

**INTEGRATED DISPOSAL FACILITY
ADDENDUM F
PREPAREDNESS AND PREVENTION
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

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ADDENDUM F
PREPAREDNESS AND PREVENTION**

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ADDENDUM F
PREPAREDNESS AND PREVENTION

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ACRONYMS

DWMU	Dangerous Waste Management Unit
IDF	Integrated Disposal Facility
LCRS	Leachate Collection and Removal System
PPE	Personal Protective Equipment
RCRA	<i>Resource Conservation and Recovery Act of 1976</i>

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1 **F.1 INTRODUCTION**

2 This addendum addresses preparations and preventive measures in effect at the Integrated Disposal
3 Facility (IDF) dangerous waste management units (DWMUs) that comprise Operating Unit Group 11
4 of WA7890008967, Hanford Facility Resource Conservation and Recovery Act [RCRA] Permit
5 (hereinafter referred to as the Hanford Facility Resource Conservation and Recovery Act Permit). The
6 IDF provides storage, treatment, and disposal of mixed waste and non-dangerous low-level waste from
7 Hanford on-site generators. The IDF consists of four DWMUs: a storage pad, a treatment pad, and two
8 disposal cells. Descriptions of and details about the IDF DWMUs are provided in Addendum C,
9 “Process Information.”

10 The IDF is designed, constructed, maintained, and operated to minimize the possibility of damage caused
11 by fire, other emergency, or an unplanned release of dangerous waste or dangerous waste constituents to
12 air, soil, surface water, or groundwater that could threaten public health or the environment. This
13 addendum describes preparations and preventive measures that help avoid or mitigate such situations.
14 This addendum complies with requirements set forth in Washington Administrative Code
15 (WAC) 173-303-340, *Preparedness and prevention*, WAC 173-303-806 (4)(a)(viii) and (ix),
16 *Final facility permits*, and WAC 173-303-395(4), *Other general requirements*.

17 The requirements addressing the storage, treatment, and disposal of waste are applicable during the active
18 life of the IDF. The active life of the IDF is the period from the initial receipt of mixed waste at the IDF
19 until certification of final closure (WAC 173-303-040, *Definitions*). Although not defined by regulation,
20 in this addendum the pre-active life refers to the facility maintenance period between construction and the
21 start of active life.

22 **F.2 PREPAREDNESS AND PREVENTION REQUIREMENTS**

23 Preparedness and prevention requirements of WAC 173-303-340 are addressed in the following
24 subsections. Section F.2.1 describes the measures implemented during the pre-active life. Section F.2.2
25 identifies the measures taken at the IDF during the active life.

26 **F.2.1 Pre-Active Life**

27 During the pre-active life, the Permittees will comply with the *Hanford Emergency Management Plan*
28 (Permit Attachment 4), as applicable for a facility that does not contain dangerous waste. An emergency
29 coordinator assigned to the IDF will manage and control aspects of the initial facility response when an
30 emergency occurs.

31 **F.2.2 Active Life**

32 These subsections identify the measures implemented during the active life of the IDF.

33 **F.2.2.1 Required Equipment**

34 Equipment for communications, firefighting, spill control, and decontamination is available for use at the
35 IDF, in accordance with the requirements of WAC 173-303-340(1).

36 **F.2.2.1.1 Internal Communications**

37 Immediate emergency instruction to personnel working at the IDF will be provided by hand-held two-way
38 radios and/or cellular phones. During waste handling operations at IDF, all personnel involved will have
39 immediate access to hand-held two-way radios or cellular phones capable of direct emergency
40 communications with another employee. The communications devices described in this section meet the
41 internal communications requirements of WAC 173-303-340(1)(a), (1)(b), and (2)(a).

1 **F.2.2.1.2 External Communications**

2 As required by WAC 173-303-340(1)(b), the communications equipment (two-way radios or cellular
3 phones) is capable of contacting the Hanford Patrol Operations Center and Hanford Fire Department to
4 request assistance from local emergency response organizations. The Point of Contact for the Hanford
5 Patrol Operations Center can be contacted for 24-hour emergency communications and for information
6 relays by landline telephone, cellular phone, or two-way radio.

7 State and local response organizations are contacted through the Hanford Patrol Operations Center by
8 dialing emergency number 911 from site landline telephones, or (509) 373-0911 from cellular phones; or
9 for non-emergencies, by dialing the main contact number for the Hanford Patrol Operations Center at
10 (509) 373-3800. On-site responders are notified and/or dispatched through the Hanford Patrol
11 Operations Center.

12 In the instance that there is only one employee at an IDF DWMU during operations, the individual will
13 have immediate access to a hand-held two-way radio or cellular phone capable of summoning external
14 emergency assistance. [WAC 173-303-340(2)(b)]

15 **F.2.2.1.3 Emergency Equipment**

16 IDF personnel are trained in the use of emergency equipment. Addendum G, "Personnel Training,"
17 provides details for IDF personnel emergency training.

18 IDF relies on the Hanford Fire Department to respond to fires and other emergencies, as described in the
19 *Hanford Emergency Management Plan* (Permit Attachment 4). IDF emergency equipment, required by
20 WAC 173-303-340(1)(c), is identified in Addendum J, "Contingency Plan." Testing and maintenance of
21 equipment to assure proper operation in time of emergency [per WAC 173-303-340(1)(d)] is addressed in
22 Addendum I, "Inspection Plan."

23 **F.2.2.2 Water for Fire Control**

24 The primary water supply for fire protection is provided from the 200 East Area raw water distribution
25 system. Fire hydrants are located north of each of the IDF disposal cells and west of Disposal Cell 1 and
26 provide water at adequate volume and pressure to supply fire control equipment. When needed, the
27 Hanford Fire Department will use these hydrants to supply water for fire control equipment and fire
28 suppression.

29 **F.2.2.3 Aisle Space Requirement**

30 Container storage at IDF will occur on both the storage pad and treatment pad. A minimum aisle spacing
31 of 76 cm (30 in) is used on the pads, meeting the requirements in WAC 173-303-630(5)(c), *Use and*
32 *management of containers*. In accordance with WAC 173-303-340(3), this aisle spacing is maintained to
33 allow for the unobstructed movement of personnel and equipment during emergency situations
34 (e.g., container-moving equipment and pallets are cleared from aisles when not in use). Rows of
35 containers are no more than two containers wide. Aisle spacing requirements described in this section do
36 not apply to the IDF disposal cells.

37 **F.3 PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT**

38 The following subsections address preventive procedures, structures, and equipment in effect at the IDF
39 during the active life.

40 **F.3.1 Container Loading, Unloading, and Handling Preventive Measures**

41 Containers may be loaded or unloaded from transport vehicles on the IDF storage and treatment pads.
42 Land disposal restriction compliant containers may be moved directly into the disposal cells. To minimize
43 the potential for container damage or accidental opening during loading, unloading, and/or handling
44 operations, the following preventive measures are observed by IDF personnel:

- 1 • Containers are U.S. Department of Transportation or U.S. Department of Energy compliant.
- 2 • Operators conduct physical inspections for container damage and abnormal appearance. The
- 3 inspections are performed prior to loading and unloading operations.
- 4 • Containers, including long length, are handled by equipment appropriate for unloading and
- 5 container movement (e.g., forklift, high weight capacity forklift, or crane).
- 6 • Waste is not loaded or unloaded without the approval of IDF operations supervision.
- 7 • Pathways from unloading locations to storage, treatment, or disposal areas are kept clear of
- 8 obstructions.
- 9 • Transport vehicles are positioned in a manner that provides an unobstructed work space to load
- 10 and offload containers.
- 11 • Containers stored on the pads are moved into the disposal cells or to an alternate location
- 12 (e.g., a different on-site or off-site treatment, storage, and disposal facility) as soon as is practical.
- 13 • Collected wastes resulting from spills and leaks are removed, as soon as possible, in a manner
- 14 that prevents release of dangerous waste constituents.
- 15 • Operators must comply with container stacking, aisle spacing, and segregation requirements.

16 **F.3.2 Prevention of Run-on, Runoff, and Contamination of Water Supplies**

17 The design and/or operation of the IDF storage pad, treatment pad, and disposal cells are intended to
18 mitigate run-on and runoff, minimize the generation of potentially contaminated leachate or liquids, and
19 prevent migration into local groundwater resources. Detailed descriptions of the design, construction, and
20 operation of each DWMU are provided in Addendum C. A general description for preventing run-on,
21 runoff, and contamination of water supplies and groundwater is provided in the following subsections.

22 **F.3.2.1 Integrated Disposal Facility Disposal Cells**

23 Each disposal cell was designed, constructed, and installed in accordance with WAC 173-303-665,
24 *Landfills*, to prevent migration of wastes out of the landfill to the adjacent subsurface soil, groundwater,
25 or surface water at any time during the active life of the landfill. The liner systems are constructed of
26 materials that prevent wastes from passing through the liner during the active life of the facility.

27 Run-on is controlled by drainage ditches or berms around the perimeter of the lined landfill. The drainage
28 ditches or berms were constructed with conventional earthmoving equipment such as graders and small
29 dozers. Any overland flow approaching the landfill is intercepted by the ditches or berms and conveyed to
30 suitable discharge points. Ditches and berms are designed to handle the peak 25-year flow from the
31 potential drainage area. By using low channel slopes, design flow velocities in the ditches will be
32 maintained below established limits for sand channels.

33 Between the landfill crest and the perimeter road, the area is graded to provide drainage toward the
34 perimeter road. The perimeter road is sloped outward, at a grade of approximately 2 percent, to provide
35 drainage away from the landfill.

36 Precipitation falling on the disposal cells is removed by either evaporation or the Leachate Collection and
37 Removal System (LCRS). Precipitation that percolates to the bottom of the trench is captured in the
38 LCRS and is managed as rainwater during the pre-active life following the pollution prevention and best
39 management practices in State Waste Discharge Permit Number ST 4511. During the active life, these
40 liquids will be managed as multi-source leachate waste (F039). No runoff from the disposal cells is
41 expected because the cells are constructed below grade.

1 **F.3.2.2 Integrated Disposal Facility Storage and Treatment Pads**

2 Containers with free liquids or holding ignitable, reactive, or incompatible wastes are not accepted at the
3 IDF. Run-on into and runoff away from the IDF storage and treatment pads are prevented by one or more
4 of the following characteristics:

- 5 • Engineering controls, such as perimeter curbs, to prevent run-on.
- 6 • Elevated or otherwise graded foundations slope away from the pads to prevent and/or divert
7 run-on from adjacent areas.
- 8 • Positive drainage control design to preclude runoff.
- 9 • Storage areas may utilize equipment (e.g., spill pallet and pallet) to elevate containers.

10 Storage areas and containers are inspected weekly for integrity during the active life of the facility in
11 accordance with WAC 173-303-630 (see Addendum I, "Inspection Plan").

12 **F.3.3 Equipment and Power Failure**

13 Loss of electrical power at IDF does not constitute an emergency. Electricity supplies power to the sump
14 pumps used to remove accumulated leachate from the primary and secondary liners of the IDF disposal
15 cells. Electrical power outages will be restored as soon as possible. Backup equipment will be acquired, if
16 necessary, to provide electrical service. Failed equipment will be repaired or replaced as soon as possible.

17 **F.3.4 Personal Protective Equipment**

18 IDF minimizes personnel exposure to occupational injury, dangerous wastes, and hazardous chemicals by
19 ensuring the availability and use of adequate personnel protective equipment (PPE) during normal
20 operations and emergencies. Personnel are required to wear PPE specified by work authorization
21 documentation in accordance with training, posted requirements, and administrative instructions when
22 working at the IDF DWMUs. PPE required during the active life varies, depending on the form, content,
23 and waste handling activities. When possible, engineering and/or administrative controls are first
24 implemented to minimize the possibility of exposure.

25 **F.4 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND/OR**
26 **INCOMPATIBLE WASTE**

27 Waste acceptance requirements prohibit the storage, treatment, and disposal of ignitable, reactive,
28 and/or incompatible waste at IDF. Addendum B, "Waste Analysis Plan," identifies measures to prevent
29 the storage, treatment, and final disposal of ignitable, reactive, and incompatible waste.

30 If, during waste profile or waste acceptance reviews, ignitable, reactive, and/or incompatible wastes are
31 identified, then the submitted waste stream or profile will be rejected, and the affected waste will be
32 prohibited at IDF. In the instance that ignitable, reactive, or incompatible waste is discovered during the
33 course of storage or treatment of containers at the IDF storage and treatment pads, such waste will be
34 segregated and managed pursuant to the requirements of WAC 173-303-395(1).

35 **F.5 PREVENTION OF RELEASES TO THE ATMOSPHERE**

36 Reasonable precautions are taken at the IDF to prevent releases to the atmosphere. Waste at the IDF is
37 containerized and disposed in closed containers. Containers may contain vents, if required, and potential
38 emissions will be managed in accordance with applicable air permits. Particulate matter emissions at IDF
39 will be managed via dust control, such as periodic watering or use of soil stabilization products. Periodic
40 watering may be used for excavations, backfill, haul roads, and other disturbed areas that show signs of
41 blowing dust. Soil stabilization products may be used to mitigate wind and water erosion of areas
42 disturbed by operations. Waste covering activities and storage pile work will be curtailed during high
43 winds.

1 **F.6 ARRANGEMENTS WITH LOCAL AUTHORITIES**

2 Written emergency assistance agreements are in place with local authorities that include arrangements to
3 provide local hospitals, police departments, fire departments, and city and county emergency response
4 teams with Hanford Facility information. The response agreements designate primary emergency
5 authority in accordance with WAC 173-303-340(4)(a) through (d). Hanford Facility agreements with state
6 emergency response teams, emergency response contractors, and equipment suppliers are addressed in the
7 *Hanford Emergency Management Plan* (Permit Attachment 4). If state or local authorities decline to enter
8 into a response agreement or arrangement with the Hanford Facility, the Permittees will record the refusal
9 in the IDF portion of the Hanford Facility Operating Record, as required by Hanford Facility RCRA
10 Permit Condition II.I.1.g. [WAC 173-303-340(5)]

11 **F.7 REFERENCES**

12 *Resource Conservation and Recovery Act of 1976*, 42 U.S.C. 6901, et seq. Available at:
13 <http://www.epa.gov/rcraonline/>.

14 State Waste Discharge Permit Number ST0004511 (Miscellaneous Streams), Washington State
15 Department of Ecology, Olympia, Washington. Available at:
16 <https://fortress.wa.gov/ecy/nwp/permitting/WWD/>.

17 WA7890008967, Hanford Facility Resource Conservation and Recovery Act Permit, as amended,
18 Washington State Department of Ecology, Richland, Washington. Available at:
19 <https://fortress.wa.gov/ecy/nwp/permitting/hdwp/rev/8c/index.html>.

20 WAC 173-303, *Dangerous Waste Regulations*, Washington Administrative Code, Olympia, Washington.
21 Available at: <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303>.

22 303-040, *Definitions*.

23 303-340, *Preparedness and prevention*.

24 303-395, *Other general requirements*.

25 303-630, *Use and management of containers*.

26 303-665, *Landfills*.

27 303-806, *Final facility permits*.

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