

Hanford Facility RCRA Permit Modification Form

Unit: <i>Integrated Disposal Facility</i>	Permit Part <i>Part III, Operating Unit Group 11</i>
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Description of Modification:

Addendum J.1, the contact information table in Section J.7.1, Building Emergency Director/Building Warden, needs to be changed:

FROM

TITLE	WORK LOCATION	WORK PHONE
ERDF Transportation Manager	MO-607	430-6320
ERDF Disposal Manager	Building 6250	308-2303
ERDF Operations Specialist	MO-607	280-0657
ERDF Facility Manager	MO-607	947-1651

TO

Building Emergency Director/ Building Warden	AUTHORITY	WORK LOCATION	WORK PHONE
IDF Field Work Supervisor	Primary	MO-607	280-0657
ERDF Facility Manager	1 st Alternate	MO-607	947-1651
ERDF Transportation Manager	2 nd Alternate	MO-607	430-6320
ERDF Disposal Manager	3 rd Alternate	Building 6250	308-2303

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

Enter relevant WAC 173-303-830, Appendix I Modification citation number:
 B.6.d., Contingency Plan: Changes in name, address, or phone number of coordinators or others persons or agencies identified in the plan.
 A.1., General Permit Provisions: Administrative and informational changes

Modification Concurrence: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Reviewed by Ecology: Schleif, Digitally signed by Schleif, Stephanie (ECY) Stephanie (ECY) 0916, 2020.06.11 08:43:33
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S. N. Schleif Date

Hanford Facility RCRA Permit Modification Form

Unit: <i>Integrated Disposal Facility</i>	Permit Part <i>Part III, Operating Unit Group 11</i>
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Description of Modification:

Unit Specific Conditions, Section III.11.A is being revised to update change history information for Addendum J.1.

WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class 11	Class 2	Class 3
	X			

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

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

Modification Concurrence: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Reviewed by Ecology: Schleif, Stephanie (ECY) <small>Digitally signed by Schleif, Stephanie (ECY)</small> Date: 2020.06.11 08:44:47 S. N. Schleif Date
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Revision Instructions:

Revise Addendum J.1 to incorporate the changes shown herein.

Revise Unit Specific Conditions as shown herein.

From: [Dittmer, Lorna M](#)
To: [Carter, Duane B](#); [Martin, Paul W - CHPRC](#)
Cc: [Lawrence, Barry L](#)
Subject: RE: PCN-IDF-2020-03 INFORMAL REVIEW to ECY 060420_with comment
Date: Tuesday, June 09, 2020 1:53:51 PM

Paul, please consider this email as my approval.

Thanks,

Lorna

From: Carter, Duane B <duane.carter@rl.doe.gov>
Sent: Tuesday, June 9, 2020 1:35 PM
To: Martin, Paul W - CHPRC <paul_w_martin@rl.gov>; Dittmer, Lorna M <lorna_m_dittmer@rl.gov>
Cc: Lawrence, Barry L <barry_l_lawrence@rl.gov>
Subject: RE: PCN-IDF-2020-03 INFORMAL REVIEW to ECY 060420_with comment

Signed.

DC

From: Martin, Paul W - CHPRC <paul_w_martin@rl.gov>
Sent: Tuesday, June 9, 2020 1:27 PM
To: Dittmer, Lorna M <lorna_m_dittmer@rl.gov>; Carter, Duane B <duane.carter@rl.doe.gov>
Cc: Lawrence, Barry L <barry_l_lawrence@rl.gov>
Subject: RE: PCN-IDF-2020-03 INFORMAL REVIEW to ECY 060420_with comment
Importance: High

Lorna and Duane,

If you can sign the attached and dated (6/9/2020) PCN, I will transmit the formal review package to Ecology via the NWP email address. I did not attach the other documents since there were no changes from Ecology.

Paul W. Martin
RCRA Subject Matter Expert
CHPRC Environmental Protection
Phone (509) 376-6620 / Cell 531-4489 / Fax 376-4336
[Paul W Martin@RL.Gov](mailto:Paul.W.Martin@RL.Gov)
CH2MHill Plateau Remediation Company

**INTEGRATED DISPOSAL FACILITY
ADDENDUM J.1
PRE-ACTIVE LIFE CONTINGENCY PLAN
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number
08/21/2018	PCN-IDF-2018-01 (8C.2018.Q3)
5/23/2016	8C.2016.Q1

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ADDENDUM J.1
PRE-ACTIVE LIFE CONTINGENCY PLAN

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**ADDENDUM J.1
PRE-ACTIVE LIFE CONTINGENCY PLAN**

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1 J.0 CONTINGENCY PLAN

2 The requirements in this Addendum apply during the "Pre-Active Life" of Integrated Disposal Facility
 3 (IDF). Pre-Active Life is not defined in the regulations, but refers to the facility maintenance period
 4 between final construction and the start of active life. The IDF will transition from "Pre-Active Life" to
 5 "Active Life" prior to receipt and disposal of dangerous waste as defined in Washington Administrative
 6 Code (WAC) 173-303-040. Once the IDF begins to receive dangerous waste, the requirements in
 7 Addendum J.1 are no longer applicable, and requirements in Addendum J.2 will be applicable.

8 The requirements for a contingency plan at IDF are satisfied in the following documents: portions of the
 9 Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit (Permit) Attachment 4,
 10 *Hanford Emergency Management Plan* (DOE/RL-94-02) and this Addendum.

11 The unit-specific building emergency plan (HNF-39903) also serves to satisfy a broad range of other
 12 requirements [e.g., Occupational Safety and Health Administration standards (29 CFR 1910), *Toxic*
 13 *Substance Control Act of 1976* (40 CFR 761) and U.S. Department of Energy Orders]. Therefore,
 14 revisions made to portions of this unit-specific building emergency plan that are not governed by the
 15 requirements of WAC 173-303 will not be considered as a modification subject to WAC 173-303-830 or
 16 Permit Condition I.C.3.

17 Table J.1 identifies the sections of the unit-specific building emergency plan written to meet
 18 WAC 173-303-350(3) contingency plan requirements. Section 12.0 of the unit-specific building
 19 emergency plan is written to meet WAC 173-303 requirements identifying where copies of Permit
 20 Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02) and the building emergency plan
 21 are located and maintained on the Hanford Facility. Therefore, revisions to Addendum J require a Permit
 22 modification subject to WAC 173-303-830 and/or Permit Condition I.C.3.

23

Table J.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-39903)	Addendum J.1 IDF Pre-Active Life Contingency Plan
-350(3)(a) - A description of the actions which facility personnel must take to comply with this section and WAC 173-303-360.	X ² Section 1.3.4	X ² Sections 7.1, 7.2 through 7.2.5, and 7.3 ³ Sections 4.0, 8.2, 8.3, 8.4, and 11.0	X ² Sections J.3.1, J.3.2 through J.3.2.5, and J.3.3 ³ Sections J.3, J.3.4, J.3.5, J.3.6, and J.5

Table J.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-39903)	Addendum J.1 IDF Pre-Active Life Contingency Plan
-350(3)(b) - A description of the actions which shall be taken in the event that a dangerous waste shipment, which is damaged or otherwise presents a hazard to the public health and the environment, arrives at the facility, and is not acceptable to the owner or operator, but cannot be transported pursuant to the requirements of WAC 173-303-370(5), Manifest system, reasons for not accepting dangerous waste shipments.	X ² Section 1.3.4	X ^{2,4} Section 7.2.5.1	X ^{2,4} Section J.3.2.5.1
-350 (3)(c) - A description of the arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services as required in WAC 173-303-340(4).	X Sections 3.2.3, 3.3.1, 3.3.2, 3.4, 3.4.1.1, 3.4.1.2, 3.4.1.3, 3.7, and Table 3-1		
-350 (3)(d) - A current list of names, addresses, and phone numbers (office and home) of all persons qualified to act as the emergency coordinator required under WAC 173-303-360(1). Where more than one person is listed, one must be named as primary emergency coordinator, and others must be listed in the order in which they will assume responsibility as alternates. For new facilities only, this list may be provided to the department at the time of facility certification (as required by WAC 173-303-810(14)(a)(I)), rather than as part of the permit application.		X ⁵ Sections 3.1 and 13.0	X ⁵ Sections J.2 and J.7
-350(3)(e) - A list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.		X Section 9.0	X Section J.4

Table J.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-39903)	Addendum J.1 IDF Pre-Active Life Contingency Plan
-350(3)(f) - An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe the signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.	X ⁶ Figure 7-3 and Table 5-1	X ⁷ Section 1.5	X ⁷ Section J.1

An 'X' indicates requirement applies.

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

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

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

⁴ This requirement only applies to treatment, storage, and disposal (TSD) units that receive shipment of dangerous or mixed waste defined as offsite shipments in accordance with WAC 173-303.

⁵ Emergency Coordinator names and home telephone numbers are maintained separate from any contingency plan document on file in accordance with Permit Condition II.A.4. and is updated, at a minimum, monthly.

⁶ The Hanford Facility (Site-Wide) signals are provided in this document. No unit/building signal information is required unless unique devices are used at the unit/building.

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

1

2 J.1 Building Evacuation Routing

3 Figure J.1 provides identification of the primary and secondary staging areas and a general layout of the
4 IDF. Alternate evacuation routes will be used on a case-by-case basis based on meteorological conditions
5 at the time of the event.

6 J.2 Building Emergency Director/Building Warden (BED/BW)

7 Emergency response will be directed by the BED/BW until the Incident Commander (IC) arrives. The
8 Incident Command System (ICS) and staff with supporting on-call personnel fulfill the responsibilities of
9 the Emergency Coordinator as discussed in WAC 173-303-360. During events, IDF personnel perform
10 response duties under the direction of the BED/BW. The Incident Command Post (ICP) is managed by
11 the senior Hanford Fire Department official, unless the event is determined to be primarily a security
12 event, in which case the Hanford Fire Department and Hanford Patrol will operate under a unified
13 command system with Hanford Patrol making all decisions pertaining to security. These individuals are
14 designated as the IC, and as such, have the authority to request and obtain any resources necessary for
15 protecting people and the environment.

1 The BED/BW becomes a member of the ICP and functions under the direction of the IC. In this role, the
2 BED/BW continues to manage and direct IDF operations.

3 A listing of BED/BWs by title, work location, and work telephone number is contained in Section J.7.1 of
4 this plan. The BED/BW is on the premises or is available through "on-call" list 24-hours a day. Names
5 and home telephone numbers of the BED/BWs are available from the Patrol Operations Center (POC) in
6 accordance with Permit Condition II.A.4.

7 **J.3 Implementation of the Plan**

8 In accordance with WAC 173-303-360(2)(b), the BED/BW ensures that trained personnel identify the
9 character, source, amount, and areal extent of the release, fire, or explosion to the extent possible.

10 Identification of waste can be made by activities that can include, but are not limited to, visual inspection
11 of dangerous waste, sampling activities in the field, reference to inventory records, or by consulting with
12 facility personnel. Samples of materials involved in an emergency might be taken by qualified personnel
13 and analyzed as appropriate. These activities must be performed with a sense of immediacy and shall
14 include available information.

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

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

18 AND

19 2.a. The unplanned spill or release involved a dangerous waste, or the material involved became a
20 dangerous waste as a result of the event (e.g., product that is not recoverable.),

21 OR

22 2.b. The unplanned fire or explosion occurred at the IDF or transportation activity subject to RCRA
23 contingency planning requirements,

24 AND

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

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

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

37 The BED/BW must assess each incident to determine the response necessary to protect the personnel,
38 facility, and the environment. If assistance from Hanford Patrol, Hanford Fire Department, or ambulance
39 units is required, the Hanford Emergency Response Number (911 from site office phones/373-0911 from
40 cellular phones) must be used to contact the POC and request the desired assistance. To request other
41 resources or assistance from outside the IDF, the POC business number is used (373-3800).

42 **J.3.1 Protective Actions Responses**

43 Protective action responses are discussed in the following sections. The steps identified in the following
44 description of actions do not have to be performed in sequence because of the unanticipated sequence of
45 incident events.

1 J.3.1.1 Evacuation

2 If an evacuation is ordered or the evacuation siren sounds in the area of the IDF, personnel will proceed to
3 the staging area.

4 The BED/BW or staging area manager directs the evacuation; however, to ensure that evacuations can be
5 conducted promptly and safely, all personnel must be familiar with the evacuation procedure.

6 Area evacuations are rapid or controlled and the differences between them are pointed out in the
7 following steps. When possible, these steps must be performed concurrently.

8

Area Evacuation Procedure
Halt any operations or work and place equipment and structures in a safe condition. Use emergency shutdown procedures for rapid evacuation.
Use whatever means are available (portable radios, bullhorns, runners, etc.) to pass the evacuation information to personnel.
Evacuate personnel to the staging area; group personnel as follows: potentially contaminated protective clothing, keys immediately available for vehicles, and those needing rides. Assist personnel that are temporarily/permanently disabled.
Conduct personnel accountability. If unable to account for personal, report personnel accountability results to the Hanford Emergency Operations Center (Hanford-EOC).
Inform IC of any potentially affected personnel (i.e., injured, contaminated, exposed, etc.) once the IC arrives at the ICP.
Relay pertinent evacuation information (routes, destination etc.) to drivers.
Dispatch vehicles as soon as the vehicles are loaded.
Report status to the Hanford-EOC, request additional transportation if required, and report if any personnel remain who are performing late shutdown duties.

9

10 J.3.1.2 Take Cover

11 When the Take Cover Alarm is activated, personnel will take cover in the nearest suitable building or
12 trailer.

13 A message followed by the Take Cover siren is transmitted over the area emergency sirens. The
14 following actions must be taken or considered:

- 15 • Shut doors and windows and wait for further instructions.
- 16 • Secure ventilation system.
- 17 • Follow normal exit procedures from radiological areas.
- 18 • Lock up classified documents and prepare for a possible evacuation.
- 19 • Report your location to the Accountability Aid or the BED/BW.
- 20 • Accountability Aides will provide accountability status to the Staging Area Manager for IDF
21 personnel during an event.
- 22 • Inform IC of any potentially affected personnel (i.e., injured, contaminated, exposed, etc.) once
23 the IC arrives at the ICP.

1 **J.3.2 Response to Facility Operations Emergencies**

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

7 **J.3.2.1 Loss of Utilities**

8 The only loss of utilities is electrical. Loss of electricity does not constitute an emergency, but must be
 9 restored as soon as possible. Electricity supplies power to the sump pumps used to remove accumulated
 10 leachate from the primary and secondary liners. The loss of water, ventilation, steam, air, and vacuum are
 11 not applicable to the IDF.

12 **J.3.2.2 Major Process Disruption/Loss of Plant Control**

13 N/A

14 **J.3.2.3 Pressure Release**

15 N/A

16 **J.3.2.4 Fire and/or Explosion**

17 In the event of a fire, the discoverer activates a fire alarm (pull box); calls 911 from site office
 18 phones/373-0911 from cellular phones or verifies that the Hanford Emergency Response Number has
 19 been called.

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

33 **J.3.2.5 Hazardous Material, Dangerous and/or Mixed Waste Spill**

34 Spills can result from many sources including process leaks, container spills or leaks, damaged packages
 35 or shipments, or personnel error. Spills of mixed waste are complicated by the need to deal with the extra
 36 hazards posed by the presence of Atomic Energy Act materials.

- 37 • The discoverer notifies the BED/BW and initiates SWIMS response:
 - 38 ○ Stops work.
 - 39 ○ Warns others in the vicinity.
 - 40 ○ Isolates the area.
 - 41 ○ Minimizes the exposure to the hazards.
 - 42 ○ Requests the BED/BW Secure ventilation.

- 1 • The BED/BW determines if emergency conditions exist requiring response from the Hanford Fire
2 Department based on classification of the spill and injured personnel, and evaluates need to
3 perform additional protective actions.
- 4 • If the Hanford Fire Department resources are not needed, the spill is mitigated with resources
5 identified in Section J.4.5 and proper notifications are made.
- 6 • If the Hanford Fire Department resources are needed, the BED/BW calls 911 from site office
7 phones/373-0911 from cellular phones.
- 8 • The BED/BW sends a representative to meet the Hanford Fire Department.
- 9 • The BED/BW provides a formal turnover to the IC when the IC arrives at the ICP.
- 10 • The BED/BW informs the Hanford Site Emergency Response Organization as to the extent of the
11 emergency (including estimates of dangerous waste and mixed waste quantities released to the
12 environment).
- 13 • If operations are stopped in response to the spill, the BED/BW ensures that systems are monitored
14 for leaks, pressure buildup, gas generation, and ruptures.
- 15 • Hanford Fire Department stabilizes the spill.

16 **J.3.2.6 Damaged or Unacceptable Shipments**

17 The IDF does not receive onsite transfers or off-site shipments of dangerous and/or mixed waste.

18 **J.3.3 Prevention of Recurrence or Spread of Fires, Explosions, or Releases**

19 The BED/BW, as part of the ICP, takes the steps necessary to ensure that a secondary release, fire, or
20 explosion does not occur. The BED/BW takes measures, where applicable, to stop processes and
21 maintenance activities, collect and contain released waste, and remove or isolate containers. The
22 BED/BW shall also monitor for leaks, pressure buildups, gas generation, or ruptures in valves, pipes or
23 other equipment, whenever this is appropriate.

24 **J.3.4 Termination of Event, Incident Recovery, Restart of Operations**

25 Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02), Section 9.0, describes
26 actions for event termination, incident recovery, and restart of operations. The extent by which these
27 actions are employed is based upon the incident classification of each event. In addition, Permit
28 Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02), also contains actions for the
29 management of incompatible waste that might apply.

30 **J.3.4.1 Termination of Event**

31 For events where the Hanford Emergency Operations Center (Hanford-EOC) is activated, the Department
32 of Energy-Richland (DOE-RL) or Department of Energy-Office of River Protection (DOE-ORP)
33 Emergency Manager has the authority to declare event termination. This decision is based on input from
34 the BED/BW, IC, and other emergency response organization members. For events where the
35 Hanford-EOC is not activated, the ICS and staff will declare event termination.

36 **J.3.4.2 Incident Recovery and Restart of Operations**

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

41 If this plan was implemented according to Section J.3, Ecology is notified before operations can resume.
42 Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02), Section 5.1, discusses

1 different reports to outside agencies. This notification is in addition to those required reports and must
 2 include the following statements:

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

5 The notification required by WAC 173-303-360(2)(j) may be made via telephone conference. Additional
 6 information that Ecology requests regarding these restart conditions will be included in the required
 7 15-day report identified in Section J.5.

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

15 **J.3.5 Incompatible Waste**

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

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

24 If incompatibility of waste was a factor in the incident, the BED/BW or the onsite recovery organization
 25 ensures that the cause is corrected.

26 **J.3.6 Post Emergency Equipment Maintenance and Decontamination**

27 All equipment used during an incident is decontaminated (if practicable) or disposed of as spill debris.
 28 Decontaminated equipment is checked for proper operation before storage for subsequent use.
 29 Consumables and disposed materials are restocked. Spent fire extinguishers are replaced.

30 The BED/BW ensures that all equipment is cleaned and fit for its intended use before operations are
 31 resumed. Depleted stocks of neutralizing and absorbing materials are replenished, and protective clothing
 32 is cleaned or disposed of and restocked, etc.

33 **J.4 Emergency Equipment**

34 Emergency resources and equipment for the IDF are presented in this section.

35 **J.4.1 Fixed Emergency Equipment**

Fixed Emergency Equipment		
Type	Location	Capability
6 Inch Fire Hydrants	IDF	Fire suppression

1 **J.4.2 Portable Emergency Equipment**

Portable Emergency Equipment		
Type	Location	Capability
Fire extinguishers	In motorized equipment (e.g., trucks, etc.), nearby structures (e.g., change trailers, storage buildings, etc.).	Use on any Class A, B, or C fires. (Note: Some are only B and C.) Do NOT use on sodium.

2 **J.4.3 Communications Equipment/Warning Systems**

Communications Equipment		
Type	Location	Capability
Cell phones	Portable	Communication

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

3 **J.4.4 Personal Protective Equipment**

Personal Protective Equipment		
Type	Location	Capability
N/A		

4 **J.4.5 Spill Control and Containment Supplies**

Spill Kits and Spill Control Equipment		
Type	Location	Capability
N/A		

5 **J.4.6 Incident Command Post**

6 The ICPs for the IDF are in MO-518 and MO-607. Emergency resource materials are stored at each
7 location. The IC could activate the Hanford Fire Department Mobile Command Unit if necessary.

8 **J.4.7 Coordination Agreements**

9 DOE-RL has established a number of coordination agreements, or memoranda of understanding (MOU)
10 with various agencies to ensure proper response resource availability for incidents involving the Hanford
11 Site. A description of the agreements is contained in Permit Attachment 4, *Hanford Emergency*
12 *Management Plan* (DOE/RL-94-02), Section 3.0, Table 3-1.

13 **J.5 Required Reports**

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

16 Facility management must note in the TSD-unit operating record, the time, date, and details of any
17 incident that requires implementation of the contingency plan (Section J.3). Within fifteen (15) days after
18 the incident, a written report must be submitted to Ecology. The report must include the elements
19 specified in WAC 173-303-360(2)(k).

1 J.6 Plan Location and Amendments

2 Copies of this plan are maintained at the following locations:

- 3 • MO-518
4 • MO-607

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

7 J.7 Facility/Building Emergency Response Organization**8 J.7.1 Building Emergency Director/Building Warden**

<u>Building Emergency Director/Building Warden</u> Title	Authority	Work Location	Work Phone
ERDF Operations Specialist IDF Field Work Supervisor	Primary	MO-607	280-0657
ERDF Facility Manager	1 st Alternate	MO-607	947-1651
ERDF Transportation Manager	2 nd Alternate	MO-607	430-6320
ERDF Disposal Manager	3 rd Alternate	Building 6250	308-2303

9 Names and home telephone numbers of the BED/BWs are available from the POC (373-3800) in
10 accordance with Permit Condition II.A.4.

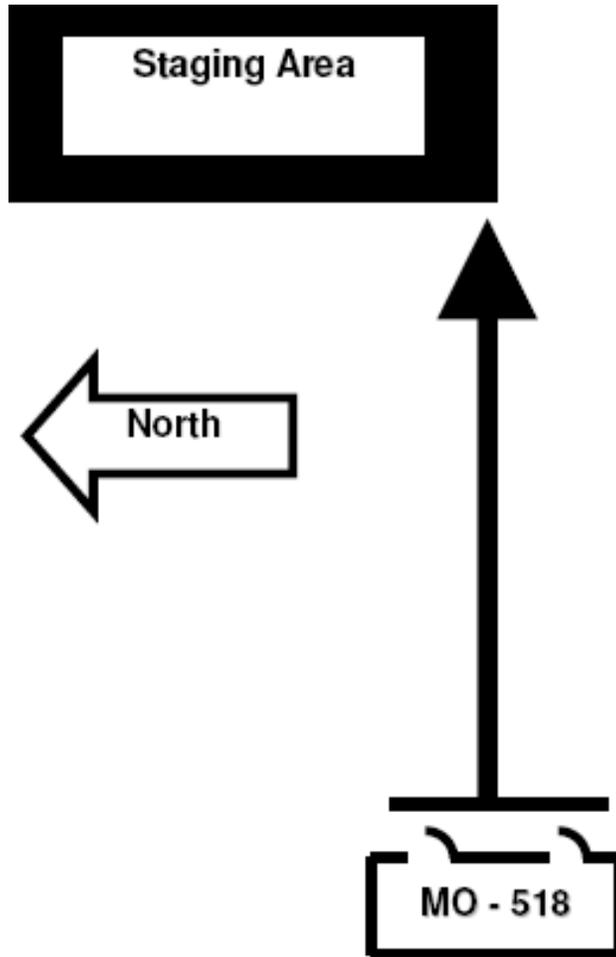


Figure J.1. Evacuation Routes

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1 **J.6 Plan Location and Amendments**

2 Copies of this plan are maintained at the following locations:

- 3 • MO-518
- 4 • MO-607

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

7 **J.7 Facility/Building Emergency Response Organization**

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ERDF Disposal Manager	3 rd Alternate	Building 6250	308-2303

9 Names and home telephone numbers of the BED/BWs are available from the POC (373-3800) in
10 accordance with Permit Condition II.A.4.

INTEGRATED DISPOSAL FACILITY CHANGE CONTROL LOG

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have a “**Last Modification Date**” which represents the last date the portion of the unit has been modified. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Last modification to Integrated Disposal Facility **August 21, 2018**

Chapters	Last Modification Date	Modification Number
Unit-Specific Conditions	08/21/2018	PCN-IDF-2018-01 (8C.2018.Q3)
1.0 Part A Form	10/01/2008	
2.0 Topographic Map Description	09/30/2014	
3.0 Waste Analysis Plan	06/30/2013	
4.0 Process Information	12/31/2008	
4A1 Phase I Critical Systems Design Report	08/25/2016	8C.2016.Q2
4A2 Critical Systems Tables & Data Sheets	03/31/2008	
4A3 Critical Systems Design Drawings	03/31/2008	
4B Detailed Design Cell 1 Construction Quality Assurance Plan	04/09/2006	
4C Facility Response Action Plan	04/09/2006	
4D Construction Specifications (C-1)	12/31/2006	
5.0 Groundwater Monitoring	06/30/2010	
6.0 Procedures to Prevent Hazards	06/20/2013	
7.0 Reserved		
8.0 Personnel Training	09/30/2014	
9.0 Reserved		
10.0 Reserved		
11.0 Closure	09/30/2014	
12.0 Reserved		
13.0 Other Federal and State Laws	04/09/2006	
Addenda	Last Modification Date	Modification Number
Addendum J.1 Pre-Active Life Contingency Plan	08/21/2018	PCN-IDF-2018-01 (8C.2018.Q3)
Addendum J.2 Active Life Contingency Plan	05/23/2016	8C.2016.Q1

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**INTEGRATED DISPOSAL FACILITY
PART III, OPERATING UNIT 11 UNIT-SPECIFIC CONDITIONS
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number
08/21/2018	PCN-IDF-2018-01 (8C.2018.Q3)
08/25/2016	8C.2016.Q2

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**PART III, OPERATING UNIT 11 UNIT-SPECIFIC CONDITIONS
INTEGRATED DISPOSAL FACILITY**

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1
2 **PART III, OPERATING UNIT 11 UNIT-SPECIFIC CONDITIONS**
3 **INTEGRATED DISPOSAL FACILITY**
4
5

6 This document sets forth the operating conditions for the Integrated Disposal Facility (IDF).

7 **III.11.A COMPLIANCE WITH APPROVED PERMIT**

8 The Permittees shall comply with all requirements set forth in the Integrated Disposal Facility (IDF)
9 Permit conditions, the Chapters and Appendices specified in Permit Condition III.11.A and the
10 Amendments specified in Permit Conditions III.11.B through III.11.I. All subsections, figures, and tables
11 included in these portions are enforceable unless stated otherwise:

12 OPERATING UNIT 11:

13	Chapter 1.0	Part A Form, dated October 1, 2008
14	Chapter 2.0	Topographic Map Description, dated September 30, 2014
15	Chapter 3.0	Waste Analysis Plan, dated June 30, 2013
16	Chapter 4.0	Process Information, dated December 31, 2008
17	Appendix 4A	Design Report (as applicable to critical systems), dated June 30, 2016
18	Appendix 4B	Construction Quality Assurance Plan, dated April 9, 2006
19	Appendix 4C	Response Action Plan, dated April 9, 2006
20	Appendix 4D	Construction Specifications (RPP-18489, Rev. 1), dated December 31, 2006
21	Chapter 5.0	Ground Water Monitoring, dated June 30, 2010
22	Chapter 6.0	Procedure to Prevent Hazards, dated June 20, 2013
23	Addendum J.1	Contingency Plan – Pre-Active Life, dated August 21, 2018 TBD
24	Addendum J.2	Contingency Plan – Active Life, dated March 31, 2016
25	Chapter 8.0	Personnel Training, dated September 30, 2014
26	Chapter 11.0	Closure, dated September 30, 2014
27	Chapter 13.0	Other Federal and State Laws, dated April 9, 2006

28 General and Standard Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit,
29 WA7890008967 (Permit) conditions (Part I and Part II Conditions) applicable to the IDF are identified in
30 Permit Attachment 9 (Permit Applicability Matrix).

31 **III.11.B AMENDMENTS TO THE APPROVED PERMIT**

32 **III.11.B.1** Portions of Permit Attachment 4, *Hanford Emergency Management Plan* that are not
33 made enforceable by inclusion in the applicability matrix for that document, are not made
34 enforceable by reference in this document.

35 **III.11.B.2** Permittees must comply with all applicable portions of the Permit. The facility and
36 unit-specific recordkeeping requirements are distinguished in the General Information
37 Portion of the Permit, and are tied to the Permit conditions.

38 **III.11.B.3** The scope of this Permit is restricted to the landfill construction and operation as
39 necessary to dispose of: 1) Immobilized Low Activity Waste (ILAW) from the WTP,
40 and 2) the Demonstration Bulk Vitrification System (DBVS) and IDF operational waste
41 as identified in Chapter 4.0. Future expansion of the RCRA trench, or disposal of other
42 wastes not specified in this Permit, is prohibited unless authorized via modification of
43 this Permit.

- 1 **III.11.B.4** In accordance with WAC 173-303-806(11)(d), this Permit shall be reviewed every five
2 (5) years after the effective date and modified, as necessary, in accordance with
3 WAC 173-303-830(3).
- 4 **III.11.B.5** Inspection Requirements – Pre-Active Life Period and Active Life Period
- 5 **III.11.B.5.a** The Permittees will conduct inspections of the IDF according to the following
6 requirements:
- 7 **III.11.B.5.a.i** Prior to the start of the active life of the IDF as defined in WAC 173-303-040, according
8 to Chapter 6.0, Table 6.2.
- 9 **III.11.B.5.a.ii** Following the start of the active life of the IDF as defined in WAC 173-303-040,
10 according to Chapter 6.0, Table 6.2A.
- 11 **III.11.B.5.b** The Permittees will remedy any problems revealed by inspections conducted pursuant to
12 Permit Condition III.11.B.5.a on a schedule, which prevents hazards to the public health
13 and the environment and as agreed to in writing, by Ecology. Where a hazard is
14 imminent or has already occurred, remedial action must be taken immediately.
- 15 **III.11.B.5.c** Reserved
- 16 **III.11.B.5.d** Rainwater Management
- 17 **III.11.B.5.e** Prior to the start of the active life of the IDF, the Permittees will manage the discharge of
18 such water in accordance with the pollution prevention and best management practices
19 required by State Waste Discharge Permit Number ST 4511.
- 20 **III.11.B.5.e.i** Management of Liquids Collected in the Leachate Collection and Removal System
21 (LCRS), Leak Detection System (LDS), and Secondary Leak Detection System (SLDS)
22 prior to the start of the active life of the IDF.
- 23 **III.11.B.5.e.ii** Permittees shall manage the liquid in the LCRS system in a manner that does not allow
24 the fluid head to exceed 30.5 cm above the flat 50-foot by 50-foot LCRS sump High
25 Density Polyethylene (HDPE) bottom liner, and the LCRS sump trough, except for
26 storms that exceed the 25-year, 24-hour storm event [WAC 173-303-665(2)(h)(ii)].
27 Liquid with a depth greater than 30.5 cm above the LCRS liner will be removed at the
28 earliest practicable time after detection (not to exceed 5 working days).
- 29 **III.11.B.5.e.iii** Accumulated liquid of pumpable quantities in the LDS and SLDS will be managed in a
30 manner that does not allow the fluid head to exceed 30.5 cm above the LDS liner or
31 SLDS liner [WAC 173-303-665(2)(h)(ii) and (iii)]. Liquid with a depth greater than 30.5
32 cm above a liner will be removed at the earliest practicable time after detection (not to
33 exceed 5 working days).
- 34 **III.11.B.5.e.iv** The Permittees will use a flow meter to check if the amount of actual liquid pumped
35 corresponds to the amount accumulated in the leachate collection tank to verify the
36 proper function of the leachate collection and removal sump pumps with each use. The
37 Permittees will document in the IDF portion of the facility operating record appropriate
38 quality assurance/quality control requirements for selection and operation of the flow
39 meter based on the required verification. In addition, the Permittees will evaluate the
40 leachate transfer lines for freeze and thaw damage when ambient conditions may cause
41 such damage to occur. The Permittees will document the methods and criteria used for
42 purposes of this evaluation, along with an appropriate justification.
- 43 **III.11.B.5.e.v** The Permittee will inspect for liquids after significant rainfall events.

- 1 **III.11.B.5.e.vi** The Permittee will annually verify monitoring gauges and instruments are in current
2 calibration; calibration will be performed annually or more frequently at intervals
3 suggested by the manufacturer (refer to Chapter 4.0, §4.3.7.4).
- 4 **III.11.B.5.f** The Permittees will monitor liquids in the Leachate Collection and Removal System and
5 Leak Detection System to ensure the action leakage rate (Chapter 4.0, Appendix 4A) is
6 not exceeded.
- 7 **III.11.B.5.g** Soil Stabilization
8 Prior to the first placement of waste in the IDF, the Permittee will apply soil stabilization
9 materials as needed to prevent soil erosion in and around the landfill.
- 10 **III.11.C Design Requirements**
- 11 **III.11.C.1** IDF is designed in accordance with WAC 173-303-665 and WAC 173-303-640 as
12 described in Chapter 4.0. Design changes impacting IDF critical systems shall be
13 performed in accordance with Permit Conditions III.11.D.1.d.i and III.11.D.1.d.ii.
- 14 **III.11.C.1.a** IDF Critical Systems include the following: The LCRS, leachate collection tank (LCT),
15 LDS, liner system (LS), and closure cap. H-2 Drawings for the LCRS, LCT, LDS, and
16 LS are identified in Appendix 4A, Section 3 of this Permit. Drawings for the closure cap
17 will be provided pursuant to Permit Condition III.11.C.1.c.
18 The Permittees shall construct and operate the IDF in accordance with all specifications
19 contained in RPP-18489 Rev 0. Critical systems, as defined in the definitions section of
20 the Site-Wide RCRA Permit, are identified in Appendix 4A, Section 1 of this Permit.
- 21 **III.11.C.1.b** Landfill Cap
22 At final closure of the landfill, the Permittees shall cover the landfill with a final cover
23 (closure cap) designed and constructed [WAC 173-303-665(6), WAC 173-303-806(4)(h)]
24 to: Provide long-term minimization of migration of liquids through the closed landfill;
25 Function with minimum maintenance; Promote drainage and minimize erosion or
26 abrasion of the cover; Accommodate settling and subsidence so that the cover's integrity
27 is maintained; and have a permeability less than or equal to the permeability of any
28 bottom liner system or natural sub soils present.
- 29 **III.11.C.1.c** Compliance Schedule
30 Proposed conceptualized final cover design is presented in Chapter 11, Closure
31 Requirements. Six months prior to start of construction of IDF landfill final cover (but
32 no later than 6 months prior to acceptance of the last shipment of waste at the IDF), the
33 Permittees shall submit IDF landfill final cover design, specifications and Construction
34 Quality Assurance (CQA) plan to Ecology for review and approval. No construction of
35 the final cover may proceed until Ecology approval of the final design is given, through a
36 permit modification.
- 37 **III.11.C.1.d** The Permittees shall notify Ecology at least sixty (60) calendar days prior to the date it
38 expects to begin closure of the IDF landfill in accordance with WAC 173-303-610(c).
- 39 **III.11.C.2** Design Reports
- 40 **III.11.C.2.a** New Tank Design Assessment Report
41 Permittees shall generate a written report in accordance with WAC 173-303-640(3)(a),
42 providing the results of the leachate collection tank system design assessment. The report

1 shall be reviewed and certified by an Independent Qualified Registered Professional
2 Engineer (IQRPE)¹ in accordance with WAC-173-303-810(13)(a).

3 **III.11.C.2.b** Compliance Schedule

4 Permittees shall submit the leachate collection tank design assessment report to Ecology
5 along with the IQRPE certification, prior to construction of any part of the tank system
6 including ancillary equipment.

7 **III.11.D CONSTRUCTION REQUIREMENTS**

8 **III.11.D.1** Construction Quality Assurance

9 **III.11.D.1.a** Ecology shall provide field oversight during construction of critical systems. Incases
10 where an Engineering Change Notice (ECN) and/or Non Conformance Report (NCR) are
11 required, Ecology and the Permittees shall follow steps for processing changes to the
12 approved design per Permit Conditions III.11.D.1.d.i and III.11.D.1.d.ii.

13 **III.11.D.1.b** Permittees shall implement the CQA plan (Appendix 4B of the permit) during
14 construction of IDF.

15 **III.11.D.1.b.i** The Permittees will not receive waste in the IDF until the owner or operator has
16 submitted to Ecology by certified mail or hand delivery a certification signed by the CQA
17 officer that the approved CQA plan has been successfully carried out and that the unit
18 meets the requirements of WAC 173-303-665(2)(h) or (j); and the procedure in
19 WAC 173-303-810(14)(a) has been completed. Documentation supporting the CQA
20 officer's certification shall be furnished to Ecology upon request.

21 **III.11.D.1.c** Construction Inspection Reports

22 Permittees shall submit a report documenting the results of the leachate tank installation
23 inspection. This report must be prepared by an independent, qualified installation
24 inspector or a professional IQRPE either of whom is trained and experienced in the
25 proper installation of tank systems or components. The Permittees will remedy all
26 discrepancies before the tank system is placed in use. This report shall be submitted to
27 Ecology 90 days prior to IDF operation and be included in the IDF Operating Record.
28 [WAC 173-303-640(3)(h)].

29 **III.11.D.1.d** ECN/NCR Process for Critical Systems

30 Portions of the following conditions for processing engineering change notices and
31 non-conformance reporting were extracted from and supersede Site-Wide General Permit
32 Condition II.L.

33 **III.11.D.1.d.i** Engineering Change Notice for Critical Systems

34 During construction of the IDF, the Permittees shall formally document changes to the
35 approved designs, plans, and specifications, identified in Appendices 4A, 4B, 4C, and 4D
36 of this permit, with an ECN.

37 The Permittees shall maintain all ECNs in the IDF unit-specific Operating Record and
38 shall make them available to Ecology upon request or during the course of an inspection.
39 The Permittees shall provide to Ecology copies of proposed ECNs affecting any critical

¹ "Independent qualified registered professional engineer," as used here and elsewhere with respect to Operating Unit 11, means a person who is licensed by the state of Washington, or a state which has reciprocity with the state of Washington as defined in RCW 18.43.100, and who is not an employee of the owner or operator of the facility for which construction or modification certification is required. A qualified professional engineer is an engineer with expertise in the specific area for which a certification is given.

1 system within five (5) working days of initiating the ECN. Identification of critical
2 systems is included in Permit Condition III.11.C.1 and Appendix 4A of this Permit.
3 Within five (5) working days, Ecology will review a proposed ECN modifying a critical
4 system and inform the Permittees whether the proposed ECN, when issued, will require a
5 Class 1, 2, or 3 Permit modification.

6 **III.11.D.1.d.ii** Non-conformance Reporting for Critical Systems

7 **III.11.D.1.d.ii.a** During construction of the IDF, the Permittees shall formally document with a
8 NCR, any work completed which does not meet or exceed the standards of the
9 approved design, plans and specifications, identified in Appendices 4A, 4B, 4C
10 and 4D of this Permit. The Permittees shall maintain all NCRs in the IDF
11 unit-specific Operating Record and shall make them available to Ecology upon
12 request, or during the course of an inspection.

13 **III.11.D.1.d.ii.b** The Permittees shall provide copies of NCRs affecting any critical or regulated
14 system to Ecology within five (5) working days after identification of the
15 nonconformance. Identification of critical systems is included in Permit
16 Condition III.11.C.1 and Appendix 4A of this Permit. Ecology will review a
17 NCR affecting a critical system and notify the Permittees within five (5) working
18 days, in writing, whether a Permit modification is required for any
19 nonconformance, and whether prior approval is required from Ecology before
20 work proceeds, which affects the nonconforming item.

21 **III.11.D.1.d.ii.c** As-Built Drawings

22 Upon completing construction of IDF, the Permittees shall produce as-built
23 drawings of the project, which incorporate the design and construction
24 modifications resulting from all project ECNs and NCRs, as well as
25 modifications made pursuant to WAC 173-303-830. The Permittees shall place
26 the drawings into the Operating Record within twelve (12) months of completing
27 construction.

28 **III.11.D.2** The Permittees shall not reduce the minimum frequency of destructive testing less than
29 one test per 500 feet of seam, without prior approval in writing from Ecology.

30 **III.11.E GROUND WATER AND GROUND WATER MONITORING**

31 Ground water shall be monitored in accordance with + and the provisions contained in
32 the Ecology-approved facility ground water monitoring plan (Chapter 5.0). All wells
33 used to monitor the ground water beneath the unit shall be constructed in accordance with
34 the provisions of WAC 173-160.

35 **III.11.E.1** Ground Water Monitoring Program

36 **III.11.E.1.a** Prior to initial waste placement in the IDF landfill, the Permittees shall sample all ground
37 water monitoring wells in the IDF network twice quarterly for one first year to determine
38 baseline conditions. For the first sampling event (and only the first), samples for each
39 well will include all constituents in 40 CFR 264 Appendix IX. Thereafter, sampling will
40 include only those constituents as specified in Chapter 5.0, Table 5-2: chromium (filtered
41 and unfiltered the first year to compare results), specific conductance, TOC, TOX, and
42 pH. Other constituents to be monitored but not statistically compared include alkalinity,
43 anions, Inductively Coupled Plasma metals, and turbidity. These will provide important
44 information on hydrogeologic characteristics of the aquifer and may provide indications
45 of encroaching contaminants from other facilities not associated with IDF.

- 1 **III.11.E.1.b** After the baseline monitoring is completed, and data is analyzed, the Permittees and
2 Ecology shall assess revisions to Chapter 5.0, Table 5-2. Subsequent samples will be
3 collected annually and will include constituents listed in Table 5-2 as approved by
4 Ecology. All data analysis will employ Ecology approved statistical methods pursuant to
5 WAC 173-303-645. Changes to Chapter 5.0 will be subject to the permit modification
6 procedures under WAC 173-303-830.
- 7 **III.11.E.1.c** All constituents used as tracers to assess performance of the facility through computer
8 modeling should be sampled at least annually to validate modeling results. Groundwater
9 monitoring data and analytes to be monitored will be reviewed periodically as defined in
10 Chapter 5.0 of this Permit.
- 11 **III.11.E.1.d** Upon Ecology approval of the leachate monitoring plan, leachate monitoring and
12 groundwater monitoring activities should be coordinated as approved by Ecology to form
13 an effective and efficient means of monitoring the performance of the IDF facility.
- 14 **III.11.E.1.e** Groundwater monitoring data shall be reported to Ecology annually by July 31. The
15 annual report shall include monitoring results for the 12-month period from January 1
16 through December 31.
- 17 **III.11.F LEACHATE COLLECTION COMPONENT MANAGEMENT**
- 18 Permittees shall design, construct, and operate all leachate collection systems to minimize
19 clogging during the active life and post closure period.
- 20 **III.11.F.1 Leachate Collection and Removal System**
- 21 **III.11.F.1.a** At least 120 days prior to initial waste placement in the IDF, the Permittees shall submit a
22 Leachate monitoring plan to Ecology for review, approval, and incorporation into the
23 permit. Upon approval by Ecology, this plan will be incorporated into the Permit as a
24 class ¹1 modification. The Permittees shall not accept waste into the IDF until the
25 requirements of the leachate monitoring plan have been incorporated into this Permit.
- 26 **III.11.F.1.b** Leachate in the LCRS (primary sump) shall be sampled and analyzed monthly for the
27 first year of operation of the facility and quarterly thereafter (pursuant to
28 WAC 173-303-200). Additionally, leachate shall be sampled and analyzed to meet waste
29 acceptance criteria at the receiving treatment storage and disposal facility.
- 30 **III.11.F.1.c** Permittees shall manage the leachate in the LCRS system in a manner that does not allow
31 the fluid head to exceed 30.5 cm above the flat 50-foot by 50-foot LCRS sump HDPE
32 bottom liner except for rare storm events as discussed in Chapter 4.0, §4.3.6.1 and the
33 LCRS sump trough [WAC 173-303-665(2)(h)(ii)]. Liquid with a depth greater than
34 30.5 cm above the SLDS liner will be removed at the earliest practicable time after
35 detection (not to exceed 5 working days).
- 36 **III.11.F.1.d** After initial waste placement, Permittees shall manage all leachate from the permitted
37 cell as dangerous waste (designated with Dangerous Waste Number F039) in accordance
38 with WAC 173-303.
- 39 **III.11.F.2 Monitoring and Management of Leak Detection System (LDS/secondary sump)**
- 40 **III.11.F.2.a** Permittees shall manage the leachate in the LDS system in a manner that does not allow
41 the fluid head to exceed 30.5 cm above the LDS liner [WAC 173-303-665(2)(h)(ii)].
- 42 **III.11.F.2.b** Permittees shall monitor and record leachate removal for comparison to the Action
43 Leakage Rate (ALR) as described in Appendix 4C, Response Action Plan. If the leachate
44 flow rate in the LDS exceeds the ALR, the Permittees shall implement the Ecology
45 approved response action plan (Appendix 4C).

- 1 **III.11.F.2.c** Leachate from the LDS (secondary sump) shall be sampled semi-annually if a pumpable
2 quantity of leachate is available for sampling.
- 3 **III.11.F.2.d** Accumulated liquid of pumpable quantities in the LDS will be managed in a manner that
4 does not allow the fluid head to exceed 30.5 cm above the LDS liner
5 [WAC 173-303-665(2)(h)(ii) and (iii)]. Liquid with a depth greater than 30.5 cm above
6 the LDS liner will be removed at the earliest practicable time after detection (not to
7 exceed 5 working days).
- 8 **III.11.F.3** Monitoring and Management of the SLDS
- 9 **III.11.F.3.a** At least 180 days prior to initial waste placement, the, the Permittees shall submit to
10 Ecology for approval a sub-surface liquids monitoring and operations plan (SLMOP) for
11 the SLDS to include the following: monitoring frequency, pressure transducer
12 configuration, liquid collection and storage processes, sampling and analysis and
13 response actions. The SLMOP shall be approved by Ecology prior to placement of waste
14 in the IDF, and incorporated into the Permit as a Class ¹1 modification.
- 15 **III.11.F.3.b** Permittees shall monitor and manage the SLDS (tertiary sump) pursuant to the approved
16 sub-surface liquids monitoring and operations plan.
- 17 **III.11.F.3.c** Accumulated liquid of pumpable quantities in the SLDS will be managed in a manner
18 that does not allow the fluid head to exceed 30.5 cm above the SLDS liner
19 [WAC 173-303-665(2)(h)(ii) and (iii)]. Liquid with a depth greater than 30.5 cm above
20 the SLDS liner will be removed at the earliest practicable time after detection (not to
21 exceed 5 working days).
- 22 **III.11.F.3.d** After initial waste placement, Permittees shall manage all leachate from the permitted
23 cell as dangerous waste in accordance with WAC 173-303.
- 24 **III.11.G CONSTRUCTION WATER MANAGEMENT**
- 25 **III.11.G.1** During construction, it is anticipated that liquids will accumulate on top of all liners and
26 sumps. Permittees shall manage the construction wastewater in accordance with State
27 Waste Discharge Permit ST 4511.
- 28 **III.11.G.2** Liquid accumulation within the LCRS, LDS, and SLDS prior to initial waste placement
29 will be considered construction wastewater (i.e., not leachate).
- 30 **III.11.H LANDFILL LINER INTEGRITY MANAGEMENT & LANDFILL OPERATIONS**
- 31 **III.11.H.1** Permittees shall design, construct, and operate the landfill in a manner to protect the
32 liners from becoming damaged. Temperature: Waste packages with elevated
33 temperatures shall be evaluated and managed in a manner to maintain the primary (upper)
34 liner below the design basis temperature for the liner (e.g., 160 F). Weight: Waste, fill
35 material and closure cover shall be placed in a manner that does not exceed the allowable
36 load bearing capacity of the liner (weight per area 13,000 lb/ft²). Puncture: At least 3 feet
37 of clean backfill material shall be placed as an operations layer over the leachate
38 collection and removal system to protect the system from puncture damage.
- 39 **III.11.H.1.a** All equipment used for construction and operations inside of the IDF shall meet the
40 weight limitation as specified in Permit Condition III.11.H.1. Only equipment that can
41 be adequately supported by the operations layer as specified in Permit
42 Condition III.11.H.1 (e.g., will not have the potential to puncture the liner) shall be used
43 inside of the IDF. All equipment used for construction and operations outside of the IDF
44 shall not damage the berms. Changes to any equipment will follow the process
45 established by condition II.R of the site wide permit. Within 120 days from the effective

1 date for the permit, a process for demonstrating compliance with this condition shall be
2 submitted for review by Ecology. This process will be incorporated into appropriate IDF
3 operating procedures prior to IDF operations.

4 **III.11.H.2** The Permittees shall construct berms and ditches to prevent run-on and run-off in
5 accordance with the requirements of Chapter 4, Section 4.3.8 of the IDF portion of this
6 permit. Before the first placement of waste in the IDF, the Permittees shall submit to
7 Ecology a final grading and topographical map on a scale sufficient to identify berms and
8 ditches used to control run-on and run-off. Upon approval, Ecology will incorporate
9 these maps into the permit as a Class ¹ modification.

10 **III.11.H.3** The Permittees shall operate the RCRA IDF Cell (Cell1) in accordance with
11 WAC 173-303-665(2) and the operating practices described in Chapters 3.0, 4.0, 6.0, 8.0,
12 Addendum J.1, Addendum J.2, and Appendix 4A, §1, subsection 7, except as otherwise
13 specified in this Permit.

14 **III.11.H.4** The Permittees shall maintain a permanent and accurate record of the three-dimensional
15 location of each waste type, based on grid coordinates, within the RCRA IDF Cell (Cell1)
16 in accordance with WAC 173-303-665(5).

17 **III.11.I WASTE ACCEPTANCE CRITERIA**

18 The only acceptable waste form approved for disposal at the RCRA cell of IDF are IDF
19 operational waste, ILAW in glass form from the Waste Treatment Plant (WTP) Low
20 Activity Waste (LAW) Vitrification facility and ILAW from the Bulk Vitrification
21 Research Demonstration and Development facility (up to 50 boxes). Specifics about
22 waste acceptance criteria for each of these wastes are detailed below.

23 No other waste forms may be disposed at the RCRA cell of IDF unless authorized via a
24 Final Permit modification decision. Requests for Permit modifications must be
25 accompanied by an analysis adequate for Ecology to comply with State Environmental
26 Policy Act (SEPA), as well as by a risk assessment and groundwater modeling to show
27 the environmental impact. Permit Condition III.11.I.5 outlines the process by which
28 waste sources in the IDF are modeled in an ongoing risk budget and a ground water
29 impact analysis.

30 **III.11.I.1** Six months prior to IDF operations Permittees shall submit to Ecology for review,
31 approval, and incorporation into the permit, all waste acceptance criteria to address, at a
32 minimum, the following: physical/chemical criteria, liquids and liquid containing waste,
33 land disposal restriction treatment standards and prohibitions, compatibility of waste with
34 liner, gas generation, packaging, handling of packages, minimization of subsidence.

35 **III.11.I.1.a** All containers/packages shall meet void space requirements pursuant to
36 WAC 173-303-665(12).

37 **III.11.I.1.b** Compliance Schedule

38 **III.11.I.1.b.i** Six months prior to IDF operations, the Permittees shall submit to Ecology for review,
39 approval, and incorporation into the permit any necessary modifications to the IDF Waste
40 Analysis Plan (Chapters 3.0 of the IDF portion of this permit).

41 **III.11.I.2** ILAW Waste Acceptance Criteria

42 The only ILAW forms acceptable for disposal at IDF are: (1) approved glass canisters
43 that are produced in accordance with the terms, conditions, and requirements of the WTP
44 portion of the Permit, and (2) the 50 bulk vitrification test boxes as specified in the
45 DBVS test plans.

1 To assure protection of human health and the environment, it is necessary that the
2 appropriate quality of glass be disposed at IDF. The Land Disposal Restrictions (LDR)
3 Treatment Standard for eight metals (arsenic, barium, cadmium, chromium, lead,
4 mercury, selenium and silver), when associated with High Level Waste, is High Level
5 VIT (HLVIT) (40 CFR 268). Because these metals are constituents in the Hanford Tanks
6 Waste, the LDR standard for ILAW disposed to IDF is HLVIT.

7 For any ILAW glass form(s) that the United States Department of Energy (DOE) intends
8 to dispose of in IDF, DOE will provide to Ecology for review, an ILAW Waste Form
9 Technical Requirements Document (IWTRD). The IWTRD will contain:

10 **III.11.I.2.a** WTP ILAW Waste Acceptance Criteria

11 **III.11.I.2.a.i** A description of each specific glass formulation that DOE intends to use including a basis
12 for why each specific formulation is proposed for use, which specific tank wastes the
13 glass formulation is proposed for use with, the characteristics of the glass that are key to
14 satisfactory performance (e.g., Vapor Hydration Test (VHT), Product Consistency Test
15 (PCT), and Toxicity Characteristic Leaching Procedure (TCLP) and/or other approved
16 performance testing methodologies that the parties agree are appropriate and necessary),
17 the range in key characteristics anticipated if the specific glass formulation is produced
18 on a production basis with tank waste, and the factors that DOE must protect against in
19 producing the glass to ensure the intended glass characteristics will exist in the actual
20 ILAW.

21 **III.11.I.2.a.ii** A performance assessment that provides a reasonable basis for assurance that each glass
22 formulation will, once disposed of in IDF in combination with the other waste volumes
23 and waste forms planned for disposal at the entire IDF, be adequately protective of
24 human health and the environment; and will not violate or be projected to violate all
25 applicable state and federal laws, regulations and environmental standards.

26 Within 60 days of a request by Ecology, the Permittees shall provide a separate model run
27 using Ecology's assumptions and model input.

28 **III.11.I.2.a.iii** A description of production processes including management controls and quality
29 assurance/quality control requirements that assure that glass produced for each
30 formulation will perform in a reasonably similar manner to the waste form assumed in the
31 performance assessment for that formulation.

32 The Permittees shall update the IWTRD consistent with the above requirements for
33 review by Ecology consistent with their respective roles and authority as provided under
34 the Tri-Party Agreement (TPA). Ecology comments shall be dispositioned through the
35 Review Comment Record (RCR) process and will be reflected in further modeling to
36 modify the IDF ILAW Chapter 3.0, Waste Analysis Plan as appropriate.

37 The initial IWTRD contained glass formulation data as required by Permit Condition
38 III.11.I.2.a.i, and was submitted on December 18, 2006 (AR Accession # 0906020182).
39 The performance assessment required by Permit Condition III.11.I.2.a.ii, and the quality
40 assurance/quality control requirements process required by Permit
41 Condition III.11.I.2.a.iii shall be submitted for Ecology review as soon as possible after
42 issuance of the Final Tank Closure and Waste Management Environment Impact
43 Statement (EIS) and receipt of underlying codes and data packages, and at least 180 days
44 prior to the date DOE expects to receive waste at IDF. At a minimum, the Permittees
45 shall submit updates to the IWTRD to Ecology every five years or more frequently with
46 the next one due June 30, 2015, if any of the following conditions exist:

- 1 • The Permittees submits a permit modification request allowing additional waste
2 forms to be disposed of at IDF.
- 3 • The WTP or other vitrification facility change their glass formulations from those
4 previously included in the IWTRD.
- 5 • An unanticipated event or condition occurs that Ecology determines would warrant
6 an update to the IWTRD.
- 7 **III.11.1.2.a.iv** The Permittees shall not dispose of any WTP ILAW not described and evaluated in the
8 IWTRD.
- 9 **III.11.1.3** ILAW Waste Acceptance Criteria Verification.
- 10 **III.11.1.3.a** Six months prior to disposing of ILAW in the IDF, the Permittees will submit an ILAW
11 verification plan to Ecology for review and approval. This plan will be coordinated with
12 WTP, Ecology, and the Permittees personnel. This plan will outline the specifics of
13 verifying ILAW waste acceptance through WTP operating parameters, and/or glass
14 sampling. The Plan will include physical sampling requirements for batches, glass
15 formulations, and/or feed envelopes.
- 16 **III.11.1.4** DBVS Bulk Vitrification Waste Acceptance Criteria
- 17 **III.11.1.4.a** Bulk Vitrification waste forms that are acceptable to be disposed of at IDF are up to
18 50 boxes of vitrified glass produced pursuant to the DBVS Research, Development, and
19 Demonstration (RD&D) Permit from processing Hanford Tank S-109 tank waste.
- 20 **III.11.1.4.b** If Bulk Vitrification is selected as a technology to supplement the Waste Treatment Plant,
21 the IDF portion of the Permit will need to be modified to accept Bulk Vitrification Full
22 Scale production waste forms. This modification will need to be accompanied by
23 appropriate TPA changes (per M-062 requirements) and adequate risk assessment
24 information sufficient for the Department of Ecology to meet its SEPA obligations.
- 25 **III.11.1.4.c** DBVS Waste Acceptance Verification will occur on 100% of the waste packages.
26 Pursuant to the DBVS RD&D Permit, a detailed campaign test report will be produced
27 and submitted to Ecology detailing results of all testing performed on each waste package
28 that is produced. IDF personnel shall review these reports to verify that the waste
29 packages meet IDF Waste Acceptance Criteria.
- 30 **III.11.1.4.d** The Permittees shall not dispose of any waste forms that do not comply with all
31 appropriate and applicable treatment standards, including all applicable LDR.
- 32 **III.11.1.5** Modeling – Risk Budget Tool
- 33 **III.11.1.5.a** The Permittees must create and maintain a modeling - risk budget tool, which models the
34 future impacts of the planned IDF waste forms (including input from analyses performed
35 as specified in Permit Conditions III.11.1.2.a through III.11.1.2.a.ii) and their impact to
36 underlying vadose and ground water. This software tool will be submitted for Ecology
37 review as soon as possible after issuance of Final Tank Closure and Waste Management
38 EIS and receipt of underlying codes and data packages, and at least 180 days prior to the
39 date DOE expects to receive waste at IDF. The risk budget tool shall be updated at least
40 every 5 years. The model will be updated more frequently if needed, to support permit
41 modifications or SEPA Threshold Determinations whenever a new waste stream or
42 significant expansion is being proposed for the IDF. This risk budget tool shall be
43 conducted in manner that is consistent with state and federal requirements, and represents
44 a risk analysis of all waste previously disposed of in the entire IDF (both cell 1 and cell 2)
45 and those wastes expected to be disposed of in the future for the entire IDF to determine

1 cumulative impacts. The groundwater impact should be modeled to evaluate fate and
2 transport in the groundwater aquifer(s) and should be compared against various
3 performance standards including but not limited to drinking water standards (40 CFR 141
4 and 40 CFR 143). Ecology will review modeling assumptions, input parameters, and
5 results and will provide comments to the Permittees. Ecology comments shall be
6 dispositioned through the RCR process and will be reflected in further modeling to
7 modify the IDF ILAW waste acceptance criteria as appropriate.

8 **III.11.I.5.a.i** The modeling-risk budget tool will include a sensitivity analysis reflecting parameters
9 and changes to parameters as requested by Ecology.

10 **III.11.I.5.a.ii** If these modeling efforts indicate results within 75% of a performance standard
11 [including but not limited to federal drinking water standards (40 CFR 141 and
12 40 CFR 143)], Ecology and the Permittees will meet to discuss mitigation measures or
13 modified waste acceptance criteria for specific waste forms.

14 **III.11.I.5.a.iii** When considering all the waste forms to be disposed of in IDF, the Permittees shall not
15 dispose of any waste that will result (through forward looking modeling or in real
16 groundwater concentrations data) in a violation of any state or federal regulatory limit,
17 specifically including but not limited to drinking water standards for any constituent as
18 defined in 40 CFR 141 and 40 CFR 143.

19 **III.11.I.6** The Permittees shall not dispose of any waste that is not in compliance with state and
20 federal requirements as identified in Chapter 13.0.

21 **III.11.I.6.a** In accordance with DOE's authority under the Atomic Energy Act of 1954, as amended
22 and other applicable law, prior to disposing of any mixed ILAW in the IDF, DOE will
23 certify to the State of Washington that it has determined that such ILAW is not high-level
24 waste and meets the criteria and requirements outlined in DOE's consultation with the
25 U.S. Nuclear Regulatory Commission beginning in 1993 (Letter from R.M. Bernero,
26 USNRC to J. Lytle, USDOE, dated March 2, 1993; Letter from J. Kinzer, USDOE, to C.
27 J. Paperiello, USNRC, Classification of Hanford Low-Activity Tank Waste Fraction,
28 dated March 7, 1996; and Letter from C.J. Paperiello, USNRC, to J. Kinzer, USDOE,
29 Classification of Hanford Low-Activity Tank Waste Fraction, dated June 9, 1997).
30 While the requirement to provide such certification is an enforceable obligation of this
31 permit, the provision of such certification does not convey, or purport to convey,
32 authority to Ecology to regulate the radioactive hazards of the waste under this permit.

33 **III.11.I.7** IDF Operational Waste Acceptance Criteria.

34 **III.11.I.7.a** IDF operational activities (including decontamination, cleanup, and maintenance) will
35 generate a small amount of waste. Waste that can meet IDF waste acceptance without
36 treatment will be disposed of at the IDF. All other IDF operational waste will be
37 managed pursuant to WAC 173-303-200.

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2 **PART III, OPERATING UNIT 11 UNIT-SPECIFIC CONDITIONS**
3 **INTEGRATED DISPOSAL FACILITY**
4
5

6 This document sets forth the operating conditions for the Integrated Disposal Facility (IDF).

7 **III.11.A COMPLIANCE WITH APPROVED PERMIT**

8 The Permittees shall comply with all requirements set forth in the Integrated Disposal Facility (IDF)
9 Permit conditions, the Chapters and Appendices specified in Permit Condition III.11.A and the
10 Amendments specified in Permit Conditions III.11.B through III.11.I. All subsections, figures, and tables
11 included in these portions are enforceable unless stated otherwise:

12 OPERATING UNIT 11:

13	Chapter 1.0	Part A Form, dated October 1, 2008
14	Chapter 2.0	Topographic Map Description, dated September 30, 2014
15	Chapter 3.0	Waste Analysis Plan, dated June 30, 2013
16	Chapter 4.0	Process Information, dated December 31, 2008
17	Appendix 4A	Design Report (as applicable to critical systems), dated June 30, 2016
18	Appendix 4B	Construction Quality Assurance Plan, dated April 9, 2006
19	Appendix 4C	Response Action Plan, dated April 9, 2006
20	Appendix 4D	Construction Specifications (RPP-18489, Rev. 1), dated December 31, 2006
21	Chapter 5.0	Ground Water Monitoring, dated June 30, 2010
22	Chapter 6.0	Procedure to Prevent Hazards, dated June 20, 2013
23	Addendum J.1	Contingency Plan – Pre-Active Life, dated August 21, 2018 TBD
24	Addendum J.2	Contingency Plan – Active Life, dated March 31, 2016
25	Chapter 8.0	Personnel Training, dated September 30, 2014
26	Chapter 11.0	Closure, dated September 30, 2014
27	Chapter 13.0	Other Federal and State Laws, dated April 9, 2006

28 General and Standard Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit,
29 WA7890008967 (Permit) conditions (Part I and Part II Conditions) applicable to the IDF are identified in
30 Permit Attachment 9 (Permit Applicability Matrix).

31 **III.11.B AMENDMENTS TO THE APPROVED PERMIT**

32 **III.11.B.1** Portions of Permit Attachment 4, *Hanford Emergency Management Plan* that are not
33 made enforceable by inclusion in the applicability matrix for that document, are not made
34 enforceable by reference in this document.

35 **III.11.B.2** Permittees must comply with all applicable portions of the Permit. The facility and
36 unit-specific recordkeeping requirements are distinguished in the General Information
37 Portion of the Permit, and are tied to the Permit conditions.

38 **III.11.B.3** The scope of this Permit is restricted to the landfill construction and operation as
39 necessary to dispose of: 1) Immobilized Low Activity Waste (ILAW) from the WTP,
40 and 2) the Demonstration Bulk Vitrification System (DBVS) and IDF operational waste
41 as identified in Chapter 4.0. Future expansion of the RCRA trench, or disposal of other
42 wastes not specified in this Permit, is prohibited unless authorized via modification of
43 this Permit.