |
| Page 8 of 16: | Chapter 7.0, §7.3.2.1 |
| Page 9 of 16: | Chapter 7.0, §7.3.2.2 |
| Page 10 of 16: | Chapter 7.0, §7.3.2.6 |
| Page 11 of 16: | Chapter 7.0, §7.3.4 |
| Page 12 of 16: | Chapter 7.0, §7.3.5 |
| Page 13 of 16: | Chapter 7.0, §7.4.6 |
| Page 14 of 16: | Chapter 7.0, §7.5 |
| Page 15 of 16: | Chapter 7.0, §7.6 |
| Page 16 of 16: | Chapter 7.0, §7.7 |

Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Hanford Facility RCRA Permit, Condition III.5:

**CHAPTER 5
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. This Chapter sets forth the operating Conditions for this TSD unit.

III.5.A COMPLIANCE WITH APPROVED PERMIT APPLICATION

The Permittees shall comply with all requirements set forth in Attachment 35, including all Class 1 Modification, and the Amendments specified in Condition III.5.B, if any exist. All subsections, figures, and tables included in these portions are enforceable):

ATTACHMENT 35:

- Chapter 1.0 Part A, Form 3, Dangerous Waste Permit, Revision 8, from Class 1 Modification for quarter ending December 31, 2003
- Chapter 2.0 Unit Description, from Class 1 modification for quarter ending December 31, 2003
- Chapter 3.0 Waste Analysis Plan, from Class 1 Modification for quarter ending December 31, 2003
- Chapter 4.0 Process Information, from Class 1 Modifications for quarter ending December 31, 2003
- Chapter 6.0 Procedures to Prevent Hazards, from Class 1 Modification for quarter ending December 31, 2003
- Chapter 7.0 Contingency Plan, from Class 1 Modification from quarter ending June 30, 2004/December 31, 2003
- Chapter 8.0 Personnel Training, from Class 1 Modification from quarter ending December 31, 2002
- Chapter 11.0 Closure and Financial Assurance, from Class 1 Modification for quarter ending December 31, 2003
- Appendix 4B The 242-A Evaporator/Crystallizer Tank System Integrity Assessment Report, from Class 1 Modification for quarter ending December 31, 2002

III.5.B AMENDMENTS TO THE APPROVED PERMIT APPLICATION

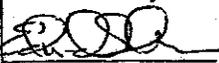
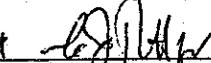
- III.5.B.1 Portions of DOE/RL-94-02 that are not made enforceable by inclusion in the applicability matrix for that document, are not made enforceable by reference in this document.
- III.5.B.2 Permittees must comply with all applicable portions of the RCRA Permit for the Hanford Facility. The facility and unit-specific recordkeeping requirements are distinguished in the RCRA Permit, Attachment 33, General Information Portion, Table 12.1 (DOE/RL-91-28) and are tied to the associated Sitewide RCRA Permit conditions.

| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1

Enter wording of the modification from WAC 173-303-830, Appendix I citation

- A. General Permit Provisions
 - 1. Administrative and Informational changes

| | | | |
|---|--|------------------------------------|-------------------------------------|
| Submitted by Co-Operator:  E. Aromi | Reviewed by DOE Program Office:  J. Swalles | Reviewed by Ecology: F. Jamison | Reviewed by Ecology: G. P. Davis |
| 6/25/04 Date | 6/25/04 Date | Date | Date |

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ 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 ¹1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0

Chapter 7.0, Table 7.1:

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

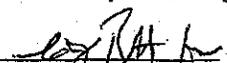
| Requirement | Permit Attachment 4 Hanford Emergency Management Plan (DOE/RL-94-02) | Building Emergency Plan ¹ (HNF-IP-0263-242A) | Permit Attachment 35, 242-A Evaporator, Chapter 7.0 |
|-------------|---|---|---|
| ... | ... | ... | ... |

| | | | | |
|--|---------|----------------------|---------|---------|
| Modification Class: ¹²³ Please check one of the Classes: | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1

Enter wording of the modification from WAC 173-303-830, Appendix I citation

- A. General Permit Provisions
 - 1. Administrative and Informational changes

| | | | |
|--|--|--|--|
| Submitted by Co-Operator:  E. Aromi | Reviewed by DOE Program Office:  J. Swalles | Reviewed by Ecology:  F. Jamison | Reviewed by Ecology:  G. P. Davis |
| 6/25/04 Date | 6/25/04 Date | Date | Date |

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Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0

Chapter 7.0, §7.2:

7.2 BUILDING EMERGENCY DIRECTOR

Emergency response will be directed by the BED until the Incident Commander (IC) arrives. The Shift Manager will function as the primary BED for emergencies involving 242-A Evaporator. The incident command system (ICS) and staff with supporting on-call personnel fulfill the responsibilities of the Emergency Coordinator as discussed in WAC 173-303-360.

During events, ~~242-A Evaporator facility~~ personnel perform response duties under the direction of the BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). 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 ~~242-a Evaporator facility~~ operations.

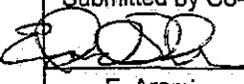
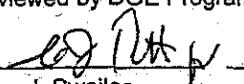
A listing of BEDs by title, work location, and work telephone numbers is contained in Section 13.0 of this plan. The BED is on the premises or is available through an "on-call" list 24 hours a day. Names and home telephone numbers of the BEDs are available from the Patrol Operations Center (POC) in accordance with ~~Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.~~

| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
1. Administrative and Informational changes

| | | | |
|---|--|------------------------------------|-------------------------------------|
| Submitted by Co-Operator:  E. Aromi | Reviewed by DOE Program Office:  J. Swalles | Reviewed by Ecology: F. Jamison | Reviewed by Ecology: G. P. Davis |
| Date: 6/25/04 | Date: 6/25/04 | Date: | Date: |

¹ Class 1 modifications requiring prior Agency approval.
² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.
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Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0

Chapter 7.0, §7.3:

7.3 IMPLEMENTATION OF THE PLAN

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 242-A Evaporator 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 ~~site~~ ~~contractor~~ CH2M HILL environmental single point-of-contact, if notification to 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 DOE/RL-94-02, *Hanford Emergency Management Plan*, 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.

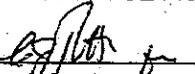
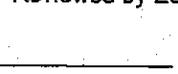
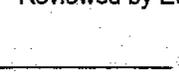
The BED must assess each incident to determine the response necessary to protect the personnel, facility, and the environment. If assistance from Hanford Patrol, Hanford Fire Department, or ambulance units is required, the Hanford Emergency Response Number (911) must be used to contact the POC and request the desired assistance. To request other resources or assistance from outside the 242-A Evaporator, the POC business number is used (373-3800).

| | | | | |
|--------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ^{1 2 3} | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1

Enter wording of the modification from WAC 173-303-830, Appendix I citation

- A. General Permit Provisions
1. Administrative and Informational changes

| | | | |
|--|--|--|--|
| Submitted by Co-Operator:  E. Aromi | Reviewed by DOE Program Office:  J. Swailes | Reviewed by Ecology:  F. Jamison | Reviewed by Ecology:  G. P. Davis |
| 6/25/04 Date | 6/25/04 Date | Date | Date |

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Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0

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 due to an event at the facility as well as evacuation of the facility in response to a site evacuation order. Evacuation is directed by the BED when conditions warrant and applies to all personnel not actively involved in the event response or in emergency plan-related activities.

The BED initiates the evacuation by directing an announcement be made to evacuate along with the evacuation location over the public address system and facility radios, activate the evacuation siren (steady siren) for three minutes, and, as conditions warrant, by activating the 200 Area 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 determines the operating configuration of the facility and identifies any additional protective actions to limit personnel exposure to the hazard.

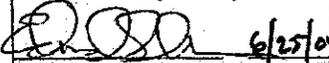
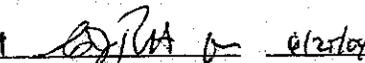
Emergency organization personnel or assigned operations personnel conduct a sweep of occupied buildings to ensure that all non-essential personnel and visitors have evacuated. For an immediate evacuation, accountability is performed at the staging area. The BED assigns personnel as accountability aides and staging area managers with the responsibility to ensure that evacuation actions are taken at the 242-A Evaporator. All implementing actions executed by the aides/managers are directed by the emergency response procedures identified in Attachment A. When evacuation actions are complete, the aides/managers provide a status report to the BED. The BED provides status to the Incident Commander.

| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1

Enter wording of the modification from WAC 173-303-830, Appendix I citation

- A. General Permit Provisions
 - 1. Administrative and Informational changes

| | | | |
|---|--|--|---|
| Submitted by Co-Operator:  E. Aromi | Reviewed by DOE Program Office:  J. Swalles | Reviewed by Ecology: F. Jamison | Reviewed by Ecology: G. P. Davis |
| Date: 6/25/04 | Date: 6/25/04 | Date: | Date: |

¹ Class 1 modifications requiring prior Agency approval.
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Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0

Chapter 7.0, §7.3.1.2:

7.3.1.2 Take Cover

The objective of the take cover order is to limit personnel exposure to hazardous or dangerous/mixed waste when evacuation is inappropriate or not practical. Evacuation might not be practical or appropriate because of extreme weather conditions or the material release might limit the ability to safely evacuate personnel.

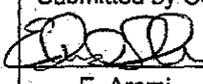
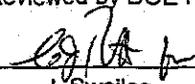
The BED initiates the take cover by directing an announcement be made over the public address system and facility radios, by activating the take cover siren (wavering siren) for three minutes, and, as conditions warrant, by activating the 200 Area take cover alarms by calling the POC using 911 or 373-3800 (if using a cellular phone). Actions to complete a facility take cover order are directed by the emergency response procedure in Attachment A. Protective actions associated with operations include configuring, or shutting down, the ventilation systems. Determination of additional take cover actions is based on operating configuration, weather conditions, amount and duration of release, and other conditions, as applicable to the event and associated hazard. As a minimum, personnel exposure to the hazard is minimized. The BED assigns personnel as accountability aides with responsibility to ensure that take cover actions are taken at all occupied buildings at the 242-A Evaporator. When take cover actions are complete the aides/managers provide the BED with a status report.

| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: **A.1**

Enter wording of the modification from WAC 173-303-830, Appendix I citation

- A. General Permit Provisions
 - 1. Administrative and Informational changes

| | | | |
|--|--|--|---|
| Submitted by Co-Operator:  E. Aromi | Reviewed by DOE Program Office:  J. Swaites | Reviewed by Ecology: F. Jamison | Reviewed by Ecology: G. P. Davis |
| 6/25/04 Date | 6/25/04 Date | Date | Date |

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Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0

Chapter 7.0, §7.3.2.1:

7.3.2.1 Loss of Utilities

A case-by-case evaluation is required for each event to determine loss of utility impacts. When a BED determines a loss of utility impact, actions are taken to ensure dangerous and/or mixed waste is being properly managed, to the extent possible given event circumstances. As necessary, the BED will stop operations and take appropriate actions until the utility is restored. If loss of utilities at the 242-A Evaporator results in a major process disruption/loss of plant control, notifications in Section 7.3.2.2 are performed.

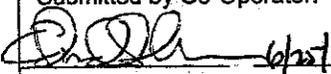
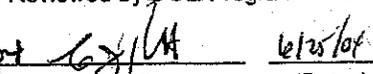
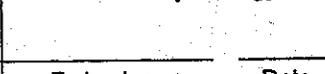
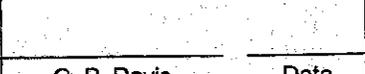
| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: **A.1**

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes

| | | | |
|--|---|--|--|
| Submitted by Co-Operator: | Reviewed by DOE Program Office: | Reviewed by Ecology: | Reviewed by Ecology: |
|  E. Aromi |  J. Swailes |  F. Jamison |  G. P. Davis |
| Date | Date | Date | Date |

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Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

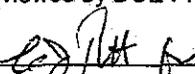
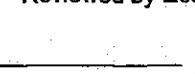
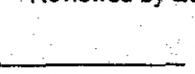
Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0

Chapter 7.0, §7.3.2.2:

7.3.2.2 Major Process Disruption/Loss of Plant Control

Upon loss of the MCS, the 242-A Evaporator Shift Operations Manager is notified while an attempt is made to return the MCS to service. If a dump of C-A-1 vessel does occur, AW Tank Farm personnel are notified of impending over-pressurization of DST system tank 241-AW-102, and all personnel in the AW Tank Farm evacuate to the change trailer. Non-essential personnel exit the 242-A Evaporator facility.

The system condition is assessed, and corrective actions are implemented. Operations are placed on recirculation by securing the slurry pump and waste feed to the plant. Facility shutdown is accomplished by performing manual, localized actions such as system isolation, equipment shutdown, etc.

| | | | | |
|--|--|--|--|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |
| Relevant WAC 173-303-830, Appendix I Modification: A.1 | | | | |
| Enter wording of the modification from WAC 173-303-830, Appendix I citation | | | | |
| A. General Permit Provisions | | | | |
| 1. Administrative and Informational changes | | | | |
| Submitted by Co-Operator:  E. Aromi | Reviewed by DOE Program Office:  J. Swailes | Reviewed by Ecology:  F. Jamison | Reviewed by Ecology:  G. P. Davis | |
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Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0

Chapter 7.0, §7.3.2.6:

7.3.2.6 Radiological Material Release

At a minimum, actions described in Section 7.3.2.5 are taken. Abnormal radiation actions also may be implemented if conditions are warranted.

Modification Class: ¹²³

Please check one of the Classes:

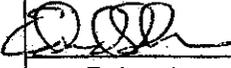
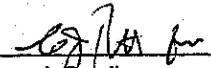
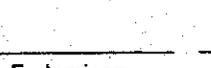
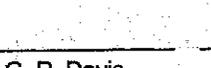
| Class 1 | Class ¹ | Class 2 | Class 3 |
|---------|--------------------|---------|---------|
| X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes

| Submitted by Co-Operator: | Reviewed by DOE Program Office: | Reviewed by Ecology: | Reviewed by Ecology: |
|--|---|--|--|
|  E. Aromi |  J. Swailes |  F. Jamison |  G. P. Davis |
| 6/25/04 Date | 6/25/04 Date | Date | Date |

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ 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 ¹, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0

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 DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 9.2. A recovery plan is needed following an event where further risk could be introduced to personnel, the 242-A Evaporator, or the environment through recovery action and/or to maximize the preservation of evidence.

If this plan was implemented according to Section 7.34.0 of this plan, the Washington State Department of Ecology is notified before operations can resume. The DOE/RL-94-02, *Hanford Emergency Management Plan*, 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 7.544.0 of this plan.

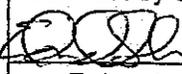
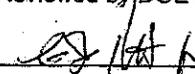
For emergencies not involving activation of the Hanford EOC, the BED ensures that conditions are restored to normal before operations are resumed. If the Hanford Site Emergency Response Organization was activated and the emergency phase is complete, a special recovery organization could be appointed at the discretion of RL to restore conditions to normal. This process is detailed in 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.

| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1

Enter wording of the modification from WAC 173-303-830, Appendix I citation

- A. General Permit Provisions
1. Administrative and Informational changes

| | | | |
|---|---|----------------------|----------------------|
| Submitted by Co-Operator: | Reviewed by DOE Program Office: | Reviewed by Ecology: | Reviewed by Ecology: |
|  6/25/04 |  6/25/04 | | |
| E. Aromi Date | J. Swailes Date | F. Jamison Date | G. P. Davis Date |

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ 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 ¹1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0.

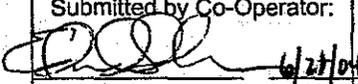
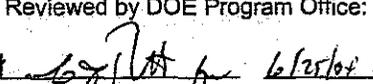
Chapter 7.0, §7.3.5:

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 242-A Evaporator personnel or other assigned personnel. DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 9.2.3, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. Perform as necessary. Field checks 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 waste was a factor in the incident, the BED or the onsite recovery organization ensures that the cause is corrected.

| | | | | |
|--|---|----------------------|----------------------|---------|
| Modification Class: ^{1,2,3} | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |
| Relevant WAC 173-303-830, Appendix I Modification: A.1 | | | | |
| Enter wording of the modification from WAC 173-303-830, Appendix I citation | | | | |
| A. General Permit Provisions | | | | |
| 1. Administrative and Informational changes | | | | |
| Submitted by Co-Operator: | Reviewed by DOE Program Office: | Reviewed by Ecology: | Reviewed by Ecology: | |
|  E. Aromi |  J. Swalles | F. Jamison | G. P. Davis | |
| 6/21/04 Date | 6/25/04 Date | Date | Date | |

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ 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 ¹1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0.

Chapter 7.0, §7.4.6:

7.4.6 Incident Command Post

The ICPs for the 242-A Evaporator emergencies are in the 242-A Evaporator or the Waste Feed Operations Shift Office control room or the 200 Area ETF control room. Emergency resource materials are stored at each location. The IC could activate the Hanford Fire Department Mobile Command Unit if necessary.

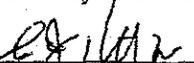
| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes

| | | | |
|--|--|--|---|
| Submitted by Co-Operator:  E. Aromi | Reviewed by BOE Program Office:  J. Swailes | Reviewed by Ecology: F. Jamison | Reviewed by Ecology: G. P. Davis |
| 6/25/04 Date | 6/25/04 Date | Date | Date |

¹ Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

| | |
|----------------------------------|--|
| Unit: 242-A Evaporator | Permit Part & Chapter: Part III, Chapter 5 and Attachment 35 |
|----------------------------------|--|

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0.

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 DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 5.1.

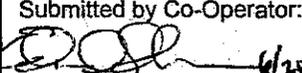
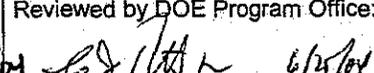
Facility management must note in the TSD-unit operating record, the time, date and details of any incident that requires implementation of the contingency plan (refer to Section 7.34.0 of this plan). Within fifteen (15) days after the incident, a written report must be submitted to Ecology. The report must include the elements specified in WAC 173-303-360(2)(k).

| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1

Enter wording of the modification from WAC 173-303-830, Appendix I citation

- A. General Permit Provisions
 1. Administrative and Informational changes

| | | | |
|--|---|----------------------|----------------------|
| Submitted by Co-Operator: | Reviewed by DOE Program Office: | Reviewed by Ecology: | Reviewed by Ecology: |
|  E. Aroni |  J. Swalles | | |
| Date | Date | Date | Date |

¹ Class 1 modifications requiring prior Agency approval.
² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.
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Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0.

Chapter 7.0, §7.6:

7.6 PLAN LOCATION AND AMENDMENTS

Copies of this plan are maintained at the following locations:

- 242-A Evaporator Control Room
- Waste Feed Operations Shift Office (M0-268)
- ~~200 Area ETF Control Room~~
- ~~Operations Managers Office (Building 2025EA Room 101)~~
- 200 Area LWPF Regulatory File

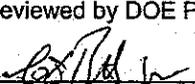
This plan will be reviewed and immediately amended as necessary, in accordance with DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 14.3.1.1.

| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: **A 1**

Enter wording of the modification from WAC 173-303-830, Appendix I citation

- A. General Permit Provisions
 I. Administrative and Informational changes

| | | | |
|---|---|----------------------|----------------------|
| Submitted by Co-Operator: | Reviewed by DOE Program Office | Reviewed by Ecology: | Reviewed by Ecology: |
|  6/27/04 |  6/27/04 | | |
| E. Aromi | J. Swaites | F. Jamison | G. P. Davis |
| Date | Date | Date | Date |

¹ Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:
242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification: Replace Chapter 7.0 with the attached Chapter 7.0.

Chapter 7.0, §7.7:

7.7 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

242-A Evaporator Building Emergency Directors

| TITLE | | WORK LOCATION | WORK PHONE |
|------------------|--------------------------------------|---|--|
| <u>PRIMARY</u> | Senior Shift Operation Manager (SOM) | Waste Feed Operations Shift Office (MO-268) 242-A Evaporator control room or 200 Area ETF control room | 373-2689 373-2737, 242-A Evaporator control room 373-9000, 200 Area ETF control room |
| <u>ALTERNATE</u> | Operations Shift Manager | Waste Feed Operations Shift Office (MO-268) 2025EA/101 | 373-2689 372-3142 |

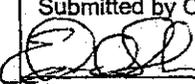
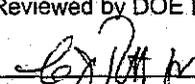
Names and home telephone numbers of the BEDs are available from the POC (373-3800) in accordance with Hanford Facility RCRA Permit, ~~Dangerous Waste Portion~~, General Condition II.A.4.

| | | | | |
|--------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ^{1 2 3} | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1

Enter wording of the modification from WAC 173-303-830, Appendix I citation

- A. General Permit Provisions
 - 1. Administrative and Informational changes

| | | | |
|--|---|----------------------|----------------------|
| Submitted by Co-Operator: | Reviewed by DOE Program Office: | Reviewed by Ecology: | Reviewed by Ecology: |
|  E. Aromi |  J. Swalles | F. Jamison | G. P. Davis |
| 4/25/04 Date | 6/25/04 Date | Date | Date |

¹ Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Forms

Part III, Chapter 6 and Attachment 36

325 Hazardous Waste Treatment Units

Index

| | |
|--------------|-------------------------------------|
| Page 2 of 6: | Hanford Facility RCRA Permit, III.6 |
| Page 3 of 6: | Chapter 3.0, §3.5.1: |
| Page 4 of 6: | Chapter 3.0, §3.5.2 |
| Page 5 of 6: | Chapter 3.0, §3.7.1.1 |
| Page 6 of 6: | Chapter 3.0, Table 3.3 |

Hanford Facility RCRA Permit Modification Notification Form

Unit
325 Hazardous Waste Treatment Units

Permit Part & Chapter:
Part III, Chapter 6 and Attachment 36

Description of Modification:

Hanford Facility RCRA Permit, III.6:

III.6.A. COMPLIANCE WITH APPROVED PERMIT APPLICATION

The Permittees shall comply with all requirements set forth in Attachment 36, including the Amendments specified in Condition III.6.B. All subsections, figures, and tables included in these portions are enforceable.

ATTACHMENT 36:

- Chapter 1.0 Part A, Permit, Revision 4E, from Class 1 Modification dated April 2004
- Chapter 2.0 Unit Description, from Class 1 Modification for quarter ending December 31, 2002
- Chapter 3.0 Waste Analysis Plan, from Class 1 Modification dated ~~April~~ June 30, 2004
- Chapter 4.0 Process Information from Class 1 Modification dated April 2004
- Chapter 6.0 Procedures to Prevent Hazards, from Class 1 Modification dated April 2004
- Chapter 7.0 Contingency Plan, from Class 1 Modification for quarter ending December 31, 2003
- Chapter 8.0 Personnel Training, from Class 1 Modification for quarter ending December 31, 2002
- Chapter 11.0 Closure and Financial Assurance, from Class 1 Modification dated April 2004

III.6.B. AMENDMENTS TO THE APPROVED PERMIT APPLICATION

- III.6.B.1. Portions of 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.
- III.6.B.2. Permittees must comply with all applicable portions of the RCRA Permit for the Hanford Facility. The facility and unit-specific recordkeeping requirements are distinguished in the RCRA Permit, Attachment 33, General Information Portion, Table 12.1 (DOE/RL-91-28) and are tied to the associated Sitewide RCRA Permit conditions.

| | | | | |
|------------------------------------|---------|---------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A 1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes

| | | | |
|---------------------------------------|--------------------------------|----------------------|----------------------|
| Submitted by Co-Operator: | Reviewed by RL Program Office: | Reviewed by Ecology: | Reviewed by Ecology: |
| <i>A. K. Ikenberry</i> <i>June 04</i> | <i>HEBilson</i> <i>6/3/04</i> | | |
| A. K. Ikenberry Date | S. J. Olinger Date | F. C. Jamison Date | G. P. Davis Date |

HEBilson, AMCC

¹Class 1 modifications requiring prior Agency approval.

²This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should

Hanford Facility RCRA Permit Modification Notification Form

| | |
|---|--|
| Unit: 325 Hazardous Waste Treatment Units | Permit Part & Chapter: Part III, Chapter 6 and Attachment 36 |
|---|--|

Description of Modification: Chapter 3.0: Remove Chapter 3.0 and replace with attached Chapter 3.0.
Chapter 3.0, §3.5.1:

3.5.1 Parameter Selection Process

The selection of analytical parameters is based on the State of Washington's *Dangerous Waste Regulations*, WAC 173-303-300 and *EPA Waste Analysis at Facilities That Generate, Treat, Store, and Dispose of Hazardous Wastes, A Guidance Manual* (EPA 1994).

The selection of analytical parameters is based on the State of Washington's *Dangerous Waste Regulations*, WAC 173-303-300 and *EPA Waste Analysis at Facilities That Generate, Treat, Store, and Dispose of Hazardous Wastes, A Guidance Manual* (EPA 1994).

At least five percent of the waste containers received at the HWTU during a federal fiscal year (October 1 through September 30) will undergo confirmation of designation. The number of containers needed to meet the five percent requirement is five percent of the average of containers for the previous three months. For example if 200 containers are received in January, 180 in February, and 220 in March, then 10 containers of received waste must undergo confirmation of designation in April. All non-PNNL generating units which ship more than 20 containers through the HWTU in a fiscal year will have at least one container sampled and analyzed. Containers for which there is insufficient process knowledge, or analytical information to designate without sampling and analysis, may not be counted as part of the five percent requirement unless there is additional confirmation of designation.

Containers of the following are exempt from the confirmation calculation above: Laboratory reagents or other unused products such as paint, lubricants, solvent, or cleaning products, whether received for redistribution, recycling, or as waste. To qualify for this exemption, such materials must be received at the HWTU in their original containers.

Wastes that are considered non-verifiable if the dose rate is >20mRem/hr, at contact contains greater than, 100 nCi/g of Transuranics, will not fit into the X-ray unit, is shielded, classified or remote handled.

Prior to acceptance of wastes at the HWTU, confirmation of designation may be required. Wastes that shall undergo confirmation are divided into two groups: those that easily yield a representative sample (Category I), and those that do not (Category II). The confirmation steps for each type are outlined below along with a description of which wastes fall into each category:

Category I. If a waste which easily yields a representative sample is received, a representative sample will be taken from the waste containers selected. If more than one phase is present, each phase must be tested individually. The following field tests will be performed as appropriate for the waste stream:

- Oxidizer, cyanide, and sulfide tests. These tests will not be performed on materials known to be organic peroxides, ethers, and/or water reactive compounds.
- pH - by pH meter¹ or pH paper (Liquids - SW-846 Method 9041A or 9040B. Solids or semi-solid - SW-846 Method 9045)¹. This test will be used to identify the pH and corrosive nature of an aqueous or solid waste.
- Halogenated organic compounds - by photo or flame ionization tester, or by gas chromatography with or without mass spectrometry.
- Volatile organic compounds - by photo or flame ionization tester, or by gas chromatography with or without mass spectrometry.

When mathematically possible, the Permittees shall perform confirmation on an equal number of Category I and Category II containers.

Category II. If a representative sample is not easily obtained (for example, discarded machinery or shop rags), or if the waste is a labpack or discarded laboratory reagent container, the following steps will be performed:

- a. Visually verify the waste. Examine each selected container to ensure that it matches the data provided on the Disposal Request form(s) provided to document the waste. Depending on accessibility of items to be verified, this may be done through direct observation or with the aid of an x-ray examination unit. Labpacks and combination packages that are accepted from non-PNNL generators must be removed from the outer container. If the waste matches the description specified in its documentation, confirmation of designation is complete and the waste may be accepted. If not, more information is collected or the waste is rejected and returned to the generating unit, and the generating unit revises and resubmits the documentation to reflect the actual contents. If necessary, the waste shall be re-designated utilizing the designation methods identified in WAC 173-303-070 through 173-303-100.²

If the sample data observed meets the parameters specified in its documentation, confirmation of designation is complete and the waste may be accepted. If not, more information is collected or the waste is rejected and returned to the generating unit for additional characterization. The waste will be required to be resubmitted with a revised Disposal Request following the additional characterization activity.

¹The pH paper must have a distinct color change every 0.5 pH units and each batch of paper must be calibrated against certified pH buffers, or by comparison with a pH meter calibrated with certified pH buffers.

| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes

| | | | |
|----------------------------------|--------------------------------|----------------------|----------------------|
| Submitted by Co-Operator: | Reviewed by RL Program Office: | Reviewed by Ecology: | Reviewed by Ecology: |
| <i>A. K. Ikenberry</i> 1 June 04 | <i>S. J. Olinger</i> 6/3/04 | | |
| A. K. Ikenberry | S. J. Olinger | F. C. Jamison | G. P. Davis |
| Date | Date | Date | Date |

HE Bilson, AMRC

¹Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

| | |
|---|--|
| Unit: 325 Hazardous Waste Treatment Units | Permit Part & Chapter: Part III, Chapter 6 and Attachment 36 |
|---|--|

Description of Modification: Chapter 3.0: Remove Chapter 3.0 and replace with attached Chapter 3.0.
Chapter 3.0, §3.5.2:

3.5.2 Criteria and Rationale for Parameter Selection

Waste testing methods and references are as specified in WAC 173-303-110(3) or approved by Ecology in accordance with WAC 173-303-110(5). These methods are summarized in Table 3-3. All methods are specified in *Chemical Testing Methods*, WDOE 83-13 (Ecology 1983) and/or *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA SW-846 (EPA 1986).

Testing parameters for each type of waste were selected to obtain data sufficient to designate the waste properly under WAC 173-303-070, meet requirements for Land Disposal Restrictions, and to manage the waste properly. If information on the source of the waste is available, then all parameters might not be required, e.g., exclusion of testing for pesticides from a metal-machining operation.

Some of the parameters that are considered for waste received at the HWTU are as follows:

- Visual Inspection – used to determine the general characteristics of the waste. This facilitates subjective comparison of the sampled waste with previous waste descriptions or samples. Also, a physical description is used to verify the observational presence or absence of free liquids. Visual inspections may be performed utilizing the X-ray examination unit to verify contents and inspect for prohibited articles. (Materials not allowed to be disposed of at the TSD facility planned for disposal of the waste, e.g. prohibited articles identified in HNF-EP-0063 for waste to be disposed of in Hanford burial grounds).
- pH – used to identify the pH and corrosive nature of an aqueous or solid waste.
- Oxidizer – used to indicate if the waste is an oxidizing agent.
- Cyanide – used to indicate whether the waste produces hydrogen cyanide upon acidification below pH 2.
- Sulfide screen – used to indicate if the waste produces hydrogen sulfide upon acidification below pH 2.
- Halogenated hydrocarbon content screen – used to indicate whether chlorinated hydrocarbons or polychlorinated biphenyls (PCBs) are present in waste and to determine if the waste needs to be managed in accordance with the regulations prescribed in the *Toxic Substance Control Act of 1976*.
- Volatile Organic Analysis – used to confirm or deny the presence of VOAs in the waste stream as listed by the generator. This may also indicate the potential ignitable waste that must be managed and protected from sources of open flame.

Testing kits – used to determine waste characteristics and verify information provided on the disposal paperwork. The testing procedures for each test are included in the appropriate test kit.

Waste testing parameters and the rationale for these parameters are summarized in Table 3-1. Testing parameters for each type of waste were selected to obtain data sufficient to designate the waste properly under WAC 173-303-070, meet requirements for Land Disposal Restrictions (LDR) (refer to Section 3.7.2), and to manage the waste properly. If information on the source of the waste is available, then all parameters might not be required, e.g., exclusion of testing for pesticides from a metal-machining operation.

Some of the analytical screening parameters that could be used for waste received at the 325 HWTUs are as follows:

- Physical description – used to determine the general characteristics of the waste. This facilitates subjective comparison of the sampled waste with previous waste descriptions or samples. Also, a physical description is used to verify the observational presence or absence of free liquids.
- pH screen – used to identify the pH and corrosive nature of an aqueous or solid waste, to aid in establishing compatibility strategies, and to indicate if the waste is acceptable for treatment and/or storage in the 325 HWTUs.
- Cyanide screen – used to indicate whether the waste produces hydrogen cyanide upon acidification below pH 2.
- Sulfide screen – used to indicate if the waste produces hydrogen sulfide upon acidification below pH 2.
- Halogenated hydrocarbon content screen – used to indicate whether chlorinated hydrocarbons or polychlorinated biphenyls (PCBs) are present in waste and to determine if the waste needs to be managed in accordance with the regulations prescribed in the *Toxic Substance Control Act of 1976*.
- Ignitability screen – used to identify waste that must be managed and protected from sources of ignition or open flame.

| | | | | |
|------------------------------------|---------|---------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes

| | | | |
|---|--|-----------------------|----------------------|
| Submitted by Co-Operator: <i>A. K. Ikenberry</i> | Reviewed by RL Program Office: <i>Allen C. Blum</i> | Reviewed by Ecology: | Reviewed by Ecology: |
| <i>Wanda</i> Date | <i>6/14/01</i> Date | F. C. Jamison Date | G. P. Davis Date |

H E Bilson, AMCA

¹Class 1 modifications requiring prior Agency approval.

²This is only an advanced notification of an intended Class 1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should

Hanford Facility RCRA Permit Modification Notification Form

Unit
325 Hazardous Waste Treatment Units

Permit Part & Chapter:
Part III, Chapter 6 and Attachment 36

Description of Modification: Chapter 3.0: Remove Chapter 3.0 and replace with attached Chapter 3.0.
Chapter 3.0, §3.7.1.1:

3.7.1.1 Fingerprint Sampling Analytical Methods

A representative sample will be taken of the waste (if more than one phase is present, each phase must be tested individually), and the following field tests will be performed:

- Oxidizer, cyanide, and sulfide tests. These tests will not be performed on materials known to be organic peroxides, ethers, and/or water reactive compounds.
- pH - by pH meter¹ or pH paper (Liquids - SW-846 Method 9041A or 9040B. Solids or semi-solid - SW-846 Method 9045)¹. This test will be used to identify the pH and corrosive nature of an aqueous or solid waste.
- Halogenated organic compounds - by photo or flame ionization tester, or by gas chromatography with or without mass spectrometry.
- Volatile organic compounds - by photo or flame ionization tester, or by gas chromatography with or without mass spectrometry.
- ~~Reactivity - HAZCATTM oxidizer, cyanide, and sulfide tests. These tests will not be performed on materials known to be organic peroxides, ethers, and/or water reactive compounds.~~
- ~~Flashpoint/explosivity by HAZCATTM flammability Procedure B, explosive atmosphere meter, or a closed-cup flashpoint measurement instrument.~~
- ~~pH - by pH meter or pH paper (SW-846 9041). This test will not be performed on non-aqueous materials (i.e., organic solvents).~~
- ~~Halogenated organic compounds - by organic vapor analyzer with a flame ionization detector, Chlor-D-Test kits, or the HAZCATTM fluoride, chloride, bromide, and iodide tests.~~
- Volatile organic compounds - by gas chromatograph/mass spectrometer or gas chromatograph (GC) with a photo or flame ionization detector.

If the waste meets the parameters specified in the documentation, then confirmation of designation is complete. If the waste does not meet these parameters, then proceed to the next step.

1. Sample and analyze the materials in accordance with WAC 173-303-110.
2. Reassess and re-designate the waste. Repackage and label as necessary or return to the generator.
3. Data obtained through the waste-verification process will be used to verify the accuracy of the waste designation for waste received at 325 HWTUs.

¹ The pH paper must have a distinct color change every 0.5 pH units and each batch of paper must be calibrated against certified pH buffers, or by comparison with a pH meter calibrated with certified pH buffers

| | | | | |
|------------------------------------|---------|----------------------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class ¹ 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

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

| | | | |
|---------------------------|--------------------------------|----------------------|----------------------|
| Submitted by Co-Operator: | Reviewed by RL Program Office: | Reviewed by Ecology: | Reviewed by Ecology: |
| <i>A. K. Ikenberry</i> | <i>S. J. Olinger</i> 6/4/04 | | |
| A. K. Ikenberry Date | S. J. Olinger Date | F. C. Jamison Date | G. P. Davis Date |

H E B ISON, AMRC

¹ Class I modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should

Hanford Facility RCRA Permit Modification Notification Form

| | |
|---|--|
| Unit: 325 Hazardous Waste Treatment Units | Permit Part & Chapter: Part III, Chapter 6 and Attachment 36 |
|---|--|

Description of Modification: Chapter 3.0: Remove Chapter 3.0 and replace with attached Chapter 3.0.
Chapter 3.0, Table 3.3: Replaced Table 3.3 with Table 3.3 below:

Table 3.3. Summary of Test Parameters, Rationales, and Methods

| Parameter ^a | Method ^b | Rationale for Selection |
|---|---|---|
| Physical Screening | | |
| <u>Visual inspection</u> | Field method - observe phases, presence of solids in waste and look for prohibited articles utilizing x-ray examination when appropriate. | Confirm that waste matches that information described on waste acceptance documentation. |
| Chemical Screening ^(c) | | |
| <u>Oxidizer</u> | Oxidizer Screen HAZCAT TM | Confirm that waste matches that described on waste acceptance documentation; ensure compliance with WAC 173-303-395(1)(b) |
| <u>pH</u> | pH screen Liquids - SW-846 Method 9041A or 9040B. Solids or semi-solid - SW-846 Method 9045 | Confirm that waste matches that described on waste acceptance documentation; ensure compliance with WAC 173-303-395(1)(b) |
| <u>Cyanides</u> | Cyanide screen HAZCAT TM | Confirm that waste matches that described on waste acceptance documentation; ensure compliance with WAC 173-303-395(1)(b) |
| <u>Sulfides</u> | Sulfide screen HAZCAT TM | Confirm that waste matches that described on waste acceptance documentation; ensure compliance with WAC 173-303-395(1)(b) |
| <u>Halogenated/Volatile Organic Compounds</u> | Photoionizer or Flame Ionizer, or Clor-D-Tect © Kits | Confirm that waste matches that described on waste acceptance documentation |
| <u>Toxicity characteristic organic compounds ^(d)</u> | Generator knowledge or SW-846 Methods 1311 and 8260 (volatile organic compounds) and 8270 (semivolatile organic compounds) | Identify constituents for compliance with Hanford Facility Permit |

^a Addition parameters can be used on current waste acceptance criteria of the downstream TSD unit. Operation limits transfer/shipments are based on current waste acceptance criteria.

^b Procedures based on EPA SW-846, unless otherwise noted. When regulations require a specific method, the method shall be followed.

^c These test will not be performed on materials known to be organic peroxides, ether, and/or water reactive compounds.

^d This test will only be performed on waste to be stored in tank TK-1 waste in addition to any other appropriate chemical screening.

| | | | | |
|------------------------------------|---------|---------|---------|---------|
| Modification Class: ¹²³ | Class 1 | Class 1 | Class 2 | Class 3 |
| Please check one of the Classes: | X | | | |

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes

| | | | |
|--|---------------------------------|----------------------|----------------------|
| Submitted by Co-Operator: | Reviewed by RL Program Office: | Reviewed by Ecology: | Reviewed by Ecology: |
| <i>A.K. Ikenberry</i> <i>June 10, 2004</i> | <i>HE. Bilson</i> <i>6/3/04</i> | | |
| A. K. Ikenberry Date | S. J. Olinger Date | F. C. Jamison Date | G. P. Davis Date |

HE. Bilson, Amrc

¹Class 1 modifications requiring prior Agency approval.

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**Hanford Facility RCRA Permit Modification
List of Attachments**

Attachment 4, Hanford Emergency Management Plan

Index

Section 3.0

3.0 OFFSITE RESPONSE INTERFACES

3.1 OVERVIEW

Interfaces and coordination with offsite agencies are important in the planning, preparedness, response, and recovery elements of the Hanford emergency management program. As such, RL shall interface with Federal, tribal, state, local, and private organizations and/or agencies:

- that have a responsibility to protect the public and environment within the EPZs of the Hanford Site;
- with which RL supports as the Regional Coordinating Office for Region 8 (Oregon, Washington, and Alaska); and
- with which RL has entered into special agreements for assistance.

Where appropriate, RL shall develop and maintain agreements to formalize areas of understanding, cooperation, and support with offsite agencies.

3.1.1 Planning and Preparedness

The modes of interface for planning and preparedness activities, as is determined beneficial by the parties, may include:

- coordination of emergency plans and procedures;
- periodic meetings to share information and coordinate activities;
- training opportunities related to offsite responsibilities;
- development of agreements for support to and from offsite agencies;
- participation in annual exercises; and
- development of public information programs.

3.1.2 Response and Recovery

In the event of an emergency on or affecting the Hanford Site, RL shall interface with offsite agencies to ensure coordination and support of response and recovery activities. These interfaces include:

- notification and periodic updates to local jurisdictions within the plume EPZ, states that contain portions of the ingestion EPZ, and other agencies that may be requested to provide assistance (see respective subsections in section 5.0);

Offsite Response Interfaces

- communication and coordination with DOE-HQ;
- RL representation in appropriate offsite emergency centers;
- offsite representation in the Hanford EOC;
- PARs to offsite agencies; and
- event scene interface with offsite responders.

Communications with state and local EOCs are depicted on Figure 3-1.

3.2 FEDERAL AGENCIES

3.2.1 U.S. Department of Energy-Headquarters

The DOE-HQ Cognizant Secretarial Officers are responsible for ensuring implementation of policy and requirements for activities conducted under their respective areas of cognizance.

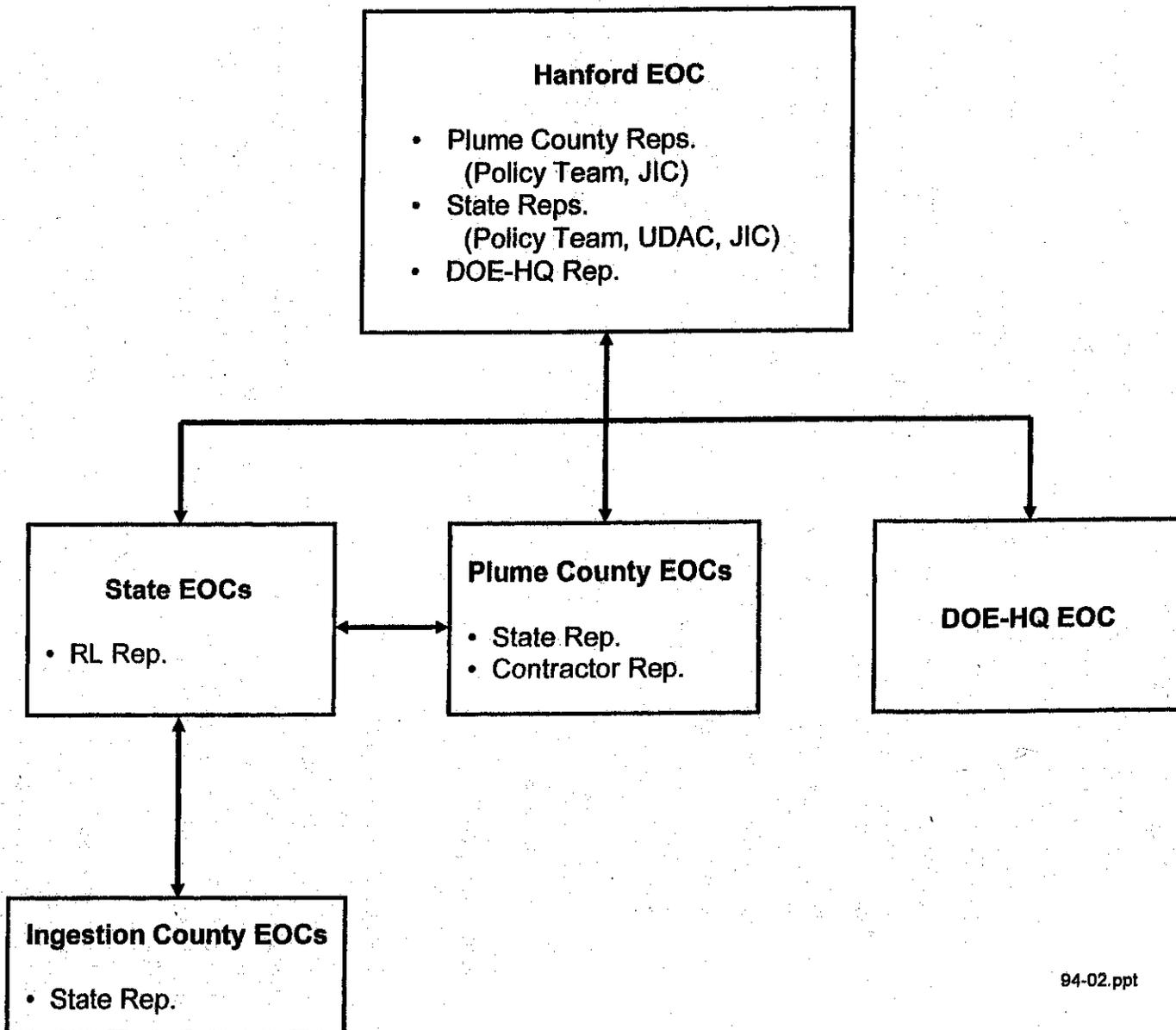
The DOE-HQ EOC serves as the point-of-contact for receipt of all emergency notifications and reports. Accordingly, the DOE-HQ EOC receives, coordinates, and disseminates emergency information to DOE-HQ elements and Program Office emergency points-of-contact, the White House Situation Room, and other Federal agencies. As such, emergency status reports shall be forwarded to the DOE-HQ EOC on a continuing basis until the emergency is terminated.

In the event of an emergency, a DOE-HQ Emergency Management Team is convened to:

- receive information on the facility, site, or area response;
- monitor the Operations/Field Office;
- provide appropriate support and assistance;
- assist with issue resolution; and
- coordinate interagency Congressional, and public information activities at the national level.

RL/ORP shall notify and provide information to the DOE-HQ EOC. Written reports shall be provided to the DOE-HQ EOC as soon as practical, but within 24 hours of emergency classification. A DOE-HQ Site Representative will respond to the Hanford EOC to provide liaison with the DOE-HQ EOC. Upon request from DOE-HQ, RL/ORP shall dispatch a liaison to support activation of the DOE-HQ EOC.

Figure 3-1. Lines of Communication Between Emergency Centers.



DOE also has seven emergency response assets available to assist at events if conditions warrant. These assets include:

- Aerial Measuring System (AMS) – provides fixed-wing aircraft and/or helicopters for remote sensing to detect and measure for ground deposition or perform aerial photography and multi-spectral imaging;
- National Atmospheric Release Advisory Capability (NARAC) – develops predictive plots to provide near real-time assessments of the consequences of accidental or potential radiation releases;
- Accident Response Group (ARG) – provides equipment for assessment, recovery, and disposal of damaged nuclear weapons and components;
- Federal Radiological Monitoring and Assessment Center (FRMAC) – coordinates the Federal radiological monitoring, assessment, and evaluation of data during a radiological emergency;
- Nuclear Emergency Support Team (NEST) – provides search and identification of nuclear materials, diagnostics and assessment of suspected nuclear devices, packaging, and transportation;
- Radiological Assistance Program (RAP) – provides radiological assistance during all types of radiological accidents or emergencies (considered DOE's First Responder team); and
- Radiation Emergency Assistance Center/Training Site (REAC/TS – provides health professionals and coordinators for consultation or direct medical care on health problems associated with radiation accidents.

Requesting emergency response asset assistance is delineated in subsection 5.1.1.2.3.

3.2.2 Federal Bureau of Investigation

The role of the FBI is to serve as the primary U.S. Law Enforcement Agency responsible for investigating alleged or suspected violations of the Atomic Energy Act of 1954, as amended, and other Federal statutes. As such, security events of national consequence occurring at the Hanford Site and within the jurisdiction of the U.S. Department of Justice (e.g., theft of special nuclear material, terrorist activity, weapons of mass destruction incidents) will be communicated to the FBI.

During these types of security events, the FBI becomes the Lead Federal Agency and acts as the On-scene Commander with responsibility for crisis management which may include intelligence, surveillance, tactical operations, behavioral assessments, negotiations, forensics, and investigation. The FBI will receive a complete briefing on the incident from Hanford EOC personnel and determine the need for additional regional and national FBI crisis management resources.

Command of FBI response activities, including plant security forces deployed at the event scene, will be the responsibility of the FBI Special-Agent-in-Charge when a declared security event has occurred. The FBI has the authority to assume command and control of all FBI and DOE on-scene crisis management resources, including plant security forces deployed at the event scene, when the FBI crisis management assets are in place and ready to assume their specific crisis management responsibilities. An RL Office of Security and Emergency Services (SES) representative will be assigned to provide direct support to the FBI as requested. RL will retain command and control of a security event until the FBI assumes this responsibility. Additionally, RL/ORP and site contractors will maintain operational control and authority over those site areas and resources not directly affected by the incident.

The DOE-HQ Office of Security and Emergency Operations maintains a memorandum of understanding (MOU) with the FBI Counterterrorism Division which provides mutual support guidelines concerning the contingency response planning, coordination of procedures, training and exercises, and operational cooperation required to effectively deal with actual or possible security related emergencies.

3.2.3 U.S. Coast Guard

The U.S. Coast Guard (USCG) (through the Thirteenth District Commander in Seattle, Washington and the Captain of the Port in Portland, Oregon) may regulate activities on navigable waters within the Hanford Site, when necessary, to prevent harm to persons, property, and the environment in or on those waters.

When notified of a Site Area or General Emergency, the USCG will close the appropriate portion of the Columbia River and make a broadcast to mariners.

In the event of an emergency, the ONC will make notifications and provide information to the USCG in Portland, Oregon.

3.2.4 U.S. Environmental Protection Agency

Under the provisions of the Federal Radiological Emergency Response Plan (FRERP), the EPA shall assume the LFA responsibility for coordinating the intermediate and long-term offsite radiation monitoring activities.

In the event of an emergency, the Hanford EOC shall notify and provide information to the EPA Region 10 in Seattle, Washington.

3.2.5 Federal Aviation Administration

The Federal Aviation Administration (FAA) may make flight restrictions for aircraft under their jurisdiction over the Hanford Site.

The ONC will notify and provide information to the FAA Seattle Center. At a Site Area or General Emergency the ONC may request the FAA to impose flight restrictions over the Hanford Site.

3.2.6 Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) is responsible for coordinating Federal assistance (other than monitoring resources) to the states if requested. Under the provisions of the FRERP, FEMA coordinates the offsite (nontechnical) response.

At the time of a declaration of an emergency, the Hanford EOC notifies and provides information to the FEMA Region 10 office in Bothell, Washington.

3.3 STATE GOVERNMENT

States, along with local governments, share the responsibility for the protection of the public and the environment. The responsibilities and concept of operations for state agencies are described in the emergency response plans of each state.

RL shall work with the states of Washington and Oregon to assist in development of their program and response plans for an emergency at the Hanford Site. Periodic meetings will be conducted with the states to coordinate plans and share information. General descriptions of emergency responsibilities as well as areas of cooperation and understanding between RL and the states are delineated in memoranda of understanding (MOU). Copies of the MOUs are provided in Appendix B.

3.3.1 The State of Washington

The Governor of Washington is responsible for command and control of state resources to maintain and preserve life, property, and the environment in Washington. The lead agency for emergency planning and response activities is the Emergency Management Division of the Military Department. Other state agencies that participate in the planning process and have emergency response roles include the:

- Department of Health;
- Department of Agriculture;
- State Patrol;

Offsite Response Interfaces

- Department of Ecology; and
- Department of Transportation.

An emergency response plan is maintained by the Emergency Management Division that describes the concept of operations and roles and responsibilities of the state agencies. Emergency procedures are maintained by each state agency.

Responsibilities of the state of Washington include:

- providing a 24-hour single point of contact for the receipt of emergency notifications from RL/ORP;
- disseminating information to potentially affected counties within the plume and ingestion EPZs;
- coordinating ingestion protective action decisions and public information with the counties, the state of Oregon, and RL;
- providing assistance to counties as requested;
- evaluating offsite emergency PARs made to plume EPZ counties;
- making protective action decisions to protect public health from ingestion-related impacts, such as contamination of the food chain;
- performing field environmental radiological monitoring and dose assessments;
- providing guidance on emergency worker exposure and authorizing emergency workers to exceed protective action guides;
- implementing food, milk, and animal-feed control measures; and
- requesting Federal assistance as required.

3.3.2 The State of Oregon

The Governor of Oregon is responsible for directing and controlling state activities to protect the lives and property of Oregon citizens. The lead agency for Hanford Site emergency planning is the Oregon Office of Energy. Other state agencies that participate in the planning process and have emergency response roles include the:

- State Public Information Officer;
- Health Division;
- Emergency Management Division;
- Department of Agriculture;
- Oregon State University Radiation Center

Offsite Response Interfaces

- Military Department;
- State Police; and
- State Highway Division.

An emergency response plan is maintained by the Oregon Office of Energy that describes the concept of operations and roles and responsibilities of state agencies. Emergency procedures are maintained by each state agency.

Responsibilities of the state of Oregon include:

- providing a 24-hour single point of contact for the receipt of emergency notifications from RL/ORP;
- making protective action decisions for the state of Oregon;
- coordinating protective action decisions and public information with counties, the state of Washington, and RL;
- coordinating state and local emergency response within the state of Oregon;
- performing field environmental radiological monitoring and dose assessments;
- providing guidance on emergency worker exposure and authorizing emergency workers to exceed protective action guides;
- providing assistance to Oregon counties within the ingestion EPZ;
- implementing food, milk, and animal-feed control measures; and
- requesting Federal assistance as required.

3.4 LOCAL ORGANIZATIONS

Cities and counties are responsible for protecting the lives and property of their residents. The responsibilities and concept of operations for local governments are described in the emergency response plans of each jurisdiction.

RL shall work with local emergency response organizations through the county and state emergency management organizations. Generally, RL shall interface directly with emergency response and planning organizations providing service to those areas within a plume EPZ of a Hanford Site facility. Interface with those jurisdictions within the ingestion EPZ generally shall be accomplished through the state emergency management organization. To accomplish the necessary close coordination with local agencies, periodic meetings shall be conducted to share information and discuss concerns.

3.4.1 Plume Emergency Planning Zone Counties

Portions of Benton, Franklin, and Grant Counties are within plume EPZs of a Hanford Site facility. The Boards of County Commissioners are responsible for making emergency protective action decisions and implementing emergency response actions, as necessary, to protect their residents outside the Hanford Site boundary. The lead agency for emergency planning and coordination of emergency response is the county emergency management agency. County emergency response plans and procedures are developed by the emergency management agencies, working with county, city, and volunteer emergency response agencies, such as:

- law enforcement;
- fire and emergency medical;
- public works/road departments;
- hospitals; and
- American Red Cross.

The emergency responsibilities of the plume EPZ counties include:

- making and implementing protective action decisions to protect citizens who live within the plume EPZ;
- implementing protective action decisions, made by the state of Washington, for ingestion-related impacts to residents within the ingestion EPZ;
- disseminating alert and warnings to the public and providing emergency public information; and
- coordinating response actions and public information with neighboring counties, the state of Washington, and RL.

RL maintains agreements with Benton, Franklin, and Grant Counties that outline the areas of responsibility and cooperation (see Appendix B).

3.4.1.1 Law Enforcement. RL SES interfaces with local law enforcement agencies for support to the Hanford Site during emergencies. Via a contractual agreement, the Benton County Sheriff's Office provides law enforcement on the Hanford Site (i.e., traffic enforcement and criminal investigation), and assists in access control; and, as such, coordinates activities with RL SES and the Hanford Patrol.

RL SES maintains memorandums of understanding with the law enforcement agencies of Kennewick, Richland, West Richland, Benton County, Franklin County, and the state of Washington.

3.4.1.2 Fire and Emergency Medical. The Hanford Fire Department is signatory to the Tri-County Mutual Aid Agreement for fire agencies. The agreement, signed by 11 local fire agencies, provides mutual aid for fire or medical emergencies.

The Hanford Fire Department meets regularly with local fire agencies. The Hanford Fire Department and HEHF Representatives meet routinely with emergency medical service agencies to coordinate and share information.

3.4.1.3 Hospitals. RL maintains agreements with local hospitals, which provide for the care of injured, contaminated (chemical or radiological) Hanford Site personnel. These hospitals include:

- Our Lady of Lourdes Health Care Center;
- Kennewick General Hospital; and
- Kadlec Medical Center.

RL shall provide for training and exercise support, as needed, related to the services provided to the Hanford Site. HEHF shall provide expertise on radiological decontamination or chemical exposure and treatment as requested.

3.4.2 Ingestion Emergency Planning Zone Counties

Counties within the ingestion EPZ of the Hanford Site are responsible to implement measures to protect their residents from potential ingestion related impacts. In the state of Washington, the counties of Adams, Benton, Franklin, Grant, Kittitas, Klickitat, Walla Walla, and Yakima are within the 50-mile (80-kilometer) ingestion EPZ. In the state of Oregon, the counties of Morrow and Umatilla are included. Ingestion EPZ counties have emergency response plans that describe their responsibilities in the event of an emergency at the Hanford Site.

RL shall coordinate emergency planning and preparedness for ingestion counties through the Washington State Emergency Management Division and the Oregon Office of Energy. Ingestion county responsibilities include:

- coordinating with the state and implementing decisions regarding protective measures for its residents within the ingestion EPZ; and
- consulting with the respective state EOC on the identification of access control points, food control areas, food control stations, and strategies for relocation, restoration, and recovery in contaminated areas.

3.5 TRIBAL ORGANIZATIONS

RL shall provide appropriate information to the impacted tribal organizations to coordinate planning for ingestion-related response actions of the tribe(s).

3.6 PRIVATE ORGANIZATIONS

The Hanford Site emergency management program shall address private facilities on or near the site. These facilities may be impacted by an emergency at the Hanford Site, or may impact Hanford Site facilities if they experience an emergency.

RL shall coordinate emergency planning and preparedness activities with onsite private facilities (namely Energy Northwest and US Ecology). In the event of an emergency at a Hanford Site facility, onsite private facilities will receive notifications and information from RL.

Where emergencies at facilities operated by private organizations may impact the Hanford Site, RL shall ensure that the emergency management program addresses actions that must be taken to protect site workers and facilities.

Areas of cooperation with private organizations shall be documented in memorandums of understanding.

3.7 MEMORANDA OF UNDERSTANDING

RL shall develop and implement mutual assistance agreements with offsite agencies to document areas of cooperation and assistance when appropriate and as identified in Federal, state, and local regulations (see Table 3-1).

Offsite Response Interfaces

RL SES is responsible for executing and maintaining MOUs related to security and emergency preparedness. The Hanford Fire Department shall execute and maintain MOUs within its area of responsibility. MOUs shall be reviewed annually and revised as needed.

Copies of MOUs shall be provided to the CSO through their inclusion in Appendix B of this plan.

Table 3-1. Memorandums of Understanding

| PARTIES | SERVICES/AREAS OF COOPERATION | POINTS OF CONTACT | CONSTRAINTS | DATE | EXPIRATION DATE | WHERE ON FILE |
|--|---|--|---|----------|---|---------------|
| State of Washington | Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site. | Washington Emergency Management Division | None | 01/08/04 | Three years from actual date of signature or until canceled by any party after 60 days written notice to the other parties. | RL SES |
| State of Oregon | Document areas of cooperation between the state of Oregon and RL in the planning for and providing notification and interface in the event of an incident on the Hanford Site. | Oregon Department of Energy | None | 06/21/00 | Continue until canceled by either party by written notice to the other Amendments or modifications to this Agreement may be made upon written agreement by both parties to the Amendment. | RL SES |
| Benton County | Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site. | Benton County Emergency Management | None | 03/16/00 | Continue until canceled by either party by written notice to the other. | RL SES |
| Franklin County | Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site. | Franklin County Emergency Management | None | 01/20/00 | Continue until canceled by either party by written notice to the other. | RL SES |
| Grant County | Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site. | Grant County Emergency Management | None | 05/25/00 | Continue until canceled by either party by written notice to the other. | RL SES |
| Energy Northwest. | Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site. | Energy Northwest Emergency Preparedness | The specific areas of assistance will be provided based upon availability, and are limited to those emergency actions necessary to protect onsite personnel, the public health and safety, and the environment in the event of a major emergency at the Hanford Site or Energy Northwest. | 02/11/04 | Continue until canceled by either of the parties upon 30 days written notice to the other party. | RL SES |
| Framatome ANP (formerly Siemens Power Corporation) | Establishes means by which RL can provide consequence assessment and meteorological information to Framatome ANP during an emergency at the Framatome ANP plant in Richland, Washington | Framatome ANP | Emergencies affecting the Hanford Site or Hanford facilities takes precedence over all other uses of the UDAC facilities and/or staff. | 01/19/00 | Remain in effect for five years from effective date, at which time it shall be reviewed and renegotiated, reissued, or terminated. Either party may withdraw upon 30 days written notice. | RL SES |

Table 3-1. Memorandums of Understanding

| PARTIES | SERVICES/AREAS OF COOPERATION | POINTS OF CONTACT | CONSTRAINTS | DATE | EXPIRATION DATE | WHERE ON FILE |
|---|--|------------------------------------|--|----------|---|-------------------------|
| National Weather Service | Sharing Meteorological Information. | NWS Western Regional Headquarters. | None | 10/05/94 | Agreement may be terminated by either party upon thirty days written notice to the other party. | RL SES |
| Our Lady of Lourdes Hospital (OLOL) Pasco, Washington | Significantly injured, contaminated persons will be admitted to facility for appropriate medical care. | OLOL Administrator | The responsibilities of OLOL will be limited to activities performed at the hospital. | 08/17/98 | Arrangements may be terminated by OLOL or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof. | RL SES |
| Kadlec Medical Center (KMC) Richland, Washington | Significantly injured, contaminated persons will be admitted to facility for appropriate medical care. | KMC Administrator | KMC will be limited to activities performed at the hospital and at the Emergency Decontamination Facility. | 08/17/98 | Arrangements may be terminated by KMC or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof. | RL SES |
| Kennewick General Hospital (KGH) Kennewick, Washington | Significantly injured, contaminated persons will be admitted to facility for appropriate medical care. | KGH Administrator | KGH will be limited to activities performed at the hospital. | 08/17/98 | Arrangements may be terminated by KGH or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof. | RL SES |
| Tri-County Mutual Aid Agreement | Provide mutual aid to parties hereto desire to augment the fire and emergency medical protection available in their establishments, districts, agencies, and municipalities in the event of large fires or conflagrations or other disaster. | Hanford Fire Department | Assistance under the agreement is not mandatory. | 02/05/98 | Remain in full force and effect until canceled by mutual agreement of the parties hereto or by written notice by one party to the other party giving ten (10) days notice of said cancellation. | Hanford Fire Department |
| Richland Police Department | Mutual law enforcement assistance. | Richland Police Department | Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree. | 03/14/00 | Indefinite duration. | RL SES |
| West Richland Police Department | Mutual law enforcement assistance. | West Richland Police Department | Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree. | 03/14/00 | Indefinite duration. | RL SES |

Table 3-1. Memorandums of Understanding

| PARTIES | SERVICES/AREAS OF COOPERATION | POINTS OF CONTACT | CONSTRAINTS | DATE | EXPIRATION DATE | WHERE ON FILE |
|-----------------------------|------------------------------------|-----------------------------|--|----------|----------------------|---------------|
| Kennewick Police Department | Mutual law enforcement assistance. | Kennewick Police Department | Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree. | 03/14/00 | Indefinite duration. | RL SES |
| Benton County Sheriff | Mutual law enforcement assistance. | Benton County Sheriff | Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree. | 03/14/00 | Indefinite duration. | RL SES |
| Franklin County Sheriff | Mutual law enforcement assistance. | Franklin County Sheriff | Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree. | 03/14/00 | Indefinite duration. | RL SES |
| Washington State Patrol | Mutual law enforcement assistance. | Washington State Patrol | Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree. | 02/14/00 | Indefinite duration. | RL SES |
| Adams County Sheriff | Mutual law enforcement assistance. | Adams County Sheriff | Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree. | 03/27/00 | Indefinite duration. | RL SES |
| Grant County Sheriff | Mutual law enforcement assistance. | Grant County Sheriff | Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree. | 03/14/00 | Indefinite duration. | RL SES |
| Pasco Police Department | Mutual law enforcement assistance. | Pasco Police Department | Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree. | 04/03/00 | Indefinite duration. | RL SES |

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Hanford Facility RCRA Permit Modification Notification
Part III, Chapter 4 and Attachment 34
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

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Chapter 7.0

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Hanford Facility RCRA Permit Modification Notification
Part III, Chapter 5 and Attachment 35
242-A Evaporator

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Chapter 7.0

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Hanford Facility RCRA Permit Modifications
Part III, Chapter 6 and Attachment 36
325 Hazardous Waste Treatment Units

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Chapter 3.0

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GLOSSARY

| | | |
|----|-----------|--|
| 2 | 325 HWTUs | 325 Hazardous Waste Treatment Units consists of the HWTU, SAL, and RLWS tank |
| 3 | | system subunits) |
| 4 | AA | atomic absorption |
| 5 | ALARA | as low as reasonably achievable |
| 6 | API | American Petroleum Institute |
| 7 | ASTM | American Society for Testing and Materials |
| 8 | BED | Building Emergency Director |
| 9 | CFR | Code of Federal Regulations |
| 10 | COLIWASA | Composite Liquid-Waste Sampler |
| 11 | DOE | U.S. Department of Energy |
| 12 | DOE-RL | U.S. Department of Energy, Richland Operations Office |
| 13 | DOT | U.S. Department of Transportation |
| 14 | Ecology | Washington State Department of Ecology |
| 15 | EPA | U.S. Environmental Protection Agency |
| 16 | g | gram |
| 17 | gal | gallon |
| 18 | GC/MS | gas chromatography/mass spectroscopy |
| 19 | h | hour |
| 20 | HWTU | Hazardous Waste Treatment Unit |
| 21 | ICP | inductively coupled plasma |
| 22 | in. | inch |
| 23 | kg | kilogram |
| 24 | LDR | land disposal restriction |
| 25 | MSDS | material safety data sheet |
| 26 | NFPA | National Fire Protection Association |
| 27 | OSHA | Occupational Safety and Health Administration |
| 28 | PCB | polychlorinated biphenyl |
| 29 | PNL | Pacific Northwest Laboratory |
| 30 | PNNL | Pacific Northwest National Laboratory (PNL, above, was renamed to Pacific |
| 31 | | Northwest National Laboratory in October 1995) |
| 32 | psf | pounds per square foot |
| 33 | QA | quality assurance |
| 34 | QC | quality control |
| 35 | RCRA | Resource Conservation and Recovery Act |
| 36 | RCW | Revised Code of Washington |
| 37 | SAL | Shielded Analytical Laboratory |
| 38 | TCLP | toxicity characteristic leaching procedure |
| 39 | TSD | treatment, storage, and disposal |
| 40 | UFC | Uniform Fire Code |
| 41 | WAC | Washington Administrative Code |

1 **Acceptable Knowledge**

2 Information collected by the generator to meet waste-management requirements and determined to be
3 adequate by the TSD unit. According to EPA, the generator may use process knowledge, waste-analysis
4 data, and records of analysis performed before the effective date of regulation. Process knowledge is
5 acceptable for assigning appropriate waste codes.

6 **Analysis**

7 The process that the generator completes to characterize the waste properly. This analysis must provide
8 the information necessary to manage the waste in accordance with the requirements of WAC 173-303.
9 The analysis may include or consist of a review of existing published or documented data on the
10 dangerous waste, or on waste generated from similar processes, or data obtained by testing, if necessary.
11 The information must include detailed information pertaining to the chemical, physical, and/or biological
12 nature of a dangerous waste, or nondangerous wastes if applicable under WAC 173-303-610(4)(d)
13 [WAC 173-303-300(2)].

14 **Bulk Waste Stream**

15 Large volumes of homogeneous waste from a single generating event, e.g., soil remediation from a single
16 location.

17 **Certification**

18 Refer to Land Disposal Restrictions LDR Certification

19 **Characterize (characterization)**

20 The steps the generator or TSD unit takes to describe the contents of the waste to ensure proper
21 management adequately and accurately. This characterization information is required to provide for
22 compliant treatment, storage, or disposal of a dangerous waste and includes waste designation, TSD unit
23 waste acceptance criteria, or land disposal restriction information (to facilitate discussions on
24 characterization, we use the terms characterize for storage, characterize for treatment, or characterize for
25 disposal).

26 **Characterize for Disposal**

27 The minimum information required to demonstrate that a waste was not LDR or no longer LDR. This
28 information consists of analytical data as described in the federal regulations (i.e., 40 CFR 268), which
29 demonstrate the waste meets any concentration-based standards. To demonstrate that a specified
30 technology was used to meet federal treatment standards (i.e., 40 CFR 268.42 or 268.45), acceptable
31 knowledge must be obtained from the customer or by the disposal unit. For state-only land disposal
32 restrictions, the disposal unit will either test the waste, use process knowledge, or the two to confirm that
33 the customer properly treated the waste, if applicable, to state land disposal restriction standards.
34 Information must also be provided to demonstrate that the waste meets the operational parameters of the
35 disposal facility, such as liner compatibility information.

36 **Characterize for Storage**

37 At a minimum, the information necessary to manage the waste appropriately at a TSD storage unit.
38 Acceptable knowledge may be required for any operational parameters of the TSD unit, TSCA
39 information (i.e., regulated for PCBs), and characteristics which may present a management concern
40 (i.e., waste regulated for ignitability, corrosivity, and/or reactivity).

41 **Characterize for Treatment**

42 The minimum information for a waste to be shipped to a treatment unit and successfully treated. This
43 includes a complete designation, land disposal restriction determination information including underlying
44 hazardous constituent information (if applicable), and treatment unit operational parameters.

1 **Confirm (confirmation)**

2 The confirmation process includes completing appropriate pre-shipment review and verification steps
3 and/or parameters. The requirement to confirm appears twice in WAC 173-303-300 and applies to two
4 different scenarios.

5 Scenario 1: The process that an owner or operator uses to ensure knowledge supplied by the generator or
6 TSD unit is acceptable knowledge to ensure that the waste is managed properly [WAC 173-303-300(1)].

7 Scenario 2: The process that a facility owner or operator receiving off-site facility shipments uses to
8 determine, by analysis if necessary, that each waste received at the facility matches the identity of the
9 waste specified on the accompanying manifest or shipping paper [WAC 173-303-300(3)].

10 **Conformance Issue**

11 Any issue, which, if left unresolved, prevents acceptance of waste. This includes manifest discrepancies
12 and inconsistencies.

13 **Container Failure**

14 A waste container for which a manifest discrepancy has been identified.

15 **Container Receipt Inspection**

16 The process a TSD unit uses to examine an incoming container and will include, but is not limited to,
17 inspecting labels, checking the condition of the container, checking the piece count of the shipment, and
18 checking the shipping papers associated with the container.

19 **Corroborative Testing**

20 Sampling and analysis performed by both the treater and disposer of an LDR waste to meet federal land
21 disposal restriction concentration-based treatment standards. The frequency of testing is determined on a
22 case-by-case basis by the permit writer, 55 FR 22669.

23 **Customer**

24 The generator or TSD unit who ships waste to another TSD unit, the current custodian of the waste.

25 **Designation**

26 The process of determining if a solid waste is a mixed waste, resulting in the assignment of proper federal
27 and state waste codes.

28 **Disposal Unit**

29 A TSD unit on the Hanford Facility permitted to dispose of mixed waste that meets all applicable
30 state-only and federal land disposal restrictions (i.e., Low-Level Burial Grounds).

31 **Effective Date of Regulation**

32 The date when mixed waste became subject to regulation in Washington State (August 19, 1987).

33 **Equivalent Test Method**

34 A laboratory or field-testing method used to determine characteristics or composition of a waste that has
35 been approved by Ecology in accordance with WAC 173-303 rule-making procedures, in lieu of using a
36 laboratory- or field-testing method required by regulation. A generator or owner/operator must submit a
37 rule-making petition to Ecology in accordance with WAC 173-303-110(5) and WAC 173-303-910(2).

1 **Facility**

2 All contiguous land, structures, other appurtenances, and improvements on the land used for recycling,
3 reusing, reclaiming, transferring, storing, treating, or disposing of dangerous waste. The legal and
4 physical description of the Hanford Facility is set forth in WA7890008967, Hanford Facility RCRA
5 Permit (Permit), Attachment 2.

6 **Fingerprint Analysis**

7 Sampling and analysis of several key chemical and physical parameters of a waste to substantiate or
8 verify the composition of a waste as determined previously during characterization. Fingerprint analysis
9 typically is used by generators to substantiate waste characterization of frequently generated wastes. TSD
10 units may use fingerprint analysis for verification. Parameters for sampling and analysis may be a subset
11 of the parameters used during characterization, or they may be parameters that are not normally present in
12 the waste to verify the absence of certain constituents.

13 **General Waste Stream**

14 Waste from a single customer and Waste Management Group.

15 **Generator**

16 Any person, by site, whose act or process produces dangerous waste or whose act first causes a dangerous
17 waste to become subject to regulation, WAC 173-303-040. The generator on the Hanford Facility is the
18 U.S. Department of Energy, Richland Operations Office and its contractors. A generator may accumulate
19 (store or treat) a dangerous waste under the provisions in WAC 173-303-170 and -200.

20 **Hanford Facility**

21 Refer to Facility.

22 **Inconsistencies**

23 Any other discrepancies which are not manifest discrepancies.

24 **Independent Authorized Agent**

25 A group or organization that is functionally independent from the waste-generating function.

26 **Land Disposal Restrictions (federal)**

27 Federal requirements pertaining to dangerous wastes designated under 40 CFR Part 261 that were
28 generated on or after the effective date of regulation. State-only dangerous wastes are not subject to the
29 federal LDR requirements.

30 **Land Disposal Restrictions (state-only)**

31 State-only mixed waste requirements pertaining to dangerous waste designated solely under
32 WAC 173-303 and not 40 CFR 261 that were generated on or after the effective date of regulation.

33 **LDR Certification**

34 A written statement of professional opinion and intent signed by an authorized representative that
35 acknowledges an owner's or operator's and/or generator's compliance with applicable LDR requirements.

36 **Manifest Discrepancy**

37 Significant discrepancies between the quantity or type of the dangerous waste designated on the manifest
38 or shipping paper and the quantity or type of dangerous waste a facility actually receives,
39 WAC 173-303-370(4)(a).

40 **Pre-Shipment Review**

41 The process used by the TSD unit to obtain and evaluate the generator's analysis of waste to be received
42 by the TSD unit and to document acceptable knowledge on the waste profile.

1 **Process Knowledge**

2 Knowledge the generator applies to a solid waste to determine if it is a dangerous waste in light of the
3 materials or the process used when such knowledge can be demonstrated to be sufficient for determining
4 whether a solid waste is designated properly, WAC 173-303-070(3)(c)(ii). Process knowledge includes
5 information on wastes obtained from existing published or documented waste analysis data or studies
6 conducted on mixed wastes generated by processes similar to that which generated the waste. Process
7 knowledge for dangerous waste may also include information obtained from surrogate material.

8 **QA/QC**

9 Quality assurance (QA) is the process for ensuring that all data and the decisions based on that data are
10 technically sound, statistically valid, and properly documented. Quality control (QC) procedures are the
11 tools employed to measure the degree to which these quality assurance objectives are fulfilled.

12 **Re-Characterization**

13 A process which occurs when an unsafe condition arises and/or when a waste is removed from a storage
14 unit to meet acceptance criteria for the receiving treatment unit or disposal unit.

15 **Repeat and Review Frequency**

16 The frequency specified in a WAP on a TSD unit basis that the owner/operator will ensure the knowledge
17 maintained on a specific waste stream is still acceptable knowledge and/or adequate analysis. Repeat and
18 review frequency provisions do not apply to corroborative testing.

19 **Sampling and Analysis (Sampling and Laboratory Analysis)**

20 The process of obtaining a representative sample(s) from a dangerous waste to determine the accuracy of
21 characteristics or composition of the sample through laboratory or field testing.

22 **Shipment Failure**

23 A maximum of two container failures within the first verification sample set or combined first and second
24 verification sample set. If only one container fails, it is considered an anomaly and corrected. It is
25 understood that if the shipment consists of one or two drums, the shipment fails if one drum fails
26 verification.

27 **Significant Discrepancy**

28 A discrepancy with regard to a manifest or shipping paper means a discrepancy between the quantity or
29 type of dangerous waste designated on the manifest or shipping paper and the quantity or type of
30 dangerous waste a TSD unit actually receives. A significant discrepancy in quantity is a variation greater
31 than ten (10) percent in weight for bulk quantities (e.g., tanker trucks, railroad tank cars, etc.) or any
32 variation in piece count for nonbulk quantities (i.e., any missing container or package would be a
33 significant discrepancy). A significant discrepancy in type is an obvious physical or chemical difference
34 which can be discovered by inspection or waste analysis (e.g., waste solvent substituted for waste acid.
35 This also includes a discrepancy in the number of inner containers in a labpack.

36 **Storage Unit**

37 A TSD unit on the Hanford Facility permitted to store dangerous waste.

38 **Treatment Unit**

39 A TSD unit on the Hanford Facility permitted to treat dangerous waste.

40 **TSD Unit**

41 Refer to Unit.

1 **Unit**

2 The term unit (or TSD unit), as used in Parts I through VI of the Permit, means the contiguous area of
3 land on or in which dangerous waste is placed, or the largest area where there is a significant likelihood of
4 mixing dangerous waste constituents in the same area. A TSD unit, for the purposes of this Permit, is a
5 subgroup of the Facility which has been identified in the Hanford Facility Dangerous Waste Part A.

6 **Verify (Verification)**

7 An assessment the receiving TSD unit performs to substantiate the analysis acquired by the TSD unit
8 before acceptance. Verification must be performed by TSD unit personnel or an authorized agent on
9 wastes received by the TSD unit. Verification may occur at the receiving TSD unit or at the generator's
10 location, depending on many dangerous waste shipment and packaging configuration factors.
11 Verification activities include container receipt inspection, and as applicable, physical screening, and/or
12 chemical screening/fingerprint analysis.

13 **Waste Acceptance Criteria**

14 The minimum requirements imposed by a TSD unit to ensure that a dangerous waste is managed
15 properly.

16 **Waste Analysis**

17 Refer to Analysis.

18 **Waste Profile**

19 A mechanism used by the receiving TSD unit to document the generator's acceptable knowledge to meet
20 the owner or operator's analysis obligation in WAC 173-303-300(2). Example forms or documents
21 typically used by the TSD unit to maintain analysis information are included in the WAP as attachments.
22 For offsite facilities, the waste profile will include the waste analysis which dangerous waste generators
23 have agreed to supply in accordance with WAC 173-303-300(5)(g).

24 **Waste Stream**

25 Per or each waste stream refers to individual waste streams, each with an individual point of generation.
26 Individual waste streams include wastes that are physically or chemically different from each other;
27 wastes that are generated from different types of processes; and wastes that are the same type, but are
28 generated at different points along the same process or at different process locations. For information, the
29 Hanford Facility uses the following factors in determining a waste stream: (1) the Department of
30 Transportation requirements pertaining to the waste materials; (2) the waste designation of the waste
31 materials; (3) the order of events pertaining to the process which generates the waste materials,
32 (4) impermissible dilution concerns based on WAC 173-303-150 and 40 CFR 268.3; and (5) any future
33 treatment- and disposal-management pathways available to the waste materials.

34

METRIC CONVERSION CHART

The following conversion chart is provided to the reader as a tool to aid in conversion.

| If you know | Multiply by | to get | If you know | Multiply by | to get |
|---------------|---|--------------------|--------------------|---------------------------------------|---------------|
| Length | | | Length | | |
| Inches | 25.40 | Millimeters | Millimeters | 0.0393 | inches |
| Inches | 2.54 | Centimeters | Centimeters | 0.393 | inches |
| Feet | 0.3048 | Meters | Meters | 3.2808 | feet |
| Yards | 0.914 | Meters | Meters | 1.09 | yards |
| Miles | 1.609 | Kilometers | Kilometers | 0.62 | miles |
| Area | | | Area | | |
| Square inches | 6.4516 | square centimeters | square centimeters | 0.155 | square inches |
| Square feet | 0.092 | square meters | square meters | 10.7639 | square feet |
| Square yards | 0.836 | square meters | square meters | 1.20 | square yards |
| Square miles | 2.59 | square kilometers | square kilometers | 0.39 | square miles |
| Acres | 0.404 | Hectares | Hectares | 2.471 | acres |
| Mass (weight) | | | Mass (weight) | | |
| Ounces | 28.35 | Grams | Grams | 0.0352 | ounces |
| Pounds | 0.453 | Kilograms | Kilograms | 2.2046 | pounds |
| short ton | 0.907 | metric ton | metric ton | 1.10 | short ton |
| Volume | | | Volume | | |
| fluid ounces | 29.57 | Milliliters | Milliliters | 0.03 | fluid ounces |
| Quarts | 0.95 | Liters | Liters | 1.057 | quarts |
| Gallons | 3.79 | Liters | Liters | 0.26 | gallons |
| cubic feet | 0.03 | Cubic meters | cubic meters | 35.3147 | cubic feet |
| cubic yards | 0.76 | Cubic meters | cubic meters | 1.308 | cubic yards |
| Temperature | | | Temperature | | |
| Fahrenheit | subtract 32 then multiply by 5/9ths | Celsius | Celsius | multiply by 9/5ths, then add 32 | Fahrenheit |

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- 2 Source: *Engineering Unit Conversions*, M. R. Lindeburg, PE, Second Ed., 1990, Professional
3 Publications, Inc., Belmont, California.

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3.0 WASTE ANALYSIS PLAN

2 This chapter provides information on the chemical, biological, and physical characteristics of the waste
3 treated and stored in the 325 HWTUs, including waste descriptions, designations, and a waste analysis
4 plan.

5 Please note that source, special nuclear and byproduct materials, as defined in the *Atomic Energy Act of*
6 *1954 (AEA)*, are regulated at DOE facilities exclusively by DOE acting pursuant to its AEA authority.
7 These materials are not subject to regulation by the State of Washington. All information contained
8 herein and related to, or describing AEA-regulated materials and processes in any manner, may not be
9 used to create conditions or other restrictions set forth in any permit, license, order, or any other
10 enforceable instrument. DOE asserts that pursuant to the AEA, it has sole and exclusive responsibility
11 and authority to regulate source, special nuclear and byproduct materials at DOE-owned nuclear facilities.
12 Information contained herein on radionuclides is provided for process description purposes only.

13 3.1 CHEMICAL, BIOLOGICAL, AND PHYSICAL ANALYSIS

14 The dangerous waste managed at the 325 HWTUs can be categorized as originating from the following
15 general sources:

- 16 • listed waste from specific and nonspecific sources
- 17 • laboratory waste resulting from analysis of samples
- 18 • discarded commercial chemical products
- 19 • hazardous or mixed waste from chemicals synthesized or created in research activities using
20 radioactive isotopes
- 21 • discarded commercial chemical products exhibiting dangerous waste characteristics and/or criteria.

22 Each of these waste categories is discussed in the following sections, including waste descriptions, hazard
23 characteristics, and basis for hazard designations. This information includes data that must be known to
24 treat, store, or dispose of the waste as required under WAC 173-303-806(4)(a)(ii).

25 3.1.1 Listed Waste from Specific and Nonspecific Sources

26 Waste from specific and nonspecific sources consists of listed waste identified in WAC 173-303-9904.
27 Permit Attachment 36, Chapter 1.0, for the 325 HWTUs identifies the following waste from this category:

- 28 • F001 - Spent halogenated degreasing solvents and sludges
- 29 • F002 - Spent halogenated solvents and still bottoms
- 30 • F003 - Spent nonhalogenated solvents and still bottoms
- 31 • F004 - Spent nonhalogenated solvents and still bottoms
- 32 • F005 - Spent nonhalogenated solvents and still bottoms
- 33 • F006 - Wastewater treatment sludges from electroplating operations
- 34 • F007 - Spent cyanide-plating-bath solutions from electroplating operations
- 35 • F009 - Spent stripping- and cleaning-bath solutions from electroplating operations where cyanides
36 are used in the process
- 37 • F027 - Discarded polychlorinated phenol formulations
- 38 • F039 - Leachate resulting from the disposal of more than one restricted waste classified as hazardous
- 39 • K011 - Bottom stream from the wastewater stripper in the production of acrylonitrile
- 40 • K013 - Bottom stream from acrylonitrile column in the production of acrylonitrile

- 1 • K048 - Dissolved air flotation (DAF) float from petroleum refining industry
- 2 • K049 - Slop oil-emulsion solids from the petroleum refining industry
- 3 • K050 - Heat exchange, bundle-cleaning sludge from petroleum refining industry
- 4 • K051 - American Petroleum Institute separator sludge from the petroleum refining industry
- 5 • K052 - Tank bottoms (leaded) from the petroleum refining industry.

6 These halogenated and nonhalogenated solvents are in the form of spent solvents; no still bottoms are
7 managed. Degreasing solvents (F001) as well as spent halogenated solvents (F002) are generated
8 primarily in research and analytical processes. Spent nonhalogenated solvents (F003, F004, and F005)
9 also come primarily from research laboratories. Much of the waste to be treated in the 325 HWTUs
10 results from analyses of waste samples from sources already designated as F001 through F005.
11 Manufacturing activities are not performed on the Hanford Facility; therefore, dangerous waste from
12 specific sources (WAC 173-303-9904 K-listed waste) is not generated at PNNL. Small quantities of
13 K-listed waste, however, have been generated from treatability studies at PNNL in the past; the residues
14 from these tests could be treated at the 325 HWTUs.

15 The F-listed waste is designated on the basis of the process knowledge (e.g., information from container
16 labels, material safety data sheets [MSDS], or process information). Sampling might be performed if
17 additional information is needed to document the composition and characteristics of the waste. The
18 generator is responsible for specifying the characteristics of the waste, based on knowledge of the
19 chemical products used (i.e., information supplied by the manufacturer) and the process that generated the
20 waste. The F001- and F002-listed waste types are designated according to WAC 173-303-70 through
21 WAC 173-303-100.

22 The K-listed waste in Permit Attachment 36, Chapter 1.0, is designated based on the source of the process
23 generating the original waste. These waste types are designated as dangerous waste, unless the waste is
24 mixed with other constituents that require the mixture to be designated as extremely hazardous waste.

25 **3.1.2 Laboratory Waste Resulting from Analysis of Samples**

26 Laboratory waste resulting from analyzing samples makes up the largest volume of waste to be treated or
27 stored in the 325 HWTUs. These waste types include those designated from the dangerous waste source
28 list as described in WAC 173-303-082, designated as characteristic dangerous waste under
29 WAC 173-303-090, and designated as dangerous waste by the criteria set forth under WAC 173-303-100.
30 These waste types are designated based on process knowledge (i.e., project requirements, client-supplied
31 information, and process information) as well as analytical results. Currently, much of this waste is
32 designated as listed waste from the dangerous waste source list based on information provided by the
33 generator. The waste is designated as dangerous waste unless constituent concentrations in the waste
34 require the designation to be extremely hazardous waste.

35 **3.1.3 Discarded Commercial Chemical Products**

36 Discarded chemical products consist of those products listed in WAC 173-303-081. Permit
37 Attachment 36, Chapter 1.0, for the 325 HWTUs identifies all of the discarded chemical products listed in
38 WAC 173-303-9903 (P001 through P123 and U001 through U359) and specifies an estimated maximum
39 annual management quantity. Typically, only a few of these waste types are generated at any one time.
40 Permit Attachment 36, Chapter 1.0, lists all of the waste types, because the wide variety of research
41 activities conducted on the Hanford Facility presents the potential for generating these waste types.

42 Waste types in this category are designated based on process knowledge. Because this waste is usually in
43 the original container, information on the container label is verified by process knowledge

1 (i.e., knowledge that material is in its original container) and the label is used to identify contents. Excess
2 or expired chemicals that have been determined to be a waste and that are still in the original container
3 will not be sampled. These listed-waste types contain those designated as dangerous waste as well as
4 those designated as extremely hazardous waste. These waste types also are subject to land disposal
5 restriction (LDR) regulations under 40 CFR 268 and WAC 173-303-140, including disposal prohibitions
6 and treatment standards.

7 **3.1.4 Hazardous or Mixed Waste from Chemicals Synthesized or Created in Research Activities**
8 **Using Radioactive Isotopes**

9 Waste from research activities may contain radioactive isotopes in addition to RCRA regulated
10 constituents. In such cases the wastes are designated as mixed waste. Typically such wastes are
11 generated in small quantities, ranging from a few grams to a few liters. Waste is designated based on
12 process knowledge or on the basis of sampling and analysis. Process knowledge is used if the generator
13 has kept accurate records of the identities and concentrations of constituents present in the waste (e.g., log
14 sheets for accumulation containers). If information available from the generator is inadequate for waste
15 designation, the waste is sampled, and the results of the analysis are used for designation. These waste
16 types include waste designated as characteristic dangerous waste mixtures under WAC 173-303-090 and
17 waste designated as dangerous waste under WAC 173-303-100. Permit Attachment 36, Chapter 1.0,
18 includes all categories of toxic, persistent, and carcinogenic waste mixtures (i.e., both dangerous waste
19 and extremely hazardous waste). While not all of these waste types currently are generated or have been
20 generated, the wide variety of research activities conducted on the Hanford Facility presents the potential
21 that these waste types could be generated and could require subsequent management at the 325 HWTUs.
22 Similarly, the Permit Attachment 36, Chapter 1.0, includes the characteristic dangerous waste categories
23 D001 through D043 (i.e., ignitable, corrosive, reactive, and toxicity characteristics leaching procedure
24 [TCLP] toxics caused by metals or organics content).

25 The waste also could be LDR waste regulated under 40 CFR 268 and WAC 173-303-140.

26 **3.1.5 Discarded Commercial Chemical Products Exhibiting Dangerous Waste Characteristics**
27 **and/or Criteria**

28 Many discarded chemical products handled in the 325 HWTUs are not listed in WAC 173-303-9903 but
29 are still considered dangerous waste, because these products exhibit at least one dangerous waste
30 characteristic and/or criterion (WAC 173-303-090 and WAC 173-303-100). This waste is included in
31 Permit Attachment 36, Chapter 1.0, under waste numbers D001 through D043, WT01, WT02, WP01,
32 WP02, WP03, and WSC2. This waste typically is received in the manufacturer's original container.

33 Waste in this category is designated based on the process knowledge. Because this waste is usually in the
34 original container, information on the container label is used to identify the contents. This waste includes
35 waste designated as dangerous waste and waste designated as extremely hazardous waste.

36 The waste also could be LDR waste regulated under 40 CFR 268 and WAC 173-303-140.

37 **3.1.6 Waste Analysis Plan**

38 The 325 HWTUs Waste Analysis Plan describes the procedures used to obtain the information necessary
39 to manage waste in accordance with the requirement of WAC 173-303. The following are described:
40 sampling methods; analytical parameters and rationale; quality-control and quality-assurance procedures;
41 requirements for incoming waste; storage requirements for ignitable, reactive, and incompatible waste;
42 and the waste tracking and record keeping procedures.

1 **3.1.7 Manifest System**

2 Onsite waste shipments are manifested pursuant to Permit Condition II.P.2. Offsite waste shipments are
3 manifested in accordance with the requirements of WAC 173-303-370 and -180.

4 **3.1.7.1 Procedures for Receiving Shipments**

5 The onsite generator is responsible for identifying waste composition accurately and arranging for the
6 transport of the waste. A copy of all other pertinent operating records is maintained by the 325 HWTUs
7 for 5 years. The waste tracking methods are as follows.

8 **Inspection of Transfer Papers/Documentation** – The necessary transfer papers for the entire transfer
9 are verified (i.e., signatures are dated, all waste containers included in the transfer are accounted for and
10 correctly indicated on the transfer documentation, there is consistency throughout the different transfer
11 documentation, and the documentation matches the labels on the containers).

12 **Inspection of Waste Containers** – The condition of waste containers is checked to verify that the
13 containers are in good condition (e.g., free of holes and punctures).

14 **Inspection of Container Labeling** – Transfer documentation is used to verify containers are labeled with
15 the appropriate "Hazardous/Dangerous Waste" labeling and associated markings according to the contents
16 of the waste container.

17 **Acceptance of Waste Containers** – The 325 HWTUs personnel sign the transfer documents and retain a
18 copy.

19 If transport will be over public roads (unless those roads are closed to public access during waste
20 transport), a Uniform Hazardous Waste Manifest will be prepared identifying the 325 HWTUs as the
21 receiving unit. The 325 HWTUs operations staff will sign and date each copy of the manifest to certify
22 that the dangerous waste covered by the manifest was received. The transporter will be given at least one
23 copy of the signed manifest. A copy of the manifest will be returned to the generator within 30 days of
24 receipt at the 325 HWTUs. A copy of the manifest also will be retained in the 325 HWTUs operating
25 records for 5 years.

26 **3.1.7.2 Response to Significant Discrepancies**

27 The primary concern during acceptance of containers for storage is improper packaging or waste tracking
28 form discrepancies. Containers with such discrepancies are not accepted at the 325 HWTUs. Depending
29 on the nature of the condition, such discrepancies can be resolved through the use of one or more of the
30 following alternatives.

- 31 • Incorrect or incomplete entries on the Uniform Hazardous Waste Manifest or the onsite waste
32 tracking form can be corrected or completed with concurrence of the onsite generator or offsite
33 generator. Corrections are made by drawing a single line through the incorrect entry. Corrected
34 entries are initialed and dated by the individual making the correction.
- 35 • The waste packages can be held and the onsite generator or offsite waste generator can be requested
36 to provide written instructions for use in correcting the condition before the waste is accepted.
- 37 • Waste packages can be returned as unacceptable.
- 38 • The onsite generator or offsite waste generator can be requested to correct the condition on the
39 Hanford Facility before the waste is accepted.
- 40 • If a noncompliant dangerous waste package is received from an offsite waste generator, and the waste
41 package is nonreturnable because of condition, packaging, etc., and if an agreement cannot be
42 reached among the involved parties as to resolving the noncompliant condition, then the issue will be
43 referred to the U.S. Department of Energy, Richland Operations Office (DOE-RL) and the
44 Washington State Department of Ecology (Ecology) for resolution. Ecology will be notified if a

1 discrepancy is not resolved within 15 days after receiving a noncompliant shipment. Such waste
2 packages, although not accepted, might be placed in the 325 HWTUs pending resolution. The
3 package will be segregated from other waste and labeled in accordance with instructions in the unit
4 contingency plan in the "Event Scenarios" section.

5 **3.1.7.3 Provisions for Nonacceptance of Shipment**

6 Provisions for nonacceptance of waste transfers are discussed in the following sections.

7 **3.1.7.4 Nonacceptance of Undamaged Shipment**

8 Before waste is brought into the 325 HWTUs, all associated documentation is inspected and verified for
9 treatment and/or storage authorization. Any transfer of materials that the 325 HWTUs are not designed to
10 treat and/or store neither are unloaded from the vehicle nor accepted for treatment or storage.

11 **3.1.7.5 Activation of Contingency Plan for Damaged Shipment**

12 If waste transfers arrive at the 325 HWTUs in a condition that presents a hazard to public health or the
13 environment, the building emergency plan is implemented, as described in Permit Attachment 36,
14 Chapter 7.0.

15 **3.1.8 Tracking System**

16 Upon generation or receipt into the 325 HWTUs, each container of waste is assigned a unique tracking
17 number. This number is used to track the following information:

- 18 • a description and the quantity of each dangerous waste received and the method(s) and date(s) of
19 storage or treatment in the 325 HWTUs, in accordance with WAC 173-303-380(2)
- 20 • the location of each dangerous waste container stored within the unit and the quantity at each
21 location, including cross reference to any applicable manifest and/or waste tracking numbers
- 22 • waste analysis results.

23 This system effectively tracks waste containers as the containers move through treatment or storage at the
24 325 HWTUs. The information is retained as part of the 325 HWTUs operating record, readily accessible
25 for 5 years (refer to Permit Attachment 36, Chapter 6.0, §6.2.2).

26 **3.2 325 HAZARDOUS WASTE TREATMENT UNITS WASTE ANALYSIS PLAN**

27 The 325 HWTUs are part of the Unit-Specific Portion of the Permit, WA7890008967.

28 The 325 HWTUs consist of two units; all within the 325 Building, located in the 300 Area on the Hanford
29 Facility (refer to Permit Attachment 36, Chapter 1.0). Permit Attachment 36, Chapter 2.0 provides
30 detailed location information.

31 The 325 Building includes the following: (1) a central portion (completed in 1953) that consists of three
32 floors (basement, ground, and second) containing general-purpose laboratories, provided with special
33 ventilation and work enclosures (2) a south (front) wing containing office space, locker rooms, and a
34 lunch room; and (3) east and west wings containing shielded enclosures with remote manipulators. The
35 Shielded Analytical Laboratory (SAL) is located in Rooms 32, 200, 201, 202, and 203. The HWTU is
36 located in Rooms 520, 524 and 528. Figures 3.1 through Figure 3.2 provide drawings of the TSD units.

37 The fire water-collection tank, which serves rooms 520 and 528 of the HWTU, is located beneath
38 Room 520 in the basement of the 325 Building. The rectangular tank measures 1.65 meters by
39 2.25 meters by 1.92 meters, and has a 22,710-liter capacity. The sides and floor of the tank are
40 constructed of epoxy-coated carbon-steel plate. The steel sides and floor provide support for the chemical

1 resistant polypropylene liner. The tank is secured to the concrete floor of the 325 Building with
2 1.3-centimeter bolts at 1.82-meter intervals.

3 3.3 DESCRIPTION OF UNIT PROCESSES AND ACTIVITIES

4 The 325 HWTUs store and treat dangerous waste generated by Hanford Facility programs (primarily from
5 research activities in the 325 Building and other Pacific Northwest National Laboratory [PNNL]
6 facilities) and potentially from other onsite/offsite laboratories. Storage in containers and bench- or
7 small-scale treatment of dangerous waste occurs in both the HWTU and the SAL. As described in further
8 detail in Permit Attachment 36, Chapter 4.0, containers are managed in accordance with
9 WAC 173-303-630; the SAL tank is managed and operated in accordance with WAC 173-303-640.

10 At the SAL, dangerous waste liquid is stored in a tank in Room 32.

11 Before receipt or acceptance of waste at the 325 HWTUs, the generator must supply adequate information
12 to characterize and manage the waste properly. The information may include waste characterization data,
13 waste volume, container information, and process information.

14 If the material safety data sheets (MSDS), laboratory reagent, process knowledge, or analytical
15 information provides insufficient information for a complete designation, the 325 HWTUs personnel
16 require the generator unit to provide laboratory analyses before acceptance of the waste at the
17 325 HWTUs.

18 Containers in poor condition or inadequate for storage (e.g., damaged, not intact, or not securely sealed to
19 prevent leakage) are not accepted in the 325 HWTUs. Examples of acceptable packaging include
20 laboratory reagent bottles, U.S. Department of Transportation (DOT)-approved containers, spray cans,
21 sealed ampules, paint cans, leaking containers that have been overpacked, etc. Unit operations personnel
22 have the authority to determine whether a container is in poor condition or inadequate for storage using
23 the criteria of WAC 173-303-190, and using professional judgment to determine whether the packaging
24 could leak during handling, storage, and/or treatment. Containers will not be opened, handled, or stored
25 in a manner that would cause the containers to leak or rupture. Containers will remain closed except
26 when sampling, adding, or removing waste or when analysis or treatment of the waste is ongoing.
27 Containers of incompatible waste are segregated in the storage areas.

28 The regulated waste managed in the 325 HWTUs includes dangerous waste designated as listed waste;
29 waste from nonspecific sources; selected waste from specific sources, characteristic waste, and state-only.
30 Dangerous wastes that are managed in the 325 HWTUs are listed by waste code in Permit Attachment 36,
31 Chapter 1.0.

32 Specific waste treatment processes are found in the list of treatments in Permit Attachment 36,
33 Chapter 1.0. Permit Attachment 36, Chapter 1.0, also provides the maximum process design capacity for
34 treatment and storage activities conducted in the HWTU and SAL.

35 All containers of dangerous waste are labeled to describe the contents of the container and the major
36 hazards of the waste, as required under WAC 173-303-395. Each container is assigned a unique
37 identifying number. All containers used for transfer are selected and labeled according to applicable
38 regulations. Shipments may include manifesting and DOT compliance requirements. Shipments will be
39 in accordance with 49 CFR as required by WAC 173-303-190.

40 The containers used for storage or treatment of dangerous waste are compatible with the waste stored in
41 the containers.

1 All flammable liquid waste is stored in compatible containers and in Underwriter's Laboratory (UL)-listed
2 and Factory Mutual (FM)-approved flammable storage cabinets or DOT-approved shipping containers.
3 Solid chemicals are stored on shelving/flat surfaces in specifically designated areas based on need. All
4 incompatible materials will be segregated. Storage of dangerous waste in the HWTU is governed by the
5 Uniform Building Code restrictions (ICBO 1991).

6 325 HWTUs staff moves the dangerous waste containers in accordance with 325 HWTUs collection
7 procedures that address safety and hazard considerations. The procedures cover various dangerous waste
8 types and transportation modes. 325 HWTUs staff does not perform the operations, covered by a
9 procedure, until they are formally trained on the procedure. All 325 HWTU staff is instructed in proper
10 container handling and spill prevention safeguards as part of their training. When in storage, containers
11 are kept closed except when adding or removing waste, in accordance with WAC 173-303-630(5)(a).

12 Because of the nature of some dangerous waste stored at the SAL, it is often necessary to modify the
13 standard containers. This modification ensures that the containers are specially shielded to reduce the
14 hazard of the radioactive component of the dangerous waste stored in the container and are compliant
15 with ALARA criteria. These specially designed shielded containers are packaged depending on the
16 amount of shielding required. The shielding is accomplished by surrounding the containers with
17 concrete, lead, or other materials to reduce the dose rate produced by the radiological component of the
18 dangerous waste.

19 The requirements in WAC 173-303-140 encourage the best management practices for dangerous waste
20 according to the priorities of RCW 70.105.150. In order of priority, these are reduction; recycling;
21 physical, chemical, and biological treatment; incineration; stabilization and solidification; and land filling.
22 The 325 HWTUs will observe these priorities whenever a management option exists. Recycling will be
23 performed whenever waste can be used as reagent material to treat other waste received. To the extent
24 practical, reduction of waste will be incorporated in the treatment processes so that the volume of residues
25 will be reduced.

26 **3.3.1 Identification/Classification and Quantities of Dangerous Waste Generated or Managed at**
27 **the 325 HWTUs and Restricted/Prohibited**

28 The dangerous waste managed at the 325 HWTUs can be categorized as originating from the following
29 general sources:

- 30 • listed waste from specific and nonspecific sources
- 31 • laboratory waste resulting from analysis of samples
- 32 • discarded commercial chemical products
- 33 • waste from hazardous or mixed chemicals synthesized or created in research activities using
34 radioactive isotopes
- 35 • discarded commercial chemical products exhibiting dangerous waste characteristics and/or criteria.

36 Each of these waste categories is discussed in the following sections, including waste descriptions, hazard
37 characteristics, and basis for hazard designations. This information includes data that must be known to
38 treat, store, or dispose of the waste as required under WAC 173-303-806(4)(a)(ii).

39 **3.3.2 Listed Waste from Specific and Nonspecific**

40 Waste from specific and nonspecific sources consists of listed waste identified in WAC 173-303-9904.
41 Permit Attachment 36, Chapter 1.0, for the 325 HWTUs identifies the following waste from this category:

- 1 • F001 - spent halogenated degreasing solvents and sludges
- 2 • F002 - spent halogenated solvents and still bottoms
- 3 • F003 - spent nonhalogenated solvents and still bottoms
- 4 • F004 - spent nonhalogenated solvents and still bottoms
- 5 • F005 - spent nonhalogenated solvents and still bottoms
- 6 • F006 - wastewater treatment sludges from electroplating operations
- 7 • F007 - spent cyanide-plating-bath solutions from electroplating operations
- 8 • F009 - spent stripping- and cleaning-bath solutions from electroplating operations where cyanides
9 are used in the process
- 10 • F027 - discarded polychlorinated phenol formulations
- 11 • F039 - leachate resulting from the disposal of more than one restricted waste classified as hazardous
- 12 • K011 - bottom stream from the wastewater stripper in the production of acrylonitrile
- 13 • K013 - bottom stream from acrylonitrile column in the production of acrylonitrile
- 14 • K048 - dissolved air flotation (DAF) float from petroleum refining industry
- 15 • K049 - slop oil emulsion solids from the petroleum refining industry
- 16 • K050 - heat exchange, bundle-cleaning sludge from petroleum refining industry
- 17 • K051 - American Petroleum Institute separator sludge from the petroleum refining industry
- 18 • K052 - tank bottoms (leaded) from the petroleum refining industry.

19 These halogenated and nonhalogenated solvents are in the form of spent solvents. Degreasing solvents
20 (F001) as well as spent halogenated solvents (F002) are generated primarily in research and analytical
21 processes. Spent nonhalogenated solvents (F003, F004, and F005) also come primarily from research
22 laboratories. Much of the waste to be treated in the 325 HWTUs results from analyses of waste samples
23 from sources already designated as F001 through F005. Manufacturing activities are not performed on
24 the Hanford Facility; therefore, dangerous waste from specific sources (WAC 173-303-9904 K-listed
25 waste) typically is not generated at PNNL. Small quantities of K-listed waste, however, have been
26 generated from treatability studies and sample characterization activities at PNNL in the past; the residues
27 from these tests could be treated at the 325 HWTUs (if covered in Permit Attachment 36, Chapter 1.0).

28 The F-listed waste is designated on the basis of the process knowledge (e.g., information from container
29 labels, MSDS, or process information). Sampling might be performed if additional information is needed
30 to document the composition and characteristics of the waste. The generating unit is responsible for
31 specifying the characteristics of the waste, based on knowledge of the chemical products used
32 (i.e., information supplied by the manufacturer) and the process generating the waste. The F001- and
33 F002-listed waste types are designated according to WAC 173-303-70 through WAC 173-303-100.

34 The K-listed waste in Permit Attachment 36, Chapter 1.0, is designated based on the source of the process
35 generating the original waste. These waste types are designated as dangerous waste, unless the waste is
36 mixed with other constituents that require the mixture to be designated as extremely hazardous waste.

37 3.3.3 Laboratory Waste Resulting from Analysis of Samples

38 Laboratory waste resulting from analyzing samples makes up the largest volume of waste to be treated or
39 stored in the 325 HWTUs. These waste types include those designated from the dangerous waste source
40 list as described in WAC 173-303-082, designated as characteristic dangerous waste under
41 WAC 173-303-090, and designated as dangerous waste by the criteria set forth under WAC 173-303-100.
42 These waste types are designated based on process knowledge (e.g., project requirements, client-supplied
43 information, and process information) as well as analytical results. Currently, much of this waste is
44 designated as listed waste from the dangerous waste source list, based on information provided by the

1 generator. The waste is designated as dangerous waste unless constituent concentrations in the waste
2 require the designation to be extremely hazardous waste.

3 **3.3.4 Discarded Commercial Chemical Products**

4 Discarded chemical products consist of those products listed in WAC 173-303-081. Permit
5 Attachment 36, Chapter 1.0, for the 325 HWTUs identifies all of the discarded chemical products listed in
6 WAC 173-303-9903 (P001 through P123 and U001 through U359) and specifies an estimated maximum
7 annual management quantity. Typically, only a few of these waste types are generated at any one time.
8 Permit Attachment 36, Chapter 1.0, lists all of the wastes, because the wide variety of research activities
9 conducted on the Hanford Facility presents the potential for generating these waste types.

10 Waste types in this category are designated based on process knowledge. Because this waste is usually in
11 the original container, information on the container label is verified by process knowledge
12 (i.e., knowledge that material is in its original container) and the label is used to identify contents. Excess
13 or expired chemicals that have been determined to be waste and that are still in the original container will
14 not be sampled. These listed waste types contain those designated as dangerous waste as well as those
15 designated as extremely hazardous waste. These waste types also are subject to LDR regulations under
16 40 CFR 268 and WAC 173-303-140, including disposal prohibitions and treatment standards.

17 **3.3.5 Hazardous or Mixed Waste from Chemicals Synthesized or Created in Research Activities** 18 **Using Radioactive Isotopes**

19 Dangerous waste from research activities using radioactive isotopes is designated as dangerous waste and
20 typically is generated in small quantities ranging from a few grams to a few liters. These waste types
21 consist primarily of contaminated chemicals, such as organics. Waste is designated based on process
22 knowledge or on the basis of sampling and analysis. Process knowledge is used if the generator has kept
23 accurate records of the identities and concentrations of constituents present in the waste (e.g., log sheets
24 for accumulation containers) If information available from the generator is inadequate for waste
25 designation, then the waste is sampled and the results of the analysis are used for designation. These
26 waste types include waste designated as characteristic dangerous waste mixtures under
27 WAC 173-303-090 and waste designated as dangerous waste under WAC 173-303-100. Permit
28 Attachment 36, Chapter 1.0, includes all categories of toxic and persistent waste mixtures (i.e., both
29 dangerous waste and extremely hazardous waste). While not all of these waste types currently are
30 generated or have been generated, the wide variety of research activities conducted on the Hanford
31 Facility presents the potential that these waste types could be generated and could require subsequent
32 management at the 325 HWTUs. Similarly, Permit Attachment 36, Chapter 1.0, includes the
33 characteristic dangerous waste categories D001 through D043 (i.e., ignitable, corrosive, reactive, and
34 TCLP toxic because of metals or organics content).

35 The waste also could be LDR waste, regulated under 40 CFR 268 and WAC 173-303-140.

36 **3.3.6 Discarded Commercial Chemical Products Exhibiting Dangerous Waste Characteristics** 37 **and/or Criteria**

38 Many discarded chemical products handled in the 325 HWTUs are not listed in WAC 173-303-9903 but
39 are still considered dangerous waste because these products exhibit at least one dangerous waste
40 characteristic and/or criterion (WAC 173-303-090 and WAC 173-303-100). This waste is included in
41 Permit Attachment 36, Chapter 1.0, under waste numbers D001 through D043, WT01, WT02, WP01,
42 WP02, WP03, and WSC2. This waste typically is received in the manufacturer's original container.

1 Waste in this category is designated based on the process knowledge. As this waste is usually in the
2 original container, information on the container label is used to identify the contents. This waste includes
3 waste designated as dangerous waste and waste designated as extremely hazardous waste. The waste also
4 could be LDR waste regulated under 40 CFR 268 and WAC 173-303-140.

5 **3.4 DESCRIPTION OF CONFIRMATION PROCESS**

6 325 HWTUs staff requires confirmation on all dangerous wastes before acceptance into the unit for
7 treatment or storage. Generators must supply adequate information to characterize and manage the waste
8 properly. The information includes waste characterization data, waste volume, container information, and
9 process information. A flow chart describing the confirmation process is shown in Table 3.3.

10 **3.4.1 Pre-Shipment Review**

11 Essentially all of the waste received at the 325 HWTUs is characterized before acceptance because the
12 waste streams are generated from known processes. Unknown wastes are analyzed by the generator
13 before they are accepted into the 325 HWTUs. Nearly all dangerous waste generated in the 325 Building
14 is generated from analytical or research processes, both of which require detailed records.

15 The primary source of information used by the generator to complete the waste tracking form is process
16 knowledge. Other information sources could be used, so long as these sources provide detailed
17 information on the chemical constituents present, chemical concentrations, material characteristics
18 (e.g., physical state, ignitability), and the characterization requirements on the waste tracking form.

19 If the MSDS, laboratory reagent, process knowledge, or analytical information provides insufficient
20 information for a complete designation, the 325 HWTUs personnel require the generator to provide
21 laboratory analyses before acceptance of the waste at the 325 HWTUs.

22 All process knowledge and analytical data that are used for waste characterization, LDR determination,
23 and/or treatment activities at this TSD unit shall be documented and placed in the Operating Record.

24 **3.4.1.1 Technical Review Process Overview**

25 This program, administered by the 325 HWTUs personnel, is designed to obtain the waste information
26 required pursuant to 40 CFR 264.13 and WAC 173-303-300. The review is conducted by qualified
27 325 HWTUs personnel using procedural guidelines and professional judgment. The reviewer(s), at their
28 discretion, could request additional information or require additional analytical data before determining
29 waste acceptability.

30 The first step in evaluating the acceptability of a waste is to obtain a general description of the wastes and
31 to identify the waste codes and regulatory requirements that apply to the waste.

32 Technical review of waste information is designed to accomplish three objectives: (1) determine if the
33 325 HWTUs can accept the material; (2) identify special handling procedures necessary to store the
34 material safely before and during treatment; and (3) identify treatment technologies that meet waste
35 minimization efforts and applicable regulatory restrictions.

36 The waste stream file includes the following information submitted by the generator and any literature
37 reviews, records of conversations, etc., completed by the reviewer:

- 38 • copies of laboratory test results, specific information on the process that generated the waste, MSDSs,
39 etc., used to determine the components of the waste;
- 40 • waste characteristics, including compatibility, reactivity, ignitability, and corrosivity;

- 1 • documentation of conversations that clarify omissions or discrepancies;
- 2 • copies of data from additional analytical tests requested or conducted by the 325 HWTUs personnel;
- 3 and
- 4 • container information, including number of containers, volume capacity of each of the containers, and
- 5 type of material.

6 **3.4.1.2 Review Criteria**

7 The documentation and any required analyses must provide the information necessary to make decisions
8 concerning waste acceptance or denial, storage requirements, treatments, legal/regulatory requirements,
9 additional laboratory work, potential safety and handling hazards, and methods to verify that treatment is
10 successful.

11 **3.4.2 Verification**

12 Where potential deficiencies exist in the information provided or where additional waste constituents
13 might be expected to be present that do not appear in the supporting documentation, the generator is
14 contacted by 325 HWTUs personnel for resolution. Upon approval, the 325 HWTUs personnel review
15 the data package to determine whether or not the information is sufficient to complete the following:

- 16 • appropriate waste designation per WAC 173-303-070
- 17 • LDR per 40 CFR 268
- 18 • packaging, marking, and labeling requirements
- 19 • DOT compatibility groups, if applicable
- 20 • identification of a proper storage location within the 325 HWTUs.

21 Analysis and characterization, as required by WAC 173-303-300(2), are performed on each waste before
22 acceptance at the 325 HWTUs to determine waste designation and characteristics. The characterization of
23 the waste, based on this information, is reviewed each time a waste is accepted. The information must be
24 updated by the generator annually or when the waste stream changes, whichever comes first, or if the
25 following occurs.

- 26 • The 325 HWTUs personnel have reason to suspect a change in the waste, based on inconsistencies in
- 27 packaging or labeling of the waste.
- 28 • The information submitted previously does not match the characteristics of the waste submitted.
- 29 • Parameters for the waste designation and/or characterization rationale are listed in Table 3.3.

30 Sampling and laboratory analysis or physical screening could be required to verify or establish waste
31 characteristics for waste that is stored at the 325 HWTUs. The following are instances where sampling
32 and laboratory analysis is required:

- 33 • inadequate information on PNNL generated waste
- 34 • waste streams generated onsite will be verified at 5 percent of each waste stream
- 35 • waste streams received for treatment or storage from non-PNNL offsite generators will be verified at
- 36 10 percent of each waste stream applied per generator, per shipment
- 37 • identification and characterization for unknown waste and spills within the unit.

38 **Exceptions to physical screening for verification are:**

- 39 • Shielded, classified, and remote handled mixed waste are not required to be physically screened;
- 40 however, 325 HWTUs staff must perform a more rigorous documentation review and obtain the raw
- 41 data to characterize the waste (<1 percent of current waste receipts).

- 1 • Waste which cannot be verified at the 325 HWTUs must be verified at the generating unit (e.g., large
2 components, containers which cannot be opened, for ALARA reasons, or will not fit into the NDE
3 unit). Physical screening at the customer location consists of observing packaging of the waste.
- 4 If no location can be found to do the physical screening, then no screening is required.
- 5 • Wastes which are packaged by the 325 HWTUs authorized independent agent are considered to have
6 met the physical screening requirements (e.g., PNNL-packaged waste which is transferred to
7 PNNL-operated TSD units).
- 8 A bulk waste stream (e.g., large volumes of waste from a single generating event, such as soil remediation
9 from a single event) may be verified by screening the allowable rate of the total number of loads
10 throughout the waste stream.

11 3.5 SELECTING WASTE ANALYSIS PARAMETERS

12 State and federal regulations [WAC 173-303-300(2) and (5)(a); WAC 173-303-140; 40 CFR 268.7(a)]
13 require that information be obtained, documented, and/or reported on wastes received by a TSD unit.
14 These requirements include ensuring that only waste which meet 325 HWTUs Permit requirements are
15 accepted, and reporting the information required by WAC 173-303-380. In addition to providing a
16 general description of the waste, the focus of the information collected for regulatory purposes is to
17 ensure that the 325 HWTUs are permitted to accept the waste and treat it to LDR requirements.

18 The 325 HWTUs accept only wastes that have been characterized properly. Before receipt or acceptance
19 of waste at the 325 HWTUs, generators must supply adequate information to characterize and manage
20 wastes properly.

21 One of the most important aspects of operating the 325 HWTUs in a safe manner is to ensure that
22 incompatible wastes are not mixed together. For the purposes of this document, wastes are considered
23 compatible when mixed they do not: (1) generate extreme heat or pressure, fire, or explosion, or violent
24 reaction; (2) produce uncontrolled toxic mists, dusts, or gases in sufficient quantities to threaten human
25 health; (3) produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or
26 explosions; (4) damage the structural integrity of the device or facility containing the waste; or
27 (5) through other like means threaten human health or the environment.

28 Sampling and laboratory analysis could be required to verify or establish waste characteristics for waste
29 that is stored at the 325 HWTUs. The following are instances where sampling and laboratory analysis is
30 required:

- 31 • inadequate information on PNNL generated waste
- 32 • 5 percent waste verification for PNNL generated waste
- 33 • 10 percent waste verification for non-PNNL generated waste identification and characterization for
34 unknown waste and spills within the unit.

35 3.5.1 Parameter Selection Process

36 The selection of analytical parameters is based on the State of Washington's *Dangerous Waste*
37 *Regulations*, WAC 173-303-300 and *EPA Waste Analysis at Facilities That Generate, Treat, Store, and*
38 *Dispose of Hazardous Wastes, A Guidance Manual* (EPA 1994).

- 1 At least five percent of the waste containers received at the HWTU during a federal fiscal year (October 1
2 through September 30) will undergo confirmation of designation. The number of containers needed to
3 meet the five percent requirement is five percent of the average of containers for the previous three
4 months. For example, if 200 containers are received in January, 180 in February, and 220 in March, then
5 10 containers of received waste must undergo confirmation of designation in April. All non-PNNL
6 generating units which ship more than 20 containers through the HWTU in a fiscal year will have at least
7 one container sampled and analyzed. Containers, for which there is insufficient process knowledge, or
8 analytical information to designate without sampling and analysis, may not be counted as part of the five
9 percent requirement unless there is additional confirmation of designation
- 10 Containers of the following are exempt from the confirmation calculation above: Laboratory reagents or
11 other unused products such as paint, lubricants, solvent, or cleaning products, whether received for
12 redistribution, recycling, or as waste. To qualify for this exemption, such materials must be received at the
13 HWTU in their original containers.
- 14 Wastes that are considered non-verifiable if the dose rate is $>20\text{mRem/hr}$, at contact contains greater than,
15 100 nCi/g of Transuranics, will not fit into the X-ray unit, is shielded, classified or remote handled.
- 16 Prior to acceptance of wastes at the HWTU, confirmation of designation may be required. Wastes that
17 shall undergo confirmation are divided into two groups; those that easily yield a representative sample
18 (Category I), and those that do not (Category II). The confirmation steps for each type are outlined below
19 along with a description of which wastes fall into each category:
- 20 Category I. If a waste which easily yields a representative sample is received, a representative sample will
21 be taken from the waste containers selected. If more than one phase is present, each phase must be tested
22 individually. The following field tests will be performed as appropriate for the waste stream:
- 23 • Oxidizer, cyanide, and sulfide tests. These tests will not be performed on materials known to be
24 organic peroxides, ethers, and/or water reactive compounds.
 - 25 • pH – by pH meter¹ or pH paper (Liquids – SW-846 Method 9041A or 9040B. Solids or semi-solid –
26 SW-846 Method 9045)¹. This test will be used to identify the pH and corrosive nature of an aqueous
27 or solid waste.
 - 28 • Halogenated organic compounds – by photo or flame ionization tester, or by gas chromatography
29 with or without mass spectrometry.
 - 30 • Volatile organic compounds – by photo or flame ionization tester, or by gas chromatography with or
31 without mass spectrometry.
- 32 When mathematically possible, the Permittees shall perform confirmation on an equal number of
33 Category I and Category II containers.
- 34 Category II. If a representative sample is not easily obtained (for example, discarded machinery or shop
35 rags), or if the waste is a labpack or discarded laboratory reagent container, the following steps will be
36 performed:
- 37 a. Visually verify the waste. Examine each selected container to ensure that it matches the data provided
38 on the Disposal Request form(s) provided to document the waste. Depending on accessibility of items
39 to be verified, this may be done through direct observation or with the aid of an x-ray examination
40 unit. Labpacks and combination packages that are accepted from non-PNNL generators must be

¹ The pH paper must have a distinct color change every 0.5 pH units and each batch of paper must be calibrated against certified pH buffers, or by comparison with a pH meter calibrated with certified pH buffers.

1 removed from the outer container. If the waste matches the description specified in its documentation,
2 confirmation of designation is complete and the waste may be accepted. If not, more information is
3 collected or the waste is rejected and returned to the generating unit, and the generating unit revises
4 and resubmits the documentation to reflect the actual contents. If necessary, the waste shall be
5 redesignated utilizing the designation methods identified in WAC 173-303-070 through
6 173 303-100."

7 If the sample data observed meets the parameters specified in its documentation, confirmation of
8 designation is complete and the waste may be accepted. If not, more information is collected or the waste
9 is rejected and returned to the generating unit for additional characterization. The waste will be required
10 to be resubmitted with a revised Disposal Request following the additional characterization activity.

11 3.5.2 Criteria and Rationale for Parameter Selection

12 Waste testing methods and references are as specified in WAC 173-303-110(3) or approved by Ecology
13 in accordance with WAC 173-303-110(5). These methods are summarized in Table 3-3. All methods are
14 specified in *Chemical Testing Methods*, WDOE 83-13 (Ecology 1983) and/or *Test Methods for*
15 *Evaluating Solid Waste, Physical/Chemical Methods*, EPA SW-846 (EPA 1986).

16 Testing parameters for each type of waste were selected to obtain data sufficient to designate the waste
17 properly under WAC 173-303-070, meet requirements for Land Disposal Restrictions, and to manage the
18 waste properly. If information on the source of the waste is available, then all parameters might not be
19 required, e.g., exclusion of testing for pesticides from a metal-machining operation.

20 Some of the parameters that are considered for waste received at the HWTU are as follows.

- 21 • Visual Inspection – used to determine the general characteristics of the waste. This facilitates
22 subjective comparison of the sampled waste with previous waste descriptions or samples. Also, a
23 physical description is used to verify the observational presence or absence of free liquids. Visual
24 inspections may be performed utilizing the x-ray examination unit to verify contents and inspect for
25 prohibited articles. (Materials not allowed to be disposed of at the TSD facility planned for disposal
26 of the waste. e.g. prohibited articles identified in HNF-EP-0063 for waste to be disposed of in
27 Hanford burial grounds).
- 28 • pH – used to identify the pH and corrosive nature of an aqueous or solid waste.
- 29 • Oxidizer – used to indicate if the waste is an oxidizing agent.
- 30 • Cyanide – used to indicate whether the waste produces hydrogen cyanide upon acidification below
31 pH 2.
- 32 • Sulfide screen – used to indicate if the waste produces hydrogen sulfide upon acidification below
33 pH 2.
- 34 • Halogenated hydrocarbon content screen – used to indicate whether chlorinated hydrocarbons or
35 polychlorinated biphenyls (PCBs) are present in waste and to determine if the waste needs to be
36 managed in accordance with the regulations prescribed in the *Toxic Substance Control Act of 1976*.
- 37 • Volatile Organic Analysis – used to confirm or deny the presence of VOAs in the waste stream as
38 listed by the generator. This may also indicate the potential ignitable waste that must be managed and
39 protected from sources of open flame.

1 Testing kits – used to determine waste characteristics and verify information provided on the disposal
2 paperwork. The testing procedures for each test are included in the appropriate test kit.

3 3.6 SELECTING SAMPLING PROCEDURES

4 Because of physical variations of the waste that could be received at 325 HWTUs, sampling
5 methodologies differ among the waste streams. The specific sampling methods and equipment used will
6 vary with the chemical and physical nature of the waste material and the sampling circumstances. In all
7 instances, the sampling methods adhere to guidance provided in SW-846 and other pertinent references
8 published and accepted by the EPA. In general, aqueous liquids will be sampled using polyethylene
9 samplers, organic liquids will be sampled using glass samplers, and solids will be sampled using
10 polyethylene samplers. Typical sample-container requirements for aqueous and solid samples are
11 provided in Table 3.1.

12 Representative samples of liquid wastes (vertical "core sections") will be obtained using a composite
13 liquid-waste sampler (COLIWASA) or tubing, as appropriate. If a liquid waste has more than one phase,
14 then each phase will be separated for individual testing and designation. Other waste types that may
15 require sampling are sludges, powders, and granules. In general, nonviscous sludges will be sampled
16 using a COLIWASA. Highly viscous sludges and cohesive solids will be sampled using a trier, as
17 specified in SW-846 (EPA 1986). Dry powders and granules will be sampled using a thief, also as
18 specified in SW-846 (EPA 1986). The sampling methods and equipment used are identified on Table 3.2.
19 In all instances, sampling methods will conform to the representative sample methods referenced in
20 WAC 173-303-110(2), i.e., American Society for Testing and Materials (ASTM) standards for solids and
21 SW-846 for liquids.

22 The number of samples collected will depend on the amount of waste present and on the homogeneity of
23 the waste, as determined by observation. In most instances, there will be only one container of waste
24 present. In such instances, only one vertical composite sample will be collected (e.g., COLIWASA). If
25 more than one container of a waste stream is present, then a random number of samples will be collected
26 and analyzed statistically using the procedures specified in Section 9.2 of SW-846 (EPA 1986).

27 Generators or 325 HWTUs personnel are responsible for arranging all sampling and laboratory support
28 for sample analysis. Samples are processed either onsite or offsite at one of several laboratories qualified
29 to perform analysis of waste samples in accordance with SW-846 methods. Sampling methodologies are
30 included in Table 3.2.

31 **Table 3.1. Sample Container Compatibility**

| Sample | Container | | |
|------------------------------------|----------------|-------|-------|
| | Plastic | Glass | Metal |
| Acids (except hydrofluoric acid) | * | * | |
| Hydrofluoric acid | * | | |
| Alkali | * | * | |
| Solvents/solvent-contaminated oils | * ¹ | * | * |
| Oils | * | * | * |
| Solids | * | * | * |
| Aqueous waste | * | * | * |

32 * Sample compatible for storage in this type of container.

33 ¹ Polypropylene may be used with some solvent/solvent-oil waste.

Table 3.2. Sampling Methods and Equipment

| Material | Sampling Method | Sampling Equipment |
|------------------------------|-------------------------|---------------------------------------|
| Containerized liquids | SW-846 | COLIWASA* or tubing |
| Extremely viscous liquid | ASTM D140-70 | Tubing or trier |
| Crushed or powdered material | ASTM D364-75 | Tubing, trier, auger, scoop or shovel |
| Soil or rock-like material | ASTM D420-69 | Tubing, trier, auger, scoop or shovel |
| Soil-like material | ASTM D1452-65 | Tubing, trier, auger, scoop or shovel |
| Fly ash-like material | ASTM D2234-76 | Tubing, trier, auger, scoop or shovel |
| Containment systems | Wipe sample (OSHA 1977) | Filter paper and cleaning solution |

* COLIWASA: composite liquid-waste sampler.

Generators or 325 HWTUs personnel also document the sampling activities and chain of custody and arrange sample shipment. Sampling information, custody records, and analytical results are submitted as part of the waste tracking form data package submitted by the generator to the waste management section for review, approval, and designation.

All sampling will conform to the protocols in SW-846 or an equivalent. These protocols are described briefly in the following paragraphs.

Sample-control procedures (i.e., chain-of-custody forms) are designed to ensure that each sample is accounted for at all times. The primary objectives of the sample control procedures are as follows:

- Each sample received for analysis is uniquely identified.
- Correct samples are analyzed and are traceable to the applicable data records.
- Important and necessary sample constituents are preserved.
- Samples are protected from loss, damage, or tampering.
- Any alteration of samples during collection or shipping (e.g., filtration, preservation, breakage) is documented.
- A record of sample custody and integrity is established that will satisfy legal scrutiny.

Sample container selection is crucial to sample quality. Considering waste compatibility, durability, volume, and analytical sensitivities, the containers listed in Table 3.1 are recommended to the generators for these efforts.

The basic sampling procedure is as follows:

- Obtain samples using a precleaned sampler.
- Fill sample containers in the following sequence: head space volatile organics, volatile organics, semi-volatile organics, metals, ignitability, pH (corrosivity), and reactivity.
- Label sample containers.
- Properly clean and decontaminate sample containers and the sampling hardware.
- Custody-seal and blister-wrap all sample containers, place wrapped containers in a leak-tight polyethylene bag, and place samples in a durable ice-filled cooler or comparable receptacle for transport to the laboratory or laboratory receiving facility. If ALARA practices allow, custody-seal and blister-wrap will be used; otherwise, seals will be placed on secondary containers.
- Complete the chain-of-custody and request-for-analysis forms.
- Review all paperwork and enclose the forms in a leak-tight polyethylene bag taped to the underside of the cooler lid or attach paperwork to the container as appropriate.

- 1 • Seal and mark the coolers or comparable receptacles in accordance with applicable DOT
2 requirements.
- 3 Transport coolers or appropriate containers to the analytical laboratory or laboratory receiving facility.
- 4 All samples are labeled with at least the following information:
- 5 • a unique alpha-numeric identifier
 - 6 • date and time of collection
 - 7 • sample collector's name
 - 8 • preservatives used
 - 9 • analyses requested.
- 10 Immediately after collection, samples are placed on blue ice or an equivalent, as required, in durable
11 coolers or comparable receptacles for transport to the offsite laboratory. Before shipping or transfer,
12 coolers or comparable receptacles are tightly sealed with tape and are custody-sealed along the front and
13 back edges of the lids. Samples are transported to offsite laboratories by overnight courier to ensure
14 delivery within 24 hours of sample collection as allowed or dependent upon sample holding times. All
15 offsite sample collection, preparation, packaging, transportation, and analyses conform to the
16 requirements of SW-846 or equivalent.
- 17 During all sampling activities, strict compliance with health physics, industrial hygiene, and safety
18 standards is mandatory. Personnel are required to wear eye-, skin-, and respiratory-protection gear as
19 dictated by industrial hygiene and health physics personnel. If personnel accidentally contact waste
20 material, decontamination procedures are to be performed immediately.
- 21 A chain-of-custody record accompanies samples being analyzed for chemical constituents at all times.
22 The record contains the sample number, date and time of collection, sample description, and signatures of
23 the collector and all subsequent custodians.
- 24 Transportation of samples is in accordance with the DOT and the DOE-RL requirements. Hazardous
25 waste samples are properly packaged, marked, and labeled. For offsite shipments, shipping papers are
26 prepared in accordance with applicable DOT regulations.
- 27 All equipment used to sample waste materials is disposable or designed for easy decontamination.
28 Cleanable equipment is thoroughly decontaminated before reuse. Decontamination solutions are
29 managed as hazardous waste as appropriate, according to the threshold contaminant levels exceeded in
30 the sampled liquids. Disposable samplers will be used whenever possible to eliminate the potential for
31 cross contamination.
- 32 **3.6.1 Sample Custody**
- 33 The generators or 325 HWTUs personnel are responsible for initiating and following chain-of-custody
34 form. Generators initiate sample custody records in the field at the time samples are collected. A
35 chain-of-custody form is used to document sample collection activities, including sampling site, sample
36 identification, number of samples, and date and time of collection. Additionally, the form documents the
37 chain of custody including the names of responsible individuals and the dates and times of custody
38 transfers.
- 39 **3.6.2 Sample Receipt and Storage**
- 40 Samples are received at a qualified contracted laboratory or laboratory receiving facility by a sample
41 custodian. This individual carefully reviews received samples and documentation for compliance with

1 sampling and documentation requirements, such as type and condition of container, sample preservation,
2 collection date, and chain-of-custody forms. The sample custodian signs and dates the chain-of-custody
3 form after verifying that all samples submitted are listed and that the required information is listed on the
4 form. The sample custodian places an identification number on each sample and returns the samples to a
5 refrigerator, if required, designated for storage of samples requiring analysis, as required. The sample
6 custodian stores and secures the samples appropriately (e.g., in a locked refrigerator). Based on the type
7 of sample and analysis requested, special procedures for sample handling, storage, and distribution could
8 be specified.

9 **3.7 SAMPLE DISTRIBUTION**

10 Where practical, chain-of-custody documentation for samples continues throughout the analytical
11 process. After logging in and storing the samples, the sample custodian distributes sample
12 documentation, which lists sample numbers and analyses to be performed, to the appropriate analysts and
13 technical leaders. On completion of analyses, results are submitted to the generators or 325 HWTUs
14 personnel along with QA/QC information.

15 **3.7.1 Field Analytical Methods**

16 Analytical methods employed to verify or characterize waste are of two types: fingerprint analysis and
17 laboratory analysis. Fingerprint analysis is used primarily to verify waste characteristics of waste
18 received from offsite. Laboratory analytical methods will be employed to establish waste identity and
19 characteristics and verify waste characteristics when 325 HWTUs personnel determine it is necessary.

20 **3.7.1.1 Fingerprint Sampling Analytical Methods**

21 A representative sample will be taken of the waste (if more than one phase is present, each phase must be
22 tested individually), and the following field tests will be performed:

- 23 • Oxidizer, cyanide, and sulfide tests. These tests will not be performed on materials known to be
24 organic peroxides, ethers, and/or water reactive compounds.
- 25 • pH – by pH meter¹ or pH paper (Liquids – SW-846 Method 9041A or 9040B. Solids or semi-solid –
26 SW-846 Method 9045)². This test will be used to identify the pH and corrosive nature of an aqueous
27 or solid waste.
- 28 • Halogenated organic compounds – by photo or flame ionization tester, or by gas chromatography
29 with or without mass spectrometry.
- 30 • Volatile organic compounds – by photo or flame ionization tester, or by gas chromatography with or
31 without mass spectrometry.

32 If the waste meets the parameters specified in the documentation, then confirmation of designation is
33 complete. If the waste does not meet these parameters, then proceed to the next step.

- 34 1. Sample and analyze the materials in accordance with WAC 173-303-110.
- 35 2. Reassess and re-designate the waste. Repackage and label as necessary or return to the generator.
- 36 3. Data obtained through the waste verification process will be used to verify the accuracy of the waste
37 designation for waste received at 325 HWTUs.

² The pH paper must have a distinct color change every 0.5 pH units and each batch of paper must be calibrated against certified pH buffers, or by comparison with a pH meter calibrated with certified pH buffers.

1 **3.7.2 LDR Waste Analysis Requirements**

2 The *Hazardous and Solid Waste Amendments of 1984* prohibit the land disposal of certain types of waste
3 that are subject to RCRA. Many of the waste types stored at 325 HWTUs fall within the purview of these
4 LDRs. Information presented below describes how generators and 325 HWTUs personnel characterize,
5 document, and certify waste subject to LDR requirements.

6 **3.7.2.1 Waste Characterization**

7 Shipments of waste shall not be accepted from any off-site generator without LDR certification, if
8 applicable, accompanying each shipment. For waste received from off-site generators, the TSD unit shall
9 receive the information pursuant to 40 CFR 268 regarding LDR wastes. The generator must sign the
10 LDR certification.

11 Before being received at 325 HWTUs, the RCRA waste characteristics, the level of toxicity
12 characteristics, and the presence of listed, wastes are determined during the physical and chemical
13 analyses process. This information allows waste management personnel to make all LDR determinations
14 accurately and complete appropriate notifications and certifications.

15 **3.7.2.2 Sampling and Analytical Procedures**

16 The LDR characterization and analysis may be performed as part of the waste characterization and
17 analysis process. If waste is sampled and analyzed for LDR characterization, then only EPA or
18 equivalent methods are used to provide sufficient information for proper management and for decisions
19 regarding LDRs pursuant to 40 CFR 268.

20 **3.7.2.3 Frequency of Analysis**

21 Before acceptance and during the waste characterization and analysis process, all LDR characterizations
22 and designations are made. The characterization and analysis process is performed when a disposal
23 request is submitted for waste pickup, unless there is insufficient data or if the waste stream has changed.
24 Instances where sampling and laboratory analysis may be required to determine accurate LDR
25 determinations include the following:

- 26 • when waste management personnel have reason to suspect a change in the waste based on
27 inconsistencies in the waste tracking form, packaging, or labeling of the waste
- 28 • when the information submitted previously by a generator does not match the characteristics of the
29 waste that was submitted
- 30 • when the offsite TSD facility rejects the waste because the fingerprint samples are inconsistent with
31 the waste profile provided by 325 HWTUs, which was established using generator information.

32 **3.7.2.4 Documentation and Certification**

33 The 325 HWTUs have and will continue to receive and store LDR waste. Because 325 HWTUs
34 personnel determine designations and characterization, including LDR determinations, all notifications
35 and certifications, as required by 40 CFR 268, are prepared by PNNL qualified staff for PNNL-generated
36 waste. The 325 HWTUs staff collect from the generator(s) the information pursuant to 40 CFR 268
37 regarding LDR wastes, the appropriate treatment standards, whether the waste meets the treatment
38 standards, and certification that the waste meets the treatment standards, if necessary, as well as any other
39 data, e.g., documented process knowledge and waste analyses data that support the generator's
40 determinations. If any of the requested information is not supplied by the generator, then the
41 325 HWTUs personnel complete and transmit all subsequent information regarding LDR wastes, pursuant
42 to 40 CFR 268. The notification and certifications are submitted to onsite and offsite TSD units during
43 the waste shipment process. Additionally, any necessary LDR variances are prepared and submitted by
44 PNNL qualified staff.

- 1 The 325 HWTUs staff requires applicable LDR information/notifications from non-PNNL generators.
- 2 Where an LDR waste does not meet the applicable treatment standards set forth in 40 CFR 268,
3 Subpart D, or exceeds the application prohibition levels set forth in 40 CFR 268.32 or Section 3004(d) of
4 RCRA, 325 HWTUs provides to the onsite and offsite TSD a written notice that includes the following
5 information:
- 6 • EPA hazardous waste number
 - 7 • the corresponding treatment standards and all applicable prohibitions set forth in WAC 173-303,
8 40 CFR 268.32, or RCRA Section 3004(d)
 - 9 • the manifest number associated with the waste
 - 10 • all available waste characterization data.
 - 11 • identification of underlying hazardous constituents.

- 12 In instances where 325 HWTUs determines that a restricted waste is being managed that can be land
13 disposed without further treatment, 325 HWTUs staff submits a written notice and certification to the
14 onsite or offsite TSD where the waste is being shipped, stating that the waste meets applicable treatment
15 standards set forth in WAC 173-303-140 (40 CFR 268, Subpart D), and the applicable prohibition levels
16 set forth in 40 CFR 268.32 or RCRA Section 3004(d). The notice includes the following information:
- 17 • EPA hazardous waste number
 - 18 • corresponding treatment standards and applicable prohibitions
 - 19 • waste tracking number associated with the waste
 - 20 • all available waste characterization data
 - 21 • identification of underlying hazardous constituents.

- 22 The certification accompanying any of the previously described notices is signed by an authorized
23 representative of the generator and states the following:

24 *I certify under penalty of law that I personally have examined and am familiar with the waste through*
25 *analysis and testing or through knowledge of the waste to support this certification that the waste*
26 *complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable*
27 *prohibitions set forth in 40 CFR 268.32 or RCRA Section 3004(d). I believe that the information I*
28 *submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a*
29 *false certification, including the possibility of a fine and imprisonment.*

- 30 Copies of all notices and certifications described are retained at the TSD unit for at least 5 years from the
31 date that the waste was last sent to an onsite or offsite TSD unit. After that time, the notices and
32 certifications are sent to Records Storage.

33 **3.7.3 Waste Analysis for Spills and Unknowns**

- 34 In the event of a spill or release of dangerous waste within 325 HWTUs, the following steps will be
35 implemented:

- 36 1. The identification number on the leaking container will be determined based on visual inspection. If
37 the container(s) involved cannot be approached, the location of the container involved and the
38 associated storage cell designations can be determined from a distance.
- 39 2. The container identification number or container location number will be entered into 325 HWTUs
40 inventory database to determine the Disposal Request number.
- 41 3. The hard copy of the Disposal Request or a computerized information printout for the container,
42 which contains all applicable information regarding the contents of the container, will be located.

1 The hazards associated with the waste will be determined before exercising the emergency response
2 procedures outlined in Permit Attachment 36, Chapter 7.0.

3 4. Respond to the spill in accordance with the requirements of Permit Attachment 36, Chapter 7.0. The
4 Permit Attachment 36, Chapter 7.0, Contingency Plan is implemented if there is a threat to human
5 health or the environment.

6 5. A new Disposal Request will be filled out using the information from the original Disposal Request
7 and information from any spill cleanup kits or absorbents. The waste will then be designated and
8 characterized.

9 If a leak or other liquid is discovered in the 325 HWTUs that cannot be tracked to a specific container
10 because of safety or logistics reasons, then the procedures outlined in Permit Attachment 36, Chapter 7.0,
11 *325 HWTUs Contingency Plan* would be implemented for responding to an "unknown" chemical release.
12 The residues, including cleanup absorbents, of such a release would be sampled and analyzed in
13 accordance with the requirements in the Permit Attachment 36, Chapter 7.0, determine the characteristics
14 of the waste residue as defined by WAC 173-303-070. Sampling and analysis of the residues will include
15 pH, metals, volatile organics, and semi-volatile organics analyses, as required.

16 Based on the information gathered from the laboratory analysis, a new Disposal Request for the waste
17 cleanup will be filled out. The waste will then be designated and characterized.

18 **3.8 SELECTING A LABORATORY, LABORATORY TESTING, AND ANALYTICAL** 19 **METHODS**

20 Laboratory selection is limited; only a few laboratories are equipped to handle mixed waste because of
21 special equipment and procedures that must be used to minimize personnel exposure. Preference will be
22 given to the 325 Analytical Chemistry Laboratory (ACL) and then to other laboratories on the Hanford
23 Facility that exhibit demonstrated experience and capabilities in three major areas:

- 24 1. comprehensive written QA/QC program based on DOE-RL requirements specifically for that
25 laboratory
- 26 2. audited for effective implementation of QA/QC program
- 27 3. participate in performance-evaluation samples to demonstrate analytical proficiency.

28 All laboratories (onsite or offsite) are required to have the following QA/QC documentation.

- 29 • Daily analytical data generated in the contracted analytical laboratories is controlled by the
30 implementation of an analytical laboratory QA plan.
- 31 • Before commencement of the contract for analytical work, the laboratory will, if requested, have their
32 QA plan available for review. At a minimum, the QA plan will document the following:
- 33 • sample custody and management practices
- 34 • requirements for sample preparation and analytical procedures
- 35 • instrument maintenance and calibration requirements
- 36 • internal QA/QC measures, including the use of method blanks
- 37 • required sample preservation protocols

- 1 • analysis capabilities.

2 **3.8.1 Testing and Analytical Methods**

3 325 HWTUs customers will need to conduct analyses to provide information to fill out Disposal
4 Requests, and to determine compatibility, safety, and operating information. As needed, 325 HWTUs
5 staff also will conduct analyses to determine completeness of information and if treatment and
6 verification material meets the acceptance criteria for treatment or storage at one of the Hanford Facility
7 permitted treatment/storage/disposal areas or that of the offsite TSD facility. Testing and analytical
8 methods will depend on the type of analysis sought and the reason for needing the information.

9 All testing is performed by chemists and/or appropriate analytical personnel working under approved
10 QA guidelines. Analytical methods will be selected from those that are used routinely by the Analytical
11 Chemistry Laboratory (ACL) in located in the 325 Building or the various Hanford Facility analytical
12 laboratories.

13 The 325 HWTUs manages limited quantities of dangerous waste; therefore, deviations from SW-846
14 protocols may occur during its analysis. Many of the deviations from the SW-846 protocols arise from
15 the mixed waste nature of the samples handled.

16 Analytical methods will be selected from those that are routinely used by the ACL in 325 HWTUs, or by
17 the various Hanford Facility analytical laboratories.

18 **3.8.2 Quality Assurance and Quality Control**

19 PNNL is committed to maintaining a high standard of quality for all of its activities. A crucial element in
20 maintaining that standard is a quality assurance program that provides management controls for
21 conducting activities in a planned and controlled manner and enabling the verification of those activities.

22 Activities pertaining to waste analysis include, but are not limited to, the preparation, review, and control
23 of procedures and the selection of analytical laboratories. The PNNL QA manual has administrative
24 procedures that establish requirements and provide guidance for the preparation of analytical and
25 technical (i.e., sampling, chain-of-custody, work processes) procedures, as well as other administrative
26 procedures. Procedures undergo a review cycle and, once issued, are controlled to ensure that only
27 current copies are used.

28 The primary purpose of waste testing is to ensure that the waste is properly characterized in lieu of
29 process knowledge data, in compliance with RCRA requirements for general waste analysis
30 [WAC 173-303-300(2); 40 CFR 264.13]. Waste testing also is performed to ensure the safe management
31 of waste being stored, proper disposition of residuals from incidents that might occur, and control of the
32 acceptance of waste for storage. The specific objectives of the waste sampling and analysis program at
33 325 HWTUs are as follows:

- 34 • Identify the presence of waste that is substantially different from waste currently stored.
- 35 • Provide a detailed chemical and physical analysis of a representative sample of the waste, before the
36 waste is accepted at or transferred from 325 HWTUs to an offsite TSD facility, to ensure proper
37 management and disposal.
- 38 • Provide an analysis that is accurate and current to ensure that waste is properly treated and disposed
39 of.
- 40 • Ensure safe management of waste undergoing storage at 325 HWTUs.

- 1 • Ensure proper disposal of residuals.
- 2 • Ensure compliance with LDRs.
- 3 • Identify and reject waste that does not meet 325 HWTUs acceptance requirements (e.g., incomplete
- 4 information).
- 5 • Identify and reject waste that does not meet specifications for 325 HWTUs (i.e., Permit
- 6 Attachment 36, Chapter 1.0, listing, restricted from storage at 325 HWTUs).

7 **3.8.3 Quality Assurance and Quality Control Objectives**

8 The objectives of the QA/QC program are two fold. The first objective is to control and characterize any
9 errors associated with the collected data. Quality assurance activities, such as the use of standard
10 procedures for locating and collecting samples, are intended to limit the introduction of error. Quality
11 control activities, such as the collection of duplicate samples and the inclusion of blanks in sample sets,
12 are intended to provide the information required to characterize any errors in the data. Other QC
13 activities, such as planning the QC program and auditing ongoing and completed activities, ensure that
14 the specified procedures are followed and that the QA information needed for characterizing error is
15 obtained.

16 The QA/QC control program for sampling and analysis related to this TSD unit must, at a minimum,
17 comply with the applicable Hanford Site standard requirements and regulatory requirements. All
18 analytical data shall be defensible and shall be traceable to specific, related quality control samples and
19 calibrations.

20 The second QA/QC objective is to illustrate that waste testing has been performed according to
21 specification in this waste analysis plan. The QA/QC activities will include the following:

- 22 • Field inspections – performed by a PNNL QA officer or designee, depending on the activity. The
- 23 inspections primarily are visual examinations but might include measurements of materials and
- 24 equipment used, techniques employed, and the final products. The purpose of these inspections is to
- 25 verify that a specific guideline, specification, or procedure for the activity is completed successfully.
- 26 • Field testing – performed onsite by the QA officer (or designee) according to specified procedures.
- 27 • Laboratory analyses – performed by onsite or offsite laboratories on samples of waste. The purpose
- 28 of the laboratory analyses is to determine constituents or characteristics present and the concentration
- 29 or level.
- 30 • Checklists – required for crucial inspections. Checklists are filled out during the course of inspection
- 31 to document inspection results.
- 32 • Instrument calibration – required for maintaining records of calibration of all instruments used to
- 33 perform surveying, field testing, and laboratory analyses.

34 **3.8.4 Sampling Objectives**

35 The data quality objectives (DQO) for the waste sampling and data analyses are as follows:

- 36 • Determine if waste samples are representative of the contents of the containers at the time the samples
- 37 were taken.
- 38 • Determine if waste samples are representative of long term operations affecting 325 HWTUs.

- 1 • Determine if waste accepted for storage is within the RCRA Permit documentation limitations.
- 2 • Determine if waste accepted for storage meets the requirements of 325 HWTUs waste acceptance
3 criteria.
- 4 • Determine if waste accepted for storage meets the information provided by the generator.

5 **3.8.5 Data Collection/Sampling Objectives**

6 For determining the toxicity characteristics, SW-846 Method 1311 should be followed wherever possible.
7 The Permittee may use the total metals test and assumption of complete extractability as described in
8 Method 1311. A reduced sample size may also be utilized for As Low As Reasonably Achievable
9 (ALARA) purposes as recommended by the *Joint NRC/EPA Guidance on Testing Requirements of Mixed*
10 *Radioactive and Hazardous Waste* (62 FR 62079).

11 For a given parameter, analytical methods are selected and may be modified as long as the applicable
12 precision, accuracy, and quantitation limit (or minimum detectable activity) necessary to meet the
13 regulatory or decision limit can be met or improved.

14 The acquired data need to be scientifically sound, of known quality, and thoroughly documented. The
15 DQOs for the data assessment will be used to determine compliance with national quality standards,
16 which are as follows:

- 17 • Precision – The precision will be the agreement between the collected samples (duplicates) for the
18 same parameters, at the same location, and from the same collection vessel.
- 19 • Representativeness – The representativeness will address the degree to which the data accurately and
20 precisely represent a real characterization of the population, parameter variation at a sampling point,
21 sampling conditions, and the environmental condition at the time of sampling. The issue of
22 representativeness will be addressed for the following points:
 - 23 • Based on the generating process, the waste stream, and its volume, an adequate number of sampling
24 locations are selected
- 25 The representativeness of selected media has been defined accurately.
 - 26 • The sampling and analytical methodologies are appropriate.
 - 27 • The environmental conditions at the time of sampling are documented.
 - 28 • Completeness – The completeness will be defined as the capability of the sampling and analytical
29 methodologies to measure the contaminants present in the waste accurately.
 - 30 • Comparability – The comparability of the data generated will be defined as the data that are gathered
31 using standardized sampling methods, standardized analyses methods, and quality controlled data
32 reduction and validation methods.

33 **3.8.6 Analytical Objectives**

34 Analytical data will be communicated clearly and documented to verify that laboratory data quality
35 objects are achieved.

36 **3.8.7 Field Quality Assurance and Quality Control**

37 Internal QA/QC checks will be established by submitting QA and QC samples to the analytical
38 laboratory. The number of field QA samples will be approximately 5 percent of the total number of field

- 1 samples taken. The five percent criterion commonly is accepted for a minimum number of QA/QC
2 samples. The types and frequency of collection for field QA samples are as follows:
- 3 • Field Blanks – A sample of analyte free media taken from the laboratory to the sampling site and
4 returned to the laboratory unopened. Field blanks are prepared and preserved using sample
5 containers from the same lot as the other samples collected that day. A sample blank is used to
6 document contamination attributable to shipping and field handling procedures. This type of blank is
7 useful in documenting contamination of volatile organics samples.
 - 8 • Field Duplicates – defined as independent samples collected in such a manner that the samples are
9 equally representative of the variables of interest at a given point in space and time. The laboratory
10 will use the field duplicate as laboratory duplicate and/or matrix spikes. Thus, for the duplicate
11 sample, there will be the normal sample analysis, the field duplicate, and the laboratory duplicate
12 (inorganic analysis). Duplicate samples will provide an estimate of sampling precision.

13 **3.8.8 Laboratory Quality Assurance and Quality Control**

14 All analytical work, whether performed in house by PNNL's ACL or by outside, independent laboratories,
15 is defined and controlled by a Statement of Work, prepared in accordance with administrative procedures.
16 The daily quality of analytical data generated in the analytical laboratories will be controlled by the
17 implementation of an analytical laboratory QA plan. At a minimum, the plan will document the
18 following:

- 19 • sample custody and management practices
- 20 • requirements for sample preparation and analytical procedures
- 21 • instrument maintenance and calibration requirements
- 22 • internal QA/QC measures, including the use of method blanks
- 23 • required sample preservation protocols
- 24 • analysis capabilities.

25 The types of internal quality control checks are as follows:

- 26 • Method Blanks – Method blanks usually consist of laboratory reagent grade water treated in the same
27 manner as the sample (i.e., digested, extracted, distilled) that is analyzed and reported as a standard
28 sample would be reported.
- 29 • Method Blank Spike – A method blank spike is a sample of laboratory reagent grade water fortified
30 (spiked) with the analytes of interest, which is prepared and analyzed with the associated sample
31 batch.
- 32 • Laboratory Control Sample – A QC sample introduced into a process to monitor the performance of
33 the system.
- 34 • Matrix Spikes – An aliquot of sample spiked with a known concentration of target analyte(s). The
35 spiking occurs prior to sample preparation and analysis. Matrix spikes will be performed on
36 5 percent of the samples (1 in 20) or one per batch of samples.
- 37 • Laboratory Duplicate Samples – Duplicate samples are obtained by splitting a field sample into two
38 separate aliquots and performing two separate analyses on the aliquots. The analyses of laboratory
39 duplicates monitor the precision of the analytical method for the sample matrix; however, the
40 analyses might be affected by nonhomogeneity of the sample, in particular, by nonaqueous samples.
41 Duplicates are performed only in association with selected protocols. Duplicates are performed only
42 in association with selected protocols. Laboratory duplicates are performed on 5 percent of the
43 samples (1 in 20) or one per batch of samples. If the precision value exceeds the control limit, then
44 the sample set must be reanalyzed for the parameter in question.

- 1 • Known QC Check Sample – This is a reference QC sample as denoted by SW-846 of known
2 concentration, obtained from the EPA, the National Institute of Standards and Technology, or an EPA
3 approved commercial source. This QC sample is taken to check the accuracy of an analytical
4 procedure. The QC sample is particularly applicable when a minor revision or adjustment has been
5 made to an analytical procedure or instrument. The results of a QC check standard analysis are
6 compared with the true values, and the percent recovery of the check standard is calculated.

7 **3.8.8.1 PNNL Analytical Chemistry Laboratory QA/QC**

8 PNNL's analytical chemistry laboratory may need to be used to analyze samples of high activity
9 dangerous waste. It has a rigorous QA plan that ensures that data produced are defensible, scientifically
10 valid, and of known precision and accuracy, and meets the requirements of its clients, i.e., the
11 325 HWTUs.

12 **3.8.8.2 Offsite Laboratory QA/QC**

13 When it is necessary to send samples to an independent laboratory, contracts are not awarded until a
14 pre-award evaluation of the prospective laboratory has been performed. The pre-award evaluation
15 process involves the submittal of its QA plan to the waste analysis project manager and the QA officer for
16 approval. It also may involve a site visit by QA personnel and a technical expert, or may consist of a
17 review of the prospective laboratories' QA/QC documents and records of surveillances/inspections,
18 audits, nonconformances, and corrective actions maintained by PNNL or other Hanford Facility
19 contractors.

20 **3.8.9 Record Keeping**

21 Records associated with the waste analysis plan and waste verification program are maintained by the
22 waste management organization. A copy of the Disposal Request for each waste stream accepted at
23 325 HWTUs is maintained as part of the operating record. Generators maintain their sampling and
24 analysis records. The waste analysis plan will be revised whenever regulation changes affect the waste
25 analysis plan.

26 **3.9 SELECTING WASTE RE-VALUATION FREQUENCIES**

27 Some analysis will be needed to verify that waste streams received by the 325 HWTUs conform to the
28 information on the Disposal Request and or the waste analysis sheet supplied by the generator. If
29 discrepancies are found between information on the Disposal Request, hazardous waste manifest,
30 shipping papers, waste analysis documentation and verification analysis, then the discrepancy will be
31 resolved by:

- 32 1. returning waste to the generator, or sample and analyze the materials in accordance with
33 WAC 173-303-110; and/or
34 2. reassessing and re-designating the waste; repackaging and labeling as necessary or return to the
35 generator.

36 Periodic re-evaluation provides verification that the results from the initial verification are still valid.
37 Periodic re-evaluation also checks for changes in the waste stream.

38 **Exceptions to physical screening for verification are:**

- 39 • Shielded, classified, and remote handled mixed waste are not required to be physically screened;
40 however, 325 HWTUs staff must perform a more rigorous documentation review and obtain the raw
41 data to characterize the waste (< 1 percent of current waste receipts).
42 • Wastes which cannot be verified at the 325 HWTUs must be verified by the generator (e.g., large
43 components, containers which cannot be opened, for ALARA reasons, or will not fit into the NDE
44 unit).

1 Analysis and characterization, as required by WAC 173-303-300(2), are performed on each waste before
2 acceptance at the 325 HWTUs to determine waste designation and characteristics. The characterization of
3 the waste, based on this information, is reviewed each time a waste is accepted. The information must be
4 updated by the generator annually or when the waste stream changes, whichever comes first, or if the
5 following occurs.

- 6 • The 325 HWTUs personnel have reason to suspect a change in the waste, based on inconsistencies in
7 packaging or labeling of the waste.
- 8 • The information submitted previously does not match the characteristics of the waste submitted.

9 Sampling and laboratory analysis could be required to verify or establish waste characteristics for waste
10 that is stored at the 325 HWTUs. The following are instances where sampling and laboratory analysis are
11 required:

- 12 • inadequate information on PNNL-generated waste
- 13 • waste streams generated onsite will be verified at 5 percent of each waste stream
- 14 • inadequate information before waste was shipped or discrepancy discovered
- 15 • waste streams received for treatment from offsite generators will be verified at 10 percent of each
16 waste stream applied per generator, per shipment
- 17 • identification and characterization for unknown waste and spills.

18 3.10 SPECIAL PROCEDURAL REQUIREMENTS

19 3.10.1 Procedures for Receiving Shipments

20 The generator is responsible for identifying waste composition accurately and arranging for the transport
21 of the waste. A copy of each transfer tracking form and any other pertinent operating records are
22 maintained by the 325 HWTUs for 5 years. The waste tracking methods are as follows.

- 23 • **Inspection of Transfer Papers/Documentation** – The necessary transfer papers for the entire
24 transfer are verified (i.e., signatures are dated, all waste containers included in the transfer are
25 accounted for and correctly indicated on the transfer documentation, there is consistency throughout
26 the different transfer documentation, and the documentation matches the labels on the containers).
- 27 • **Inspection of Waste Containers** – The condition of waste containers is checked to verify that the
28 containers are in good condition (i.e., free of holes and punctures).
- 29 • **Inspection of Container Labeling** – Transfer documentation is used to verify that the containers are
30 labeled with the appropriate "Hazardous/Dangerous Waste" labeling and associated markings
31 according to the contents of the waste container.
- 32 • **Acceptance of Waste Containers** – The 325 HWTUs personnel sign the transfer documents and
33 retain a copy.

34 If transport will be over public roads (unless those roads are closed to public access during waste
35 transport) or offsite, then a Uniform Hazardous Waste Manifest will be prepared identifying the
36 325 HWTUs as the receiving unit (Permit Condition II.Q.1). The 325 HWTUs operations staff will sign
37 and date each copy of the manifest to certify that the dangerous waste covered by the manifest was
38 received. The transporter will be given at least one copy of the signed manifest. A copy of the manifest
39 will be returned to the generator within 30 days of receipt at the 325 HWTUs. A copy of the manifest
40 also will be retained in the 325 HWTUs operating records for 3 years.

1 For all shipments of dangerous waste to or from the 325 HWTUs, the Permittees shall comply with the
2 applicable information in Permit Conditions II.Q.1.h. and II.Q.2. For clarification, all dangerous waste
3 must be transported in accordance with the unit specific provisions as outlined in the PNNL Operating
4 Procedure for the 325 Building, in effect at the date of the transfer. With exception to, and in addition to,
5 the packaging and transporting operations, shall be as follows:

6 The acceptance of all dangerous waste received at the 325 TSD Units will be dependent upon their
7 packaging. Liquid waste containers accepted from other buildings to the 325 HWTUs shall have
8 secondary containment with absorbent materials packed around the contents.

9 **3.10.2 Response to Significant Discrepancies**

10 The primary concern during acceptance of containers for storage is improper packaging or waste tracking
11 form discrepancies. Containers with such discrepancies are not accepted at the 325 HWTUs. Depending
12 on the nature of the condition, such discrepancies can be resolved through the use of one or more of the
13 following alternatives.

- 14 • Incorrect or incomplete entries on the Uniform Hazardous Waste Manifest or the onsite waste
15 tracking form can be corrected or completed with concurrence of the onsite generator or offsite
16 generator. Corrections are made by drawing a single line through the incorrect entry. Corrected
17 entries are initialed and dated by the individual making the correction.
- 18 • The waste packages can be held and the onsite generator or offsite waste generator requested to
19 provide written instructions for use in correcting the condition before the waste is accepted.
- 20 • Waste packages can be returned as unacceptable.
- 21 • The onsite generator or offsite waste generator can be requested to correct the condition on the
22 Hanford Facility before the waste is accepted.
- 23 • If a noncompliant dangerous waste package is received from an offsite waste generator, and the waste
24 package is nonreturnable because of condition, packaging, etc., and if an agreement cannot be
25 reached among the involved parties to resolve the noncompliant condition, then the issue will be
26 referred to DOE-RL and Ecology for resolution. Ecology will be notified if a discrepancy is not
27 resolved within 15 days after receiving a noncompliant shipment. Pending resolution, such waste
28 packages, although not accepted, might be placed in the 325 HWTUs. The package(s) will be
29 segregated from other waste.

30 **3.10.3 Provisions for Non-Acceptance of Shipment**

31 Before waste is brought into the 325 HWTUs, all associated documentation is inspected and verified for
32 treatment and/or storage authorization. Any transfer of materials that the 325 HWTUs are not designed to
33 treat and/or store neither are unloaded from the vehicle nor accepted for treatment or storage.

34 **3.10.4 Activation of Contingency Plan for Damaged Shipment**

35 If waste transfers arrive at the 325 HWTUs in a condition that presents a hazard to public health or the
36 environment, the building emergency plan is implemented as described in Permit Attachment 36,
37 Chapter 7.0.

1 **3.10.5 Tracking System**

2 Upon generation or receipt into the 325 HWTUs, each container of waste is assigned a unique tracking
3 number. This number is used to track the following information:

- 4 • a description and the quantity of each dangerous waste received and the method(s) and date(s) of
5 storage or treatment in the 325 HWTUs, in accordance with WAC 173-303-380(2)
- 6 • the location of each dangerous waste container stored in the unit and the quantity at each location,
7 including cross reference to any applicable manifest and/or waste tracking numbers
- 8 • waste analysis results.

9 This system effectively tracks waste containers as the containers move through treatment or storage at the
10 325 HWTUs. The information is retained as part of the 325 HWTUs operating record.

11 Sample container selection is crucial to sample quality. When considering waste compatibility,
12 durability, volume, and analytical sensitivities, the containers listed in Table 3.1 are recommended.

Table 3.3. Summary of Test Parameters, Rationales, and Methods

| Parameter ^a | Method ^b | Rationale for Selection |
|--|---|---|
| Physical Screening | | |
| Visual inspection | Field method - observe phases, presence of solids in waste and look for prohibited articles utilizing x-ray examination when appropriate. | Confirm that waste matches that information described on waste acceptance documentation. |
| Chemical Screening ^(c) | | |
| Oxidizer | Oxidizer Screen HAZCAT™ | Confirm that waste matches that described on waste acceptance documentation; ensure compliance with WAC 173-303-395(1)(b) |
| pH | pH screen Liquids - SW-846 Method 9041A or 9040B. Solids or semi-solid - SW-846 Method 9045 | Confirm that waste matches that described on waste acceptance documentation; ensure compliance with WAC 173-303-395(1)(b) |
| Cyanides | Cyanide screen HAZCAT™ | Confirm that waste matches that described on waste acceptance documentation; ensure compliance with WAC 173-303-395(1)(b) |
| Sulfides | Sulfide screen HAZCAT™ | Confirm that waste matches that described on waste acceptance documentation; ensure compliance with WAC 173-303-395(1)(b) |
| Halogenated/Volatile Organic Compounds | Photoionizer or Flame Ionizer, or Clor-D-Tect © Kits | Confirm that waste matches that described on waste acceptance documentation |
| Toxicity characteristic organic compounds ^(d) | Generator knowledge or SW-846 Methods 1311 and 8260 (volatile organic compounds) and 8270 (semivolatile organic compounds) | Identify constituents for compliance with Hanford Facility Permit |

^a Addition parameters can be used on current waste acceptance criteria of the downstream TSD unit. Operation limits transfer/shipments are based on current waste acceptance criteria.

^b Procedures based on EPA SW-846, unless otherwise noted. When regulations require a specific method, the method shall be followed.

^c These test will not be performed on materials known to be organic peroxides, ether, and/or water reactive compounds.

^d This test will only be performed on waste to be stored in tank TK-1 waste in addition to any other appropriate chemical screening.

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