

AR TARGET SHEET

The following document was too large to scan as one unit; therefore, it has been broken down into sections.

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Permit for Treatment Storage and
Disposal of Dangerous Waste
(Part 2 of 2)

EDMC# 0054507

SECTION 1 of 5

Enclosure 11
Class 1 Permit Modifications through September 30, 2000

0054507
Part 2 of 2

Hanford Facility RCRA Permit

**Part III, Chapter 2 and Attachment 18
305-B Storage Facility**

Page Changes

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Chapter 2

Chapter 12

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11

2.0 FACILITY DESCRIPTION AND GENERAL PROVISIONS [B]

This chapter briefly describes the Hanford Site and provides a general overview of the 305-B unit, including:

- Topography
- Location information
- Traffic information
- Performance standards
- Buffer monitoring zones
- Spills and discharges
- Manifest system.

2.1 GENERAL DESCRIPTION [B-1]

This section provides a general description of the Hanford Site and the 305-B Storage Unit.

2.1.1 The Hanford Site

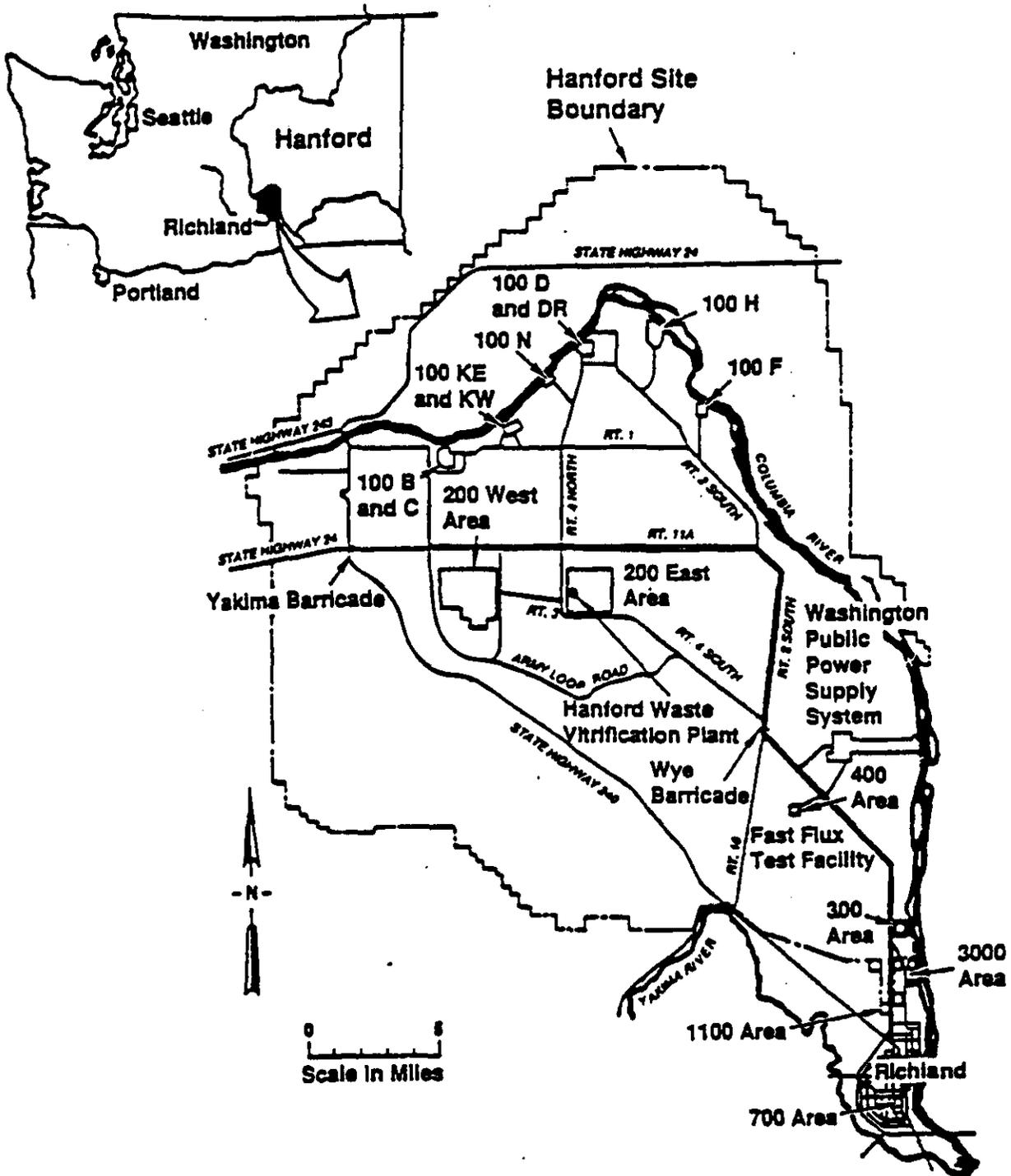
The Hanford Site consists of approximately 560 square miles (1450 square km) of semi-arid land that is owned by the U.S. Government and managed by DOE-RL. This site is located northwest of the City of Richland, Washington, along the Columbia River (Figure 2-1). The City of Richland adjoins the southernmost portion of the Hanford Site boundary and is the nearest population center. In early 1943, the U.S. Army Corps of Engineers selected the Hanford Site as the location for reactor, chemical separation, and related facilities for the production and purification of plutonium. A total of eight graphite-moderated reactors using Columbia River water for once-through cooling were built along the river. These reactors were operated from 1944 to 1971.

N Reactor, a dual-purpose reactor for production of plutonium and generation of byproduct steam for production of electricity, uses recirculating water coolant. N Reactor began operating in 1963 and was placed in permanent shutdown status in 1991.

Activities are centralized in numerically designated areas on the Hanford Site. The reactor facilities (active and decommissioned) are located along the Columbia River in the 100 Areas. The reactor fuel processing and waste management facilities are located in the 200 Areas, situated on a plateau about 7 miles (11.2 km) from the river. The 300 Area, located north of Richland, contains mostly reactor fuel manufacturing facilities and research and development laboratories. The 400 Area, 5 miles (8 km) northwest of the 300 Area, contains the Fast Flux Test Facility. The 1100 Area, north of Richland, contains buildings associated with maintenance and transportation functions for the Hanford Site. Administrative buildings and other research and development laboratories are found in the 3000 Area, also north of Richland. Administrative buildings are also located in the 700 Area in downtown Richland.

1

Figure 2-1 . Hanford Site Location



1 **2.1.2 The 305-B Storage Unit**

2 The 305-B Storage Unit is a dangerous waste and RMW storage unit owned and operated by DOE and
3 co-operated by PNL. The unit is used for the collection, consolidation, packaging, storage, and
4 preparation for transport and disposal of both dangerous waste and RMW. It is an integral part of the
5 Hanford Site's waste management system.

6 The 305-B unit is a one-story frame and masonry building with basement constructed in the early 1950s,
7 with an attached two-story-high metal and concrete building constructed in January 1978, referred to in
8 this document as the "high bay." The unit is located within the 300 Area, as shown in Figure 2-2, and was
9 formerly used for engineering research and development. Unit upgrades were completed in 1988 to meet
10 requirements for storage of dangerous waste and RMW. Waste storage under interim status began in
11 March 1989.

12 A variety of small volume chemical wastes are generated by PNL's research laboratory activities under
13 contract to DOE. These wastes are brought to the 305-B unit and segregated by compatibility for storage
14 in the unit until enough waste is accumulated to fill a labpack or bulking container, usually a 30- to 55-
15 gallon drum. When a sufficient number of shipping containers of waste has accumulated, they are
16 manifested for shipment, generally to permitted off-site recycling, treatment or disposal facilities.

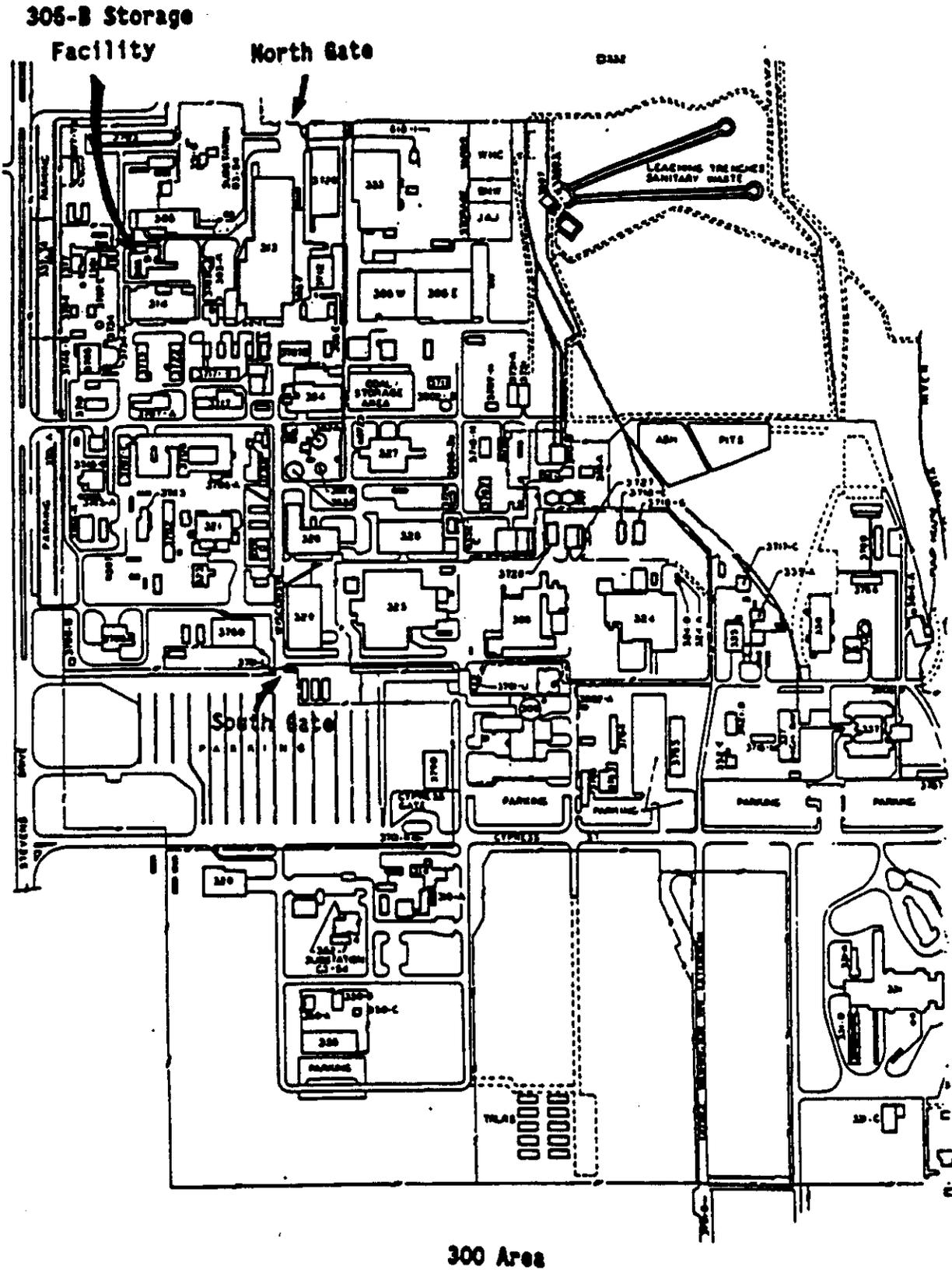
17 Dangerous wastes are stored in the high bay. The high bay has been equipped with a secondary
18 containment system to facilitate storage of containerized wastes. In addition, four storage "cells" have
19 been constructed within the high bay area for segregated storage of incompatible waste streams. Each of
20 the cells is approximately 14' x 14', enclosed by 4' high concrete block walls; each cell has its own
21 separate secondary containment system. Drum-quantity storage for incompatible wastes has also been
22 provided in separate areas in the southeast corner of the high bay.

23 Radioactive mixed waste (RMW) is stored in the basement of the original wing of the building in an area
24 approximately 18' x 32'. The RMW area is also equipped with a secondary containment berm to prevent
25 migration of spilled wastes. Flammable RMW cannot be stored below grade (per Uniform Fire Code)
26 and is stored in an independent area on the first floor of the original wing in individual secondary
27 containment structures.

28 The 305-B unit is equipped with a heating, ventilation and air conditioning (HVAC) system to provide
29 relatively constant temperatures during storage of dangerous wastes. The first floor of the older building
30 and the high bay are served by a dual-compressor heat pump system for both heating and air conditioning.
31 The basement area is served by a separate electric heating and evaporative cooling combined system.
32 These systems, detailed in Plates 4-10 through 4-14 of Appendix 4A, are adequate to maintain interior
33 temperatures in the range of 50-85°F during normal ambient temperatures of 10-110°F.

1

Figure 2-2. Location of 305-B Storage Unit



1 In addition, the unit utilizes a local exhaust system for "bulking" as described in Section 4.1.1.2. This
2 system is located in the flammable liquid bulking module. Local exhaust of 3300 CFM is provided
3 during bulking operations. Another, smaller ventilation system, referred to as the "elephant trunk
4 ventilation system," is located in the high bay storage cell areas for occasional bulking of solids or
5 nonflammable liquids not requiring use of the flammable liquid bulking module. This system has a
6 ventilation capacity of 1550 CFM. These local exhaust systems are detailed in Plates 4-13 and 4-14 of
7 Appendix 4A. A smaller, laboratory-style fume hood has also been installed on the south wall of the high
8 bay for compatibility testing and small-volume waste work.

9 A simplified building layout is shown in Figure 2-3. Individual storage cells are described in Section 4.1.

10 2.2 TOPOGRAPHIC MAP [B-2]

11 Topographic maps of the Hanford Site and 300 Area are provided in Appendix 2A. Information
12 presented on these maps is discussed in the following sections.

13 2.2.1 General Requirements [B-2a]

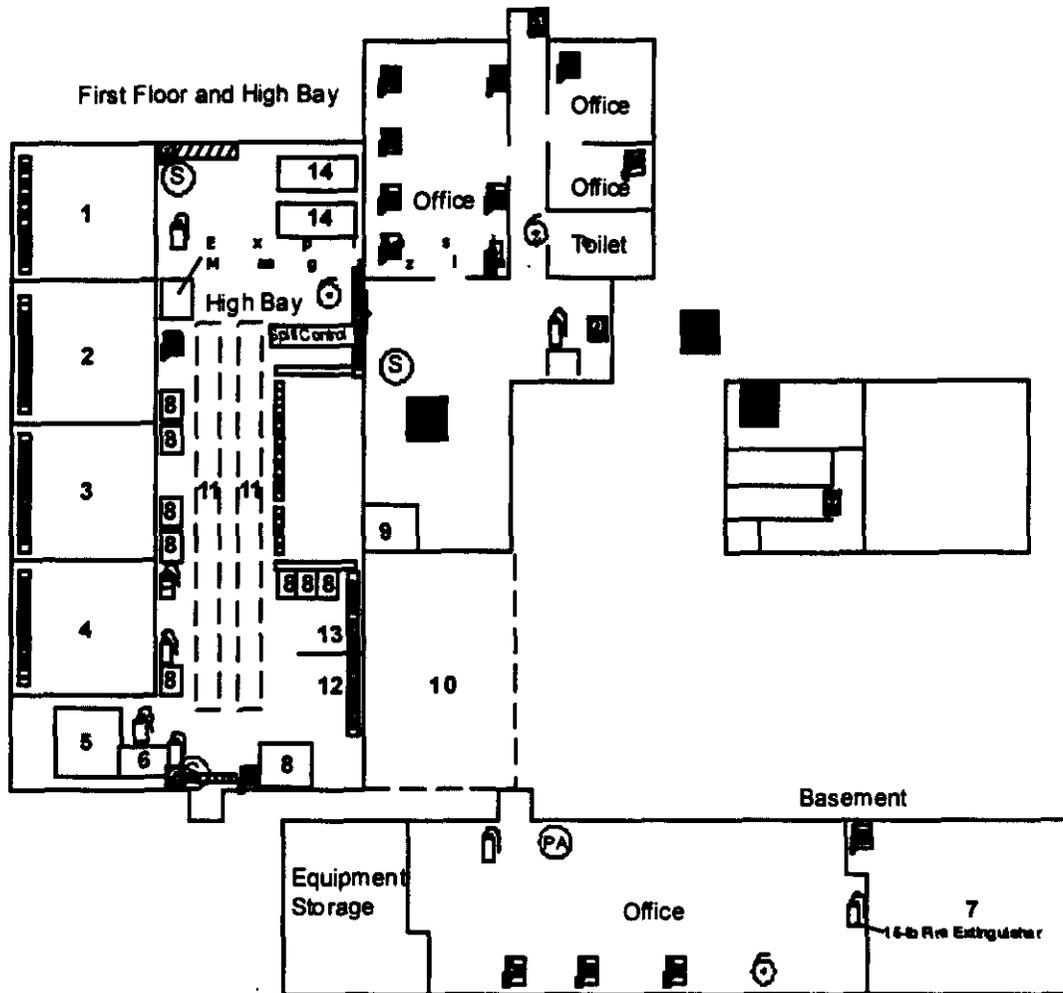
14 Plate 2-1 in Appendix 2A is a general overview map of the Hanford Site property and the surrounding
15 countryside. This figure is intended as a location map and illustrates the following:

- 16 ▪ The facility boundary of the Hanford Site
- 17 ▪ Surrounding land use including the Saddle Mountain National Wildlife Refuge and the State
18 Game Reserve to the north, the City of Richland to the south, Rattlesnake Mountain Arid
19 Lands Ecology (ALE) Reserve located to the west, and farmlands or Game Reserves to the
20 east
- 1 ▪ Contours sufficient to show surface water flow
- 22 ▪ Locations of the various Areas described in Section 2.1.1
- 23 ▪ Fire control facilities located on the Hanford Site
- 24 ▪ Locations of access roads, internal roads, railroads, and perimeter gates and barricades
- 25 ▪ Latitudes and longitudes.

26 Plates 2-2 through 2-9 in Appendix 2A provide a detailed representation of the Hanford 300 Area where
27 the 305-B Storage Unit is located. These maps provide a detailed profile of the unit and a distance of
28 1,000 ft around it at a scale noted on the drawings. Contour intervals are shown at every foot, and
29 provide sufficient detail of surface waters and flow, access control, buildings, structures, fire control
30 facilities, etc., to meet the requirements of WAC 173-303-806(4)(a)(xviii) (Ecology 1989).

1

Figure 2-3. 305-B Storage Unit Floor Plan



Legend

- 1. Acids, Oxidizers
- 2. Poisons, Class 9's
- 3. Alkalines, WSDW, Organic Peroxides
- 4. Organics and Compressed Aerosols
- 5. Flammable Liquid Bulking Module and compressed gases
- 6. Asbestos Cabinet
- 7. RMW Storage Cell
- 8. Flammable Storage
- 9. Small Quantity Flammable RMW
- 10. Outdoor Non-Regulated Drum Storage
- 11. WSDW/ORM/Non-Reg Drums
- 12. Oxidizer Drums
- 13. Acid Drums
- 14. Alkaline Drums

- (S) Safety Shower/Eyewash
- ☎ Phone
- 🔔 Fire Alarm Bell
- 🚒 Fire Alarm Pull Box
- 🧯 14-lb Halon Fire Extinguisher
- 🧯 10-lb ABC Fire Extinguisher
- 🧯 15-lb Class D Fire Extinguisher
- 🚪 Removable Access to Basement
- 🧰 Emergency Equipment Cabinet
- 🔍 Collection Sumps

1 Figure 2-4 illustrates wind roses for various locations on the Hanford Site. Winds are predominately from
2 the west.

3 **2.2.2 Additional Requirements for Land Disposal Facilities [B-2b]**

4 Because 305-B is used only for the storage of dangerous waste and not waste disposal to land, these
5 requirements are not applicable.

6 **2.3 LOCATION INFORMATION [B-3]**

7 The 305-B Storage Unit is located in the northwest corner of the 300 Area, as shown in Figure 2-2. The
8 following sections contain information related to the location requirements for dangerous waste facilities.

9 **2.3.1 Seismic Consideration [B-3a]**

10 The 305-B Storage Unit is located in Benton County, Washington, and is not within one of the political
11 jurisdictions identified in Appendix VI of Title 40 Code of Federal Regulations (CFR) Part 264 (EPA
12 1988). Therefore, no further demonstration of compliance with the seismic standard is required.

13 **2.3.2 Floodplain Standard [B-3b]**

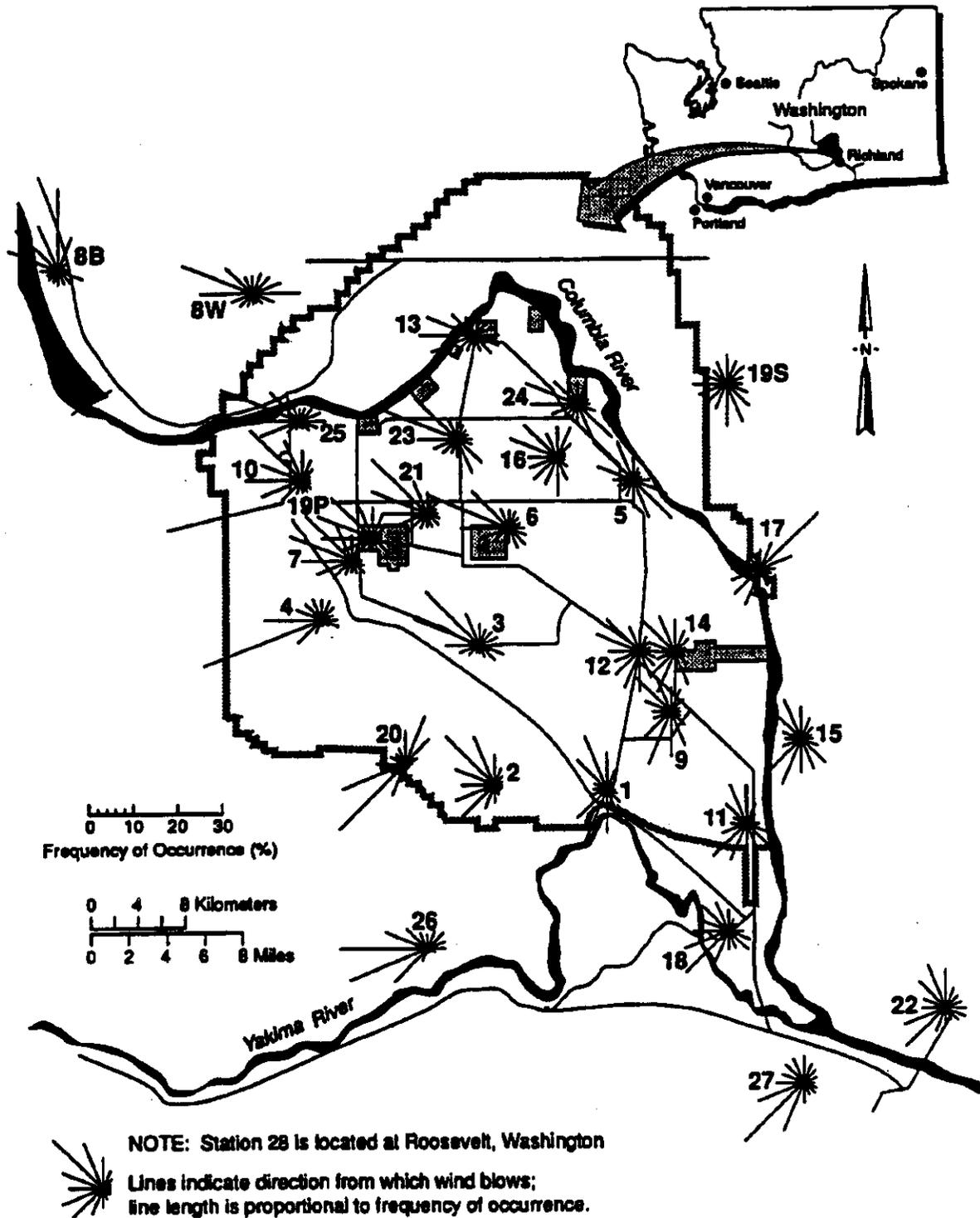
14 The 305-B Storage Unit is located in the 300 Area, which is adjacent to the Columbia River,
15 approximately at river mile 345. Floods of the Columbia River were, therefore, considered for
16 determining compliance with floodplain standards. Floods of other water bodies (i.e., the Yakima River,
17 ephemeral streams on the Hanford Site) were not considered because of their great distance when
18 compared to the distance to the Columbia River.

19 One hundred-year floodplains are identified in flood insurance rate maps developed by the Federal
20 Emergency Management Agency (FEMA). The FEMA maps for Benton County, Washington, do not
21 include the Hanford Site. Determination of whether 305-B is located in a 100-year floodplain, therefore,
22 was made by comparing the land surface elevation at 305-B with the nearest downstream 100-year flood
23 base elevation identified on the FEMA maps for Benton County. The nearest 100-year floodplain
24 identified on the Benton County FEMA maps is at Columbia Point, approximately nine miles downstream
25 of 305-B at river mile 336. The FEMA map for this area (FEMA 1982) identifies a 100-year flood base
26 elevation of 352 ft above mean sea level (AMSL). This elevation is significantly below the elevation of
27 305-B, which is 387 ft AMSL (see topographic maps in Appendix 2A).

28 The potential for the 305-B to be inundated during a flood was also evaluated by comparison to the
29 maximum probable flood for the Columbia River, which is greater than the 100-year flood level.

1

Figure 2-4. Wind Roses for the Hanford Site



1 The Army Corps of Engineers (COE) has calculated the probable maximum flood for the Columbia River
2 based on the upper limit of precipitation falling on a drainage area and other hydrologic factors such as
3 antecedent moisture conditions, snowmelt, and tributary conditions that could lead to maximum run-off.
4 The probable maximum flood for the Columbia River below Priest Rapids Dam has been calculated to be
5 1.4 million cubic feet per second (COE 1969). This flow would result in flood elevations of 423 ft AMSL
6 at the 100-N Area and 384 ft AMSL at the 300 Area. Figure 2-5 shows those portions of the Hanford Site
7 which would be affected by the probable maximum flood. The location of 305-B is at 387 AMSL.
8 Because the unit is constructed on relatively flat topography, the 3-ft differential between the maximum
9 flood level and the elevation of the storage facility corresponds to an areal separation of approximately
10 1,500 ft. Therefore, the location of 305-B is safe from flooding and thus meets the floodplain standard.

11 **2.3.2.1 Demonstration of Compliance [B-3b(1)].**

12 Because the location of the 305-B Storage Unit is not within the boundary of the 100-year floodplain, no
13 demonstration of compliance is required.

14 **2.3.2.1.1 Flood Proofing and Flood Protection Measures [B-3b(1)(a)].** Because the 305-B Storage
15 Unit is not within the boundary of the 100-year floodplain, no demonstration of compliance is required.

16 **2.3.2.1.2 Flood Plan [B-3b(1)(b)].** Because the 305-B Storage Unit is not within the boundary of the
17 100-year floodplain, no demonstration of compliance is required.

18 **2.3.2.2 Plan for Future Compliance With Floodplain Standard [B-3B(2)]**

19 Because the location of the 305-B Storage Unit is not within the boundary of the 100-year floodplain, no
20 demonstration of compliance is required.

21 **2.3.3 Shoreline Standard [B-3c]**

22 The 305-B Storage Unit is not located within "shorelines of the state" or "wetlands" as defined in the
23 Shoreline Management Act of 1971 (Revised Code of Washington [RCW] 90.58.030[2]). 305-B is
24 located approximately 2,600 ft from the Columbia River (a "shoreline of state-wide significance" as
25 defined in the Shoreline Management Act), but is not within the wetland area (i.e., within 200 ft of the
26 high water mark).

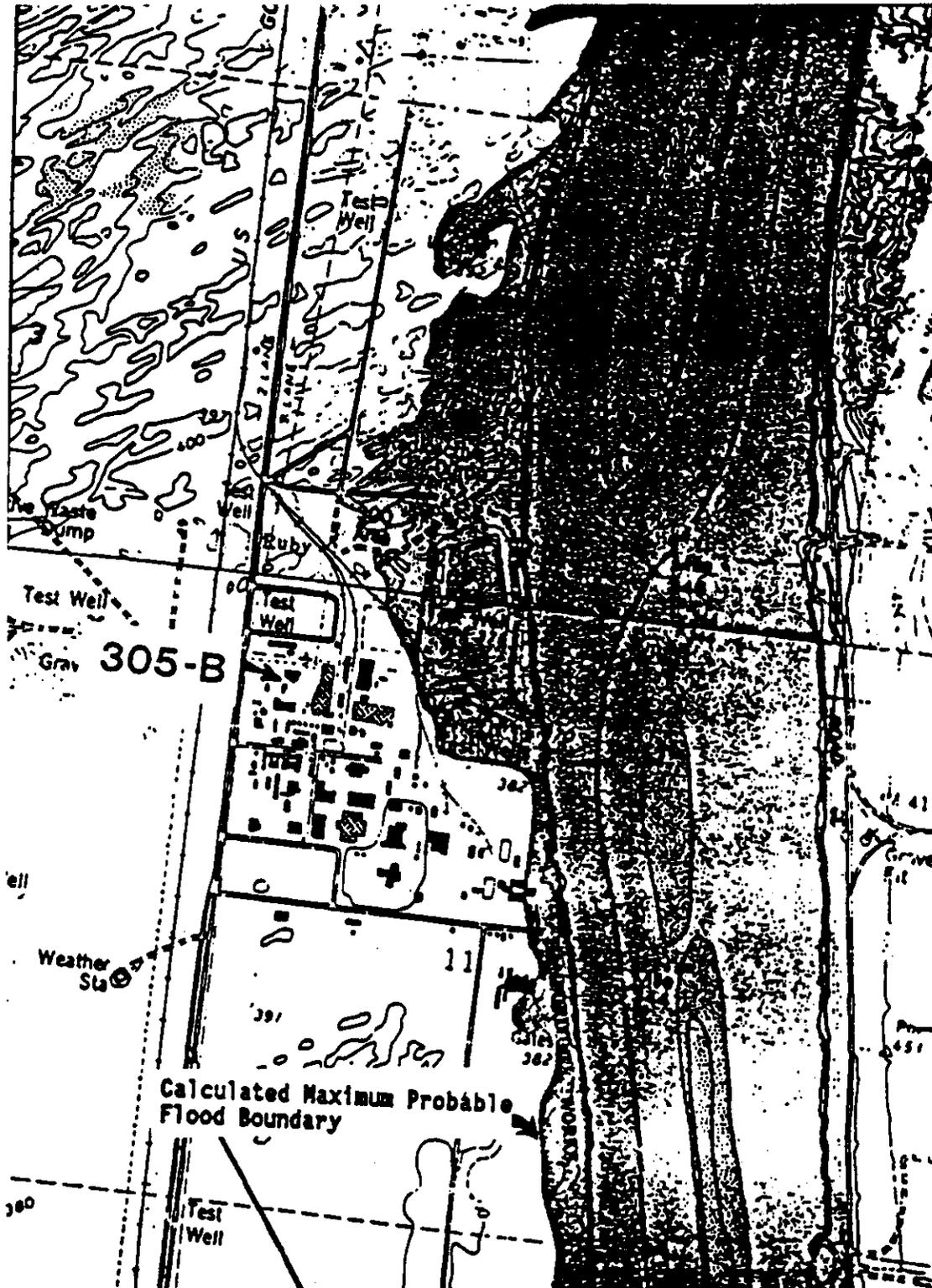
27 The Hanford Site is owned by the U.S. Government and operated by DOE-RL. The Hanford Site has
28 been used for production and test reactor operations and related activities since 1943. The Hanford Site is
29 not classified as natural, conservancy, rural, or residential.

30 **2.3.4 Sole Source Aquifer Criteria [B-3d]**

31 The 305-B Storage Unit is not located over a sole source aquifer as defined in Section 1424(e) of the Safe
32 Drinking Water Act of 1974.

1

Figure 2-5. Corps of Engineers Calculated Floodplain



2

2.4 TRAFFIC INFORMATION [B-4]

The DOE-controlled Hanford Site is traversed by numerous primary and secondary roads as shown by Figure 2-6. The DOE roadways inside the site, except for Routes 4S and 10 south of the Wye Barricade, are restricted to authorized personnel and cannot be accessed by the general public. The majority of the site traffic consists of light duty vehicles. Primary routes include Routes 4S, 10, 4N, 2N, 1, 6, 11A, as well as various avenues within the site boundary. The primary routes are constructed of bituminous asphalt (usually 2 in. thick, but the thickness of the asphalt layer will vary with each road) with an underlying aggregate base in accordance with U.S. Department of Transportation (DOT) requirements. The secondary routes are constructed of layers of an oil and rock mixture with an underlying aggregate base. The aggregate base consists of various types and sizes of rock found on site. Currently, no load-bearing capacities of these roads are available; however, loads as large as 140 pounds per square in. have been transported without observable damage to road surfaces. Access to the 300 Area by vehicular traffic is by Stevens Drive and George Washington Way. Traffic on Stevens Drive consists of personal vehicles, buses for the transport of personnel to and from work, and light duty trucks for the transport of materials. Traffic on George Washington Way consists almost exclusively of personal vehicles.

Wastes generated at other onsite facilities outside the 300 Area are transported over Government-maintained roads as shown in Figure 2-6. These roads are accessible to the general public only south of the Wye Barricade as shown in the figure. In addition, waste shipments from 305-B to offsite treatment, disposal or recycling facilities are generally shipped over publicly accessible roads enroute to the consignee.

Wastes generated at laboratories within the 300 Area are transported to 305-B principally over roads which are not accessible to the general public. All access to the 300 Area (except the outer parking lot) is controlled by DOE and limited to site personnel holding appropriate clearances. In the immediate area of the 305-B unit, vehicular traffic is limited to vehicles on official business. Traffic destined for the 305-B unit travels over roads designed to handle truck traffic. Traffic in and out of the unit averages 1-5 vehicles per day. Traffic destined for adjacent facilities averages 10-15 vehicles per day and ranges from passenger cars to heavy trucks. All roads within the 300 Area are paved, all-weather roads. There are no traffic signals within the 300 Area.

2.5 PERFORMANCE STANDARD [B-5]

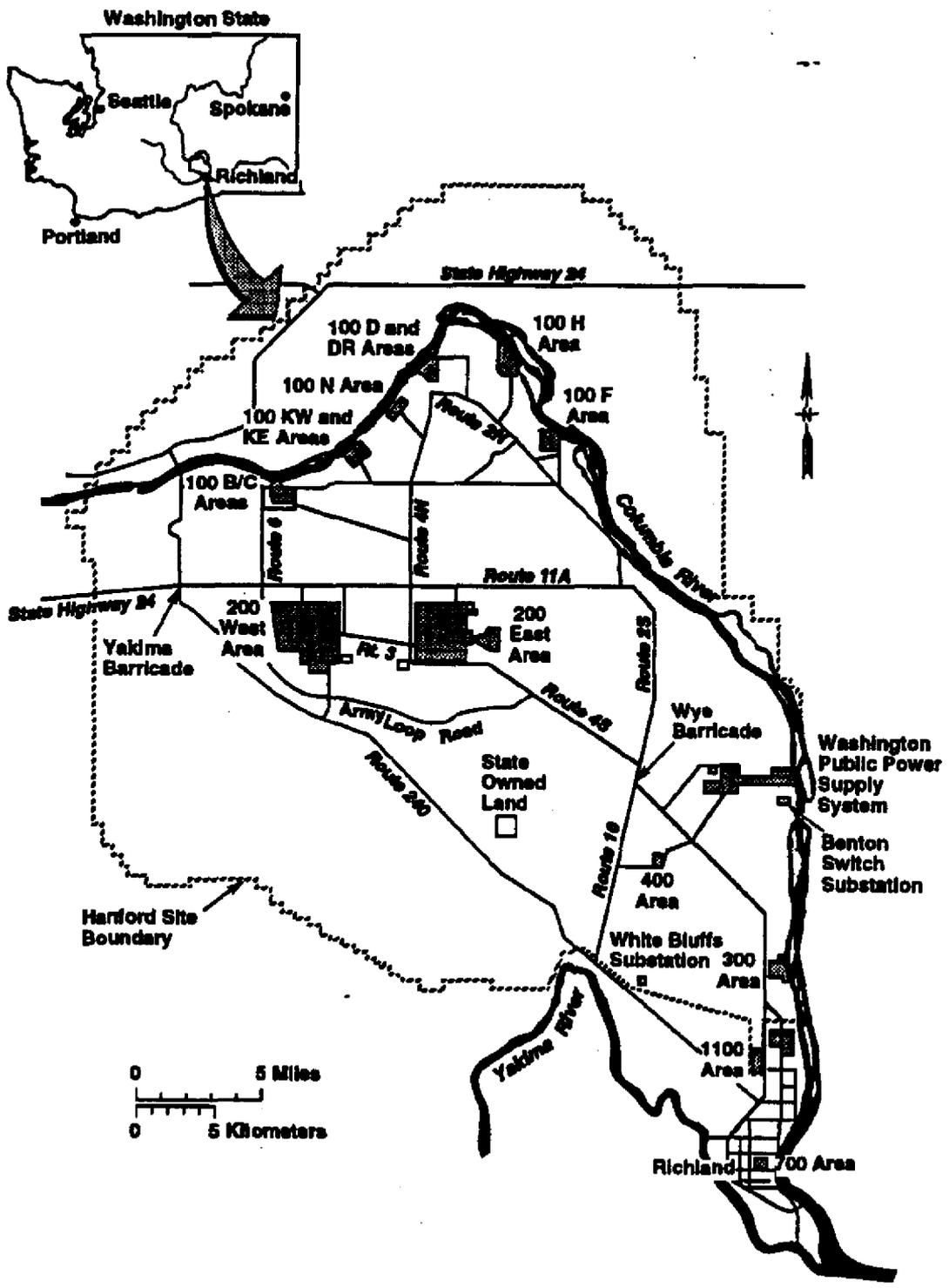
The 305-B Storage Unit was designed to minimize the exposure of personnel to dangerous wastes and hazardous substances and to prevent dangerous wastes and hazardous substances from reaching the environment.

In addition, measures are taken to ensure that 305-B is maintained and operated, to the maximum extent practicable given the limits of technology, in a manner that prevents:

- Degradation of groundwater quality
- Degradation of air quality by open burning or other activities
- Degradation of surface water quality
- Destruction or impairment of flora or fauna outside of the facility
- Excessive noise
- Negative aesthetic impacts
- Unstable hillsides or soils

1

Figure 2-6. Hanford Site Primary and Secondary Roads



2

- 1 ▪ Use of processes that do not treat, detoxify, recycle, reclaim, and recover waste material to
2 the extent economically feasible
- 3 ▪ Endangerment to the health of employees or the public near the facility.
- 4 The measures taken to prevent each of the above negative effects from occurring are described in the
5 following sections.

6 **2.5.1 Measures to Prevent Degradation of Groundwater Quality**

7 Degradation of groundwater quality is prevented by storing waste containers within an enclosed building
8 with a sealed concrete floor. All drains and sumps in areas where wastes are stored are blocked to prevent
9 release of spilled material to the environment. The 305-B accepts only those packages meeting applicable
10 DOT requirements. Opening of containers is done only in areas with spill containment. Design and
11 administrative controls significantly reduce the possibility of release of dangerous waste to the
12 environment through soil or groundwater contamination.

13 **2.5.2 Measures to Prevent Degradation of Air Quality by Open Burning or Other Activities**

14 No open burning occurs at 305-B. There is no vegetation around 305-B and the area around the facility is
15 paved or graveled, thereby reducing the risk of fire or wind erosion. Combustible and flammable waste is
16 packaged in a manner that reduces the potential for fire.

17 **2.5.3 Measures to Prevent Degradation of Surface Water Quality**

18 The potential for degradation of surface water quality is extremely low, due to the manner in which the
19 facility is designed and operated. All waste handling activities (i.e., loading/unloading, container
20 opening, waste transfer) presenting the opportunity for spills are conducted inside the unit. All exits from
21 storage areas of 305-B are equipped with spill collection sumps to prevent spilled material from escaping.

22 **2.5.4 Measures to Prevent Destruction or Impairment of Flora or Fauna Outside of the Facility**

23 305-B is located within the 300 Area. The 300 Area is highly developed and areas not occupied by
24 buildings are generally paved or graveled. As a result, flora or fauna are generally absent within the 300
25 Area except for several grassed areas. Measures to prevent destruction or impairment of flora or fauna
26 outside the 300 Area are the same as those to prevent releases from the unit (i.e., all waste handling is
27 performed within an enclosed area having spill collection sumps).

28 **2.5.5 Measures to Prevent Excessive Noise**

29 During normal operations at 305-B excessive noise is not generated. The major sources of noise are
30 waste transport and handling equipment (i.e., forklifts, light vehicles). The noise generated at 305-B is
31 compatible with the types of activities generated at neighboring facilities in the 300 Area.

32 **2.5.6 Measures to Prevent Negative Aesthetic Impacts**

33 305-B does not injure or destroy the surrounding flora and fauna. The facility stores waste in approved
34 DOT containers within the confines of the structure. The building's appearance is similar to neighboring
35 facilities. For these reasons, the facility presents no negative aesthetic impacts.

36 **2.5.7 Measures to Prevent Unstable Hillsides or Soils**

37 There are no naturally unstable hillsides near 305-B. The soil beneath and around the facility was
8 compacted prior to construction.

1 **2.5.8 Measures to Prevent the Use of Processes That Do Not Treat, Detoxify, Recycle, Reclaim,**
2 **and Recover Waste Material to the Extent Economically Feasible**

3 The 305-B unit was established, in part, to enhance DOE's and PNL's efforts to eliminate or minimize
4 dangerous waste generation, and to treat, detoxify, recycle, reclaim and recover waste materials. A full
5 description of the efforts being undertaken at the 305-B unit to eliminate or minimize waste generation is
6 presented in Chapter 10 of this application.

7 Offsite waste management options for dangerous wastes being shipped from the 305-B unit are evaluated
8 according to the following order of preference:

- 9 1. Recycling, including solvent reprocessing, oil recycling, metals recovery, burning for energy
10 recovery, etc.
- 11 2. Treatment, including incineration, volume and/or toxicity reduction, chemical destruction, etc.
- 12 3. Land disposal is viewed as a least favored option and is generally only used for treatment residues,
13 spill cleanup residues, or when treatment is not feasible.

14 When permitted by law and/or contractual obligations, 305-B staff try to use this hierarchy without regard
15 to minor variations in cost, e.g. if recycling is available but slightly more expensive than land disposal,
16 recycling is utilized.

17 **2.5.9 Measures to Prevent Endangerment to the Health of Employees or the Public Near the**
18 **Facility**

19 305-B is within the 300 Area, which is located approximately 1 mile north of the corporate limits of the
20 City of Richland. Public entry to the 300 Area is not allowed; members of the public, therefore, cannot
21 enter 305-B. Exposure of members of the public or employees to dangerous and mixed waste constituents
22 is prevented through administrative controls over the designation, packaging, loading, transporting, and
23 storing of the wastes received at 305-B. In addition, physical controls exist (i.e., spill collection sumps)
24 to prevent release of wastes or waste constituents in the event of a spill.

25 Employees are trained to handle and store waste packages (Chapter 8.0). The training includes dangerous
26 waste awareness, emergency response, and workplace safety. Protective equipment, safety data, and
27 hazardous materials information are supplied by operations management and are readily available for
28 employee use.

29 A contingency plan, including emergency response procedures, is in place and is implemented for spill
30 prevention, containment, and countermeasures to reduce safety and health hazards to employees, the
31 environment, and the public. The contingency plan is described in Chapter 7.0.

32 **2.6 BUFFER MONITORING ZONES [B-6]**

33 Buffer and monitoring zones around 305-B are described in the following sections.

34 **2.6.1 Ignitable or Reactive Waste Buffer Zone [B-6a]**

35 Ignitable and reactive wastes are stored in 305-B in compliance with the requirements of the 1991
36 Uniform Fire Code, Article 79, Division II (International Conference of Building Officials 1991).
37 Quantity limits for storage are established to comply with requirements for Class B occupancy.
38 Structures surrounding 305-B are laboratory and office buildings which are occupied during normal
39 working hours. The nearest adjacent facility is the 314 Building, which is approximately 30 ft south of
40 305-B. The closest 300 Area boundary is the western boundary, which is approximately 250 ft west of
41 305-B.

1 **2.6.2 Reactive Waste Buffer Zone [B-6b]**

2 Storage of certain reactive wastes listed in WAC 173-303-630(8)(a) is done at 305-B. These wastes have
3 special storage requirements more stringent than those shown in Section 2.6.1. They are stored in
4 accordance with this section and with the Uniform Building Code's Table 77.201, latest edition. The
5 1988 edition requires buffer zones in Class B occupancies of 44 inches for storage of such wastes, and the
6 storage locations in 305-B reflecting appropriate buffer zones are noted in Figure 4-1. These wastes are
7 only occasionally stored at the unit depending on generation by individual research projects.

8 The occupancy storage limitations imposed by UBC for class B occupancy are as follows:

- 9 ▪ Explosives: 1 lb
- 10 ▪ Organic Peroxide, unclassified, detonatable: 1 lb
- 11 ▪ Pyrophoric: 4 lbs
- 12 ▪ Unstable (reactive), Class 4: 1 lb

13 These limits are allowed to be doubled when stored in flammable storage cabinets, as is done at 305-B;
14 hence, the practical storage limits at 305-B are double those shown here.

15 **2.6.3 Travel Time [B-6c]**

16 Operation of 305-B does not involve the placement of waste in dangerous waste surface impoundments,
17 piles, landfarms, or landfills. Therefore, the requirement that the travel time from the active portion of the
18 unit to the nearest downstream well or surface water used for drinking purposes be at least three years for
19 dangerous waste and 10 years for extremely hazardous waste does not apply.

0 **2.6.4 Dangerous Waste Monitoring Zone [B-6d]**

21 Operation of 305-B does not involve the placement of waste in dangerous waste surface impoundments,
22 waste piles, land treatment, or landfill areas. Therefore, a dangerous waste monitoring zone is not
23 required.

24 **2.6.5 Extremely Hazardous Waste Monitoring Zone [B-6e]**

25 Operation of the 305-B does not involve the placement of waste in dangerous waste surface
26 impoundments, waste piles, land treatment, or landfill areas. Therefore, an extremely hazardous waste
27 monitoring zone is not required.

28 **2.7 SPILLS AND DISCHARGES INTO THE ENVIRONMENT [B-7]**

29 The procedures that are followed to ensure immediate response to a nonpermitted spill or discharge of
30 nonradioactive dangerous wastes or hazardous substances from 305-B to the environment, and the
31 immediate notification of authorities are discussed in Chapter 7.0. As a convenience, checklist items
32 listed below are cross-referenced to the appropriate section or sections of Chapter 7.0.

33 **2.7.1 Notification [B-7a]**

34 Information regarding notifications made to authorities in the event of a nonpermitted spill or discharge of
35 hazardous substances into the environment is included in Section 7.4.1.

1 **2.7.2 Mitigation and Control [B-7b]**

2 Actions taken to protect human health and the environment in the event of a nonpermitted spill or
3 discharge are discussed in Sections 7.4.2 through 7.4.8. Additional information describing the responses
4 to container spills or leaks is included in Section 7.4.9.

5 **2.7.2.1 Cleanup of Released Wastes or Substances [B-7b(1)].**

6 Actions taken to clean up all released dangerous wastes or hazardous substances and criteria used to
7 determine the extent of removal are described in Sections 7.4 and 7.4.6.

8 **2.7.2.2 Management of Contaminated Soil, Waters, or Other Materials [B-7b(2)].**

9 Actions taken to demonstrate that all soil, waters, or other materials contaminated by a spill or discharge
10 are treated, stored, or disposed of in accordance with WAC 173-303 are included in Sections 7.4.6, 7.4.7,
11 7.4.8, and 7.4.9. A description of identification of hazardous and dangerous materials is presented in
12 Section 7.4.2.

13 **2.7.2.3 Restoration of Impacted Area [B-7b(3)].**

14 Due to the location of 305-B in the 300 Area, spills or discharges occurring on property which is not
15 owned by the U.S. Government are unlikely. Therefore, a description of the actions to be taken to restore
16 the impacted area and to replenish resources is not required.

17 **2.8 MANIFEST SYSTEM [B-8]**

18 The Hanford Site has one EPA/state identification number, as required by WAC 173-303-060, and all
19 TSD units on the Hanford Site (such as 305-B) are considered to be part of one dangerous waste facility.
20 Therefore, onsite shipments of dangerous or mixed waste are not subject to the manifesting requirements
21 specified in WAC 173-303-370 and -180. 305-B has an onsite waste tracking system akin to a manifest
22 system which is voluntarily used for transporting waste on the Hanford Facility.

23 The Uniform Hazardous Waste Manifest (Figure 2-7) is used for all off-site shipments of dangerous waste
24 and RMW received at 305-B, as well as for all off-site shipments of dangerous waste and RMW from
25 305-B. In addition to the Uniform Hazardous Waste Manifest, wastes subject to land disposal
26 restrictions which are shipped from 305-B to off-site treatment, storage, or disposal facilities are
27 accompanied by the applicable notifications and certifications required under 40 CFR 268 (EPA 1989).

28 The following sections provide information on receiving shipments, response to manifest discrepancies,
29 and provisions for nonacceptance of shipments.

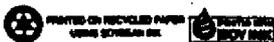
30 **2.8.1 Procedures for Receiving Shipments [B-8a]**

31 The following are procedures used prior to transport of wastes to the 305-B Storage Unit. First, the
32 generator must submit a Chemical Disposal/Recycle Request form (Figures 2-8 and 2-9) to the Waste
33 Management Section. This request form is then reviewed and either approved or rejected. Typical causes
34 of rejection include missing or insufficient information in any of the data fields, or lack of specific
35 information on waste composition. Waste information required is noted in Section 3.1. Upon approval,
36 the Waste Management Section reviews the form to determine the dangerous waste designation, waste
37 compatibility class for storage, and containerization and labeling requirements.

Figure 2-7. Sample Uniform Hazardous Waste Manifest Form

Please print or type. (Form designed for use on site (12-pitch) typewriter.) Form Approved. OMB No. 2080-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No		Manifest Document No.		2. Page 1 of		Information in the shaded areas is not required by Federal law.		
		3. Generator's Name and Mailing Address						A. State Manifest Document Number		B. State Generator's ID
4. Generator's Phone ()		5. Transporter 1 Company Name		6. US EPA ID Number		C. State Transporter's ID		D. Transporter's Phone		
7. Transporter 2 Company Name		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Phone		G. State Facility's ID		
9. Designated Facility Name and Site Address		10. US EPA ID Number		H. Facility's Phone						
GENERATOR		11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers		13. Total	14. Unit	1. Waste No.
						No. Type		Quantity	Wt/Vol	
		a.								
		b.								
		c.								
TRANSPORTER		J. Additional Descriptions for Materials Listed Above						K. Handling Codes for Wastes Listed Above		
		15. Special Handling Instructions and Additional Information								
FACILITY		16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.								
		Printed/Typed Name			Signature			Month Day Year		
FACILITY		17. Transporter 1 Acknowledgement of Receipt of Materials								
		Printed/Typed Name			Signature			Month Day Year		
FACILITY		18. Transporter 2 Acknowledgement of Receipt of Materials								
		Printed/Typed Name			Signature			Month Day Year		
FACILITY		19. Discrepancy Indication Space								
		20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.								
Printed/Typed Name			Signature			Month Day Year				



ORIGINAL-RETURN TO GENERATOR

1

Figure 2-8. Example Chemical Disposal/Recycle Request Form

WASTE DISPOSAL REQUEST										Page 1
Battelle PNNL		1800 1831 800		Org Code:		Generator/Phone No. Office Room No.				
Date Released:		IRM Req No:		Type of Accumulation		Accum. Start Date for 90 Day Waste; 30 days for PCBs		Building where waste is located:		
Received:				Type of Material		Requested by:		Phone No. Office Room No.		
Approved:										
Designated:										
Entered:										
Picked Up/Labelled										
Container ID/ User No./Rm.No		Container Size		Material Description or Trade Name		Chemical Component		Phys. State		EPA Codes
		Type						Status/ Source		DOT Loc
		Weight						Designat- ion		WDOE Codes

Figure 2-8. Example Chemical Disposal/Recycle Request Form (Reverse)

Chemical Disposal/Recycle Request (CDRR) Instructions

General Instructions:

- Type or print neatly, fill out ALL blanks correctly and completely.
- Do not write in shaded areas. These are for WM&EC use only.
- A work package number needs to be included for all 1831 (private) waste and as requested for other special cases (e.g., compressed gas cylinders, lecture bottles, etc.).
- Do not fill in an accumulation date if the waste is in a satellite accumulation area.
- Do not include both satellite accumulation wastes and, 90 day wastes on the same CDRR form. Use separate forms.
- Do not include both 1830 and 1831 wastes on the same CDRR form.
- Do not include both nonradioactive chemical wastes and radioactive mixed waste on the same CDRR form.
- Do not include both 300 and 3000 Areas wastes on the same CDRR form.
- For any materials analyzed, please attach a copy of the analytical report.
- Please feel free to use several lines per item as necessary to include any important information on the material.

Specific CDRR Instructions:

- Provide a complete description of the material for disposal. For trade name items, attach a material safety data sheet (MSDS). For items analyzed, attach a copy of the analysis. Also include any additional information on material or process if any (e.g., CAS number, RTEC number.)
- Provide all known chemical components; use proper accepted names (e.g., ethyl alcohol is acceptable; abbreviations or formulas are not).
- Enter weight percent for all known chemical components; this must add up to 100% for each item, unless the information is proprietary (as indicated on an attached MSDS). Trace amounts of metals, cyanides, sulfides, PCBs, phenolics, and other highly toxic materials must be specified.
- Please indicate physical state of material: S=Solid, L=Liquid, G=Gas.
- Please enter hazards from codes shown below; also, for corrosive material include the pH, for flammable materials include the flashpoint (FP).

Hazard Codes

C=Corrosive	T=Toxic	E=Explosive
EP= EP Toxic	O=Oxidizer	F=Flammable
R=Reactive (with water or air)		

- Please enter container/material from codes shown below (state all that apply):

F= Full MT=empty TR= triple rinsed O= old
N= new (unused material) S= spill material PF= partially full
R= recyclable condition (unopened, or opened but in excellent condition)

Requirements for Material Pickup by WM&EC:

In order to facilitate material pickup by WM&EC, please do the following:

- Complete ALL required information on the CDRR form.
- Ensure that all materials are in screw-cap glass, metal, or plastic containers that are compatible with the waste (sealed containers which the material originally came in are acceptable, (e.g., glass ampules or metal paint cans). Ground glass, rubber stoppers, or taped seals will not be accepted.
- Have a chemical waste certification filled out and signed by a PNL Radiation Protection Technologist showing that the material has been surveyed and released (1 to 2 days prior to scheduled pickup).
- Each individual container must have marking or labeling on them that clearly identify 100% of their contents and their chemical hazards (if container is too small to label with all constituents please attach a tag or other listing).
- If you have questions, please refer to PNL-MA-8, "Waste management and Environmental Compliance". For hazardous waste issues and PNL-MA-43, "Health and Safety Management," for chemical hazard labeling requirements.

1 The waste is then inspected at the generating unit by the Waste Management Section to verify the
2 information contained on the request form, such as number, sizes, and types of containers, location of
3 waste, etc., and to check for proper containerization of waste. If discrepancies are noted during the
4 inspection, the waste will not be picked up by the Waste Management Section. Typical discrepancies
5 include waste not as described on request form or lack of supporting data to verify waste characteristics.
6 In such cases, deficiencies will be explained to the generating unit responsible person, who will then be
7 responsible for correcting them.

8 If the waste is found to be acceptable for transport, Waste Management staff will check to ensure required
9 labels are in place, and transport (or arrange for transport of) the waste to 305-B. If transport will be over
10 public roadways or highways, a Uniform Hazardous Waste Manifest will be prepared identifying PNL as
11 the transporter and 305-B as the receiving TSD unit. A copy of all such manifests is returned to the
12 generating unit within 30 days of receipt at 305-B. A copy of the manifest is also retained at 305-B.

13 **2.8.2 Response to Significant Discrepancies [B-8b]**

14 Waste shipments received at the 305-B unit containing manifest discrepancies are not accepted unless the
15 discrepancy or discrepancies can be resolved with the generating unit at the time the shipment is received.
16 Manifest discrepancies requiring such resolution include:

- 17 • Variations exceeding 10% in weight for bulk shipments such as tank trucks or tank cars
18 (generally not applicable to 305-B since most shipments are in drums or other containers);
- 19 • Any inaccuracy in piece counts in containerized shipments (underages or overages);
- 20 • Type mismatches (i.e., the waste is not as described on the request form; obvious inaccuracies
21 such as waste acid substituted for waste solvent).

22 Manifest information will also be considered incorrect if the written description of wastes does not agree
23 with visual observations, or if observed weights or volumes differ by more than 10 % from those
24 described on the manifest.

25 If a discrepancy is noted, the generating unit will be contacted immediately. The waste will not be
26 accepted for storage until the discrepancy is resolved. The generating unit will be asked to identify the
27 source of the discrepancy (e.g. error in estimating volume or weight, incorrect identification of waste,
28 etc.) Once the cause of the discrepancy is identified, and the generating unit and the waste management
29 organization have concurred as to resolution of the discrepancy, the manifest will be corrected.
30 Corrections will be made by drawing a single line through the incorrect entry and entering the correct
31 information. Corrected entries will be initialed and dated by the individual making the correction. Once
32 the manifest has been corrected, the discrepancy will be considered resolved.

33 Certain manifest discrepancies may be discovered after receipt, such as analytical data indicating
34 incorrect designation which may result in incorrect naming of the shipment on the manifest. Such
35 discrepancies will be managed as noted above; if, however, the discrepancy cannot be resolved within 15
36 days of receipt of the shipment, the 305-B unit will file the report required by WAC 173-303-370(4)(b) as
37 described in Section 12.4.1.1.1.

38 **2.8.3 Provisions for Nonacceptance of Shipment [B-8c]**

39 Provisions for nonacceptance of shipments are discussed in the following sections.

40 **2.8.3.1 Nonacceptance of Undamaged Shipment [B-8c(1)].**

41 As described in Section 2.8.1, all wastes are inspected by staff from the waste management organization
42 prior to shipment and are also transported to 305-B by waste management organization staff. This

1 procedure is designed to prevent receipt of nonacceptable wastes. Waste management organization staff
2 will refuse to accept or transport wastes which are nonacceptable at 305-B.

3 **2.8.3.2 Activation of Contingency Plan for Damaged Shipment [B-8c(2)].**

4 As described in Section 2.8.1, all wastes are inspected by staff from the waste management organization
5 prior to shipment and are also primarily transported to 305-B by waste management organization staff.
6 Damaged containers will not be accepted from the generator and will not be transported. The only
7 opportunity for receipt of damaged containers, therefore, would be if containers were damaged during
8 transportation. If a shipment of waste is damaged during transportation and arrives in a condition as to
9 present a hazard to public health or to the environment, the facility contingency plan will be implemented
10 as described in Chapter 7.0.

11 **2.8.4 Unmanifested Waste**

12 Waste generated within the Hanford Site is not transported over public highways and is not subject to
13 manifest requirements under WAC 173-303. Such waste may be received at the 305-B unit without a
14 manifest. However, all wastes (including unmanifested waste) must be accompanied by a completed and
15 approved CDRR form (Figure 2-8).

16 If transport is by public roadways or highways, a manifest must be used as noted in Section 2.8.1.
17 Shipments requiring a manifest and not having one will either be rejected or, at the sole discretion of the
18 unit operator, the unit will accept the waste and file an unmanifested waste report as described in
19 WAC 173-303-390(1) and detailed in Section 12.4.1.1.2.

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Table 12-1. Reports and Records.

Item	STORAGE	
	Retention Time	Location
Notification of dangerous waste activities	Life of facility	Facility File
GENERATOR REPORTS AND RECORDS:		
Annual report	5 years after last waste shipment	Hanford Site ¹
Exception report	5 years after last waste shipment	Hanford Site
Additional reports and records as required (i.e., inspection logs)	5 years after closure	Hanford Site
Test and Waste Analysis Results:		
Waste generated onsite	5 years after last waste shipment	Hanford Site
Waste packaged for offsite shipment	5 years after last waste shipment	Hanford Site
Waste Manifest Reports and Records:		
Manifests	5 years after last waste shipment	Hanford Site
Manifest discrepancy	5 years after last waste shipment	Hanford Site
Unmanifested waste	Not required	N/A
Land Disposal Restriction Records:		
Extension to an effective date	At least 5 years from the date of shipment	Hanford Site
Petition for a variance	At least 5 years from the date of shipment	Hanford Site
Notice and certification of treatment standards	At least 5 years from the date of shipment	Hanford Site
Demonstration and certification for a temporary extension to the effective date	At least 5 years from the date of shipment	Hanford Site
TRANSPORTER REPORTS AND RECORDS:		
None required	N/A	N/A
TREATMENT, STORAGE, AND/OR DISPOSAL REPORTS AND RECORDS:		
Permit Application Plans:		
Waste analysis plan	Life of facility	Hanford Site
Contingency plan and amendments	Life of facility	Hanford Site
Training plan	Life of facility	Hanford Site
Closure plan	Life of facility	Hanford Site
Post-closure plan	Not Required	N/A
Inspection plans	Life of facility	Hanford Site

¹ Hanford Site: Records pertaining to the 305-B Storage Unit will be retained at the unit until completion of closure. Documents requiring longer retention, as specified, will be retained in the Hanford Facility File.

Item	STORAGE	
	Retention Time	Location
Operating Reports and Records		
Waste description and quantity	Life of facility	Hanford Site
Waste location	Until closure	Hanford Site
Waste analysis data	Life of facility	Hanford Site
Inspection records	5 years after inspection	Hanford Site
Certification of waste minimization efforts	Life of facility	Hanford Site
Land Disposal Restriction Records:		
Extension to an effective date	At least 5 years from the date of shipment	Hanford Site
Petition for a variance	At least 5 years from the date of shipment	Hanford Site
Notice and certification of treatment standards	At least 5 years from the date of shipment	Hanford Site
Demonstration and certification for a temporary extension to the effective date	At least 5 years from the date of shipment	Hanford Site
Waste Manifest Reports and Records:		
Manifests	5 years after receipt of waste	Hanford Site
Manifest discrepancy	5 years after receipt of waste	Hanford Site
Unmanifested waste	Not required	N/A
Groundwater Monitoring Reports and Records:		
None required	N/A	N/A
Contingency Plan Incident Reports and Records:		
Immediate notification—Event Fact Sheet	Life of facility	Hanford Site
Assessment report	Life of facility	Hanford Site
Facility restart notification	Life of facility	Hanford Site
Spills, Discharges, and Leaks Reports and Records:		
Immediate notification	Life of facility	Hanford Site
Closure Reports and Records:		
Certification of closure	Life of facility	Hanford Site
Survey plat	Not required	N/A
Closure cost estimates	Not required	N/A
Post-Closure Reports and Records:		
None required	N/A	N/A
Miscellaneous Support Reports and Records:		
Annual report	5 years from due date	Hanford Site
Biennial report	Life of facility	Hanford Site
Training documentation	Life of facility	Hanford Site
Liability coverage documentation	Not required	N/A

1 If a copy of the manifest is not returned with the signature of the owner/operator of a permitted unit
2 designated to receive nonradioactive dangerous waste offsite within 35 days, the 305-B unit staff will
3 contact the initial transporter or facility to determine the status of the waste shipment. If a copy of the
4 manifest with the handwritten signature of the designated facility's owner/operator is not received by 305-
5 B staff within 45 days of the date the waste was offered to the initial transporter, an exception report will
6 be submitted to Ecology. The report will include the following:

- 7 ▪ A legible copy of the manifest for which delivery was not confirmed
- 8 ▪ A cover letter explaining the efforts to locate the waste and the results of those efforts.

9 Copies of waste analysis reports or other documentation relating to the composition of dangerous waste
10 shipped from the 305-B unit will be retained at the unit. Documents relating to land disposal restrictions
11 are discussed in Section 12.4.2.2.7.

12 Any additional reports deemed necessary by Ecology or EPA are furnished by the Hanford Site upon
13 request.

14 **12.3 TRANSPORTER REQUIREMENTS**

15 Transporter recordkeeping and reporting requirements are not strictly applicable to the 305-B unit since
16 305-B does not transport dangerous wastes offsite. Transporters having their own EPA/State
17 Identification Numbers are used to transport dangerous wastes from 305-B to a permitted off-site
18 treatment, storage, and/or disposal facility. Wastes are transported to 305-B by PNNL waste management
19 organization staff. Wastes transported to 305-B on public roadways or highways are considered to be
20 "off-site" shipments and the PNNL waste management organization complies with transporter
21 recordkeeping and reporting requirements under WAC 173-303-260 and WAC 173-303-270 for these
22 shipments.

23 **12.4 TREATMENT, STORAGE, AND/OR DISPOSAL REQUIREMENTS**

24 Storage facility reporting and recordkeeping requirements are discussed below.

25 **12.4.1 Reports**

26 This section discusses the reporting requirements of WAC 173-303 relating to aspects of dangerous
27 waste. The reporting requirements include the following:

- 28 ▪ Waste manifest reports
- 29 ▪ Annual reports
- 30 ▪ Groundwater monitoring reports
- 31 ▪ Contingency plan incident reports
- 32 ▪ Spills, discharges, and leaks reports
- 33 ▪ Closure reports
- 34 ▪ Post-closure reports.

35 Additional details of these reports are provided below. Copies of these reports are maintained by the
36 305-B unit or other Hanford Site organizations as appropriate.

37

1 **12.4.1.1 Waste Manifest Reports**

2 The waste manifest or lack thereof, is the source of two possible reports, the manifest discrepancy report
3 and the unmanifested waste report.

4 **12.4.1.1.1 Manifest Discrepancy.** Each dangerous or mixed waste transfer to the 305-B unit
5 transported on roads accessible to the general public must have a Uniform Hazardous Waste Manifest for
6 the transfer to be approved (see Section 2.8). The waste manifests received are checked to verify that
7 they are properly filled out and the waste received is identical to the material described on the manifest.
8 Every effort is made to resolve manifest discrepancies with the generator. If discrepancies are not
9 resolved in 15 days, a report will be submitted to Ecology in accordance with WAC 173-303-370. This
10 report describes the discrepancy and attempts to reconcile it. A copy of the manifest or shipping paper at
11 issue is attached to the report.

12 **12.4.1.1.2 Unmanifested Waste.** The 305-B Storage Unit receives only dangerous and mixed wastes
13 generated by DOE-RL- and/or PNNL-sponsored programs. As noted in Section 2.8.4, unmanifested
14 waste which requires a manifest may either be rejected, or an unmanifested waste report will be filed with
15 Ecology within 15 days of receipt of shipment using Ecology Form 6, Unmanifested Dangerous Waste
16 Report.

17 The report shall include at least the following information:

- 18 1. The EPA/State identification number, name, and address of the facility;
- 19 2. The date the unit received the waste;
- 20 3. The EPA/State identification number, name, and address of the generator and transporter, if available;
- 21 4. A description and the quantity of each unmanifested dangerous waste the unit received;
- 22 5. The method of management for each dangerous waste;
- 23 6. The certification signed by the owner or operator of the unit or the authorized representative; and
- 24 7. A brief explanation of why the waste was unmanifested, if known.

25 **12.4.1.2 Annual Report**

26 The state of Washington, pursuant to WAC 173-303-390, requires an annual overall report for each
27 facility which holds an active EPA/State Identification Number. The report is due to Ecology on March 1
28 of each year. A single report is prepared for the entire Hanford Site and covers each dangerous waste
29 treatment, storage, and disposal unit at Hanford, including 305-B. The report contents for each unit
30 include the following:

- 31 ▪ EPA/State Identification Number
- 32 ▪ Name and address of the unit
- 33 ▪ Calendar year covered by the report
- 34 ▪ Sources of the waste received by the unit
- 35 ▪ Description and quantity of the waste received by the unit
- 36 ▪ Treatment, storage, and/or disposal methods
- 37 ▪ Certification statement signed by an authorized representative.

1 The report form and instructions in the "Treatment, Storage, or Disposal Unit Annual Dangerous Waste
2 Report--Form 5" are used for this report. The above information applicable to the 305-B Storage Unit is
3 compiled by the PNNL waste management organization and submitted to WHC. WHC is the
4 organization responsible for preparing the Hanford Site annual report.

5 **12.4.1.3 Biennial Report**

6 The EPA requires, pursuant to 40 CFR 264.75, that an overall report describing each dangerous waste
7 facility activity be submitted on March 1 of each even-numbered year. The biennial report is not required
8 by Ecology. As with the annual report described in Section 12.4.1.2, a single report is prepared for the
9 entire Hanford Site covering all dangerous waste treatment, storage, and disposal facilities at Hanford.
10 The report contents for each unit include the following:

- 11 ▪ EPA/State Identification Number
- 12 ▪ Name and address of the unit
- 13 ▪ Calendar year covered by the report
- 14 ▪ Sources of the waste stored at 305-B
- 15 ▪ Description and quantity of the waste received at 305-B
- 16 ▪ Treatment, storage, and/or disposal methods
- 17 ▪ Waste minimization efforts
- 18 ▪ Certification statement signed by an authorized representative.

19 This information covers activities for the previous calendar year, which is submitted on EPA
20 Form 8700-13B. The above information applicable to the 305-B Storage Unit is compiled by the PNNL
21 waste management organization and submitted to WHC. WHC is the organization responsible for
22 preparing the Hanford Site biennial report.

23 **12.4.1.4 Groundwater Monitoring Reports.**

24 The 305-B unit is not operated as a dangerous waste surface impoundment, waste pile, land treatment
25 unit, or landfill as defined in WAC 173-303-645-(1)(a). Therefore, no groundwater monitoring or
26 reporting is required for this unit.

27 **12.4.1.5 Contingency Plan Incident Reports.**

28 The BED and 305-B unit line management are responsible for making notifications (as detailed in
29 Sections 7.4.1.3 and 7.8) of all emergency situations requiring contingency plan implementation as
30 required by WAC 173-303-360.

31 All situations requiring contingency plan implementation are documented in accordance with Section
32 7.8.2, DOE Event Reporting. A copy of all such documentation for incidents at 305-B will be retained at
33 the unit as part of the Operating Record.

34 If the unit stops operations in response to a fire, explosion, or release that may present a hazard to human
35 health or the environment, the BED notifies DOE-RL, via line management, when the unit and emergency
36 equipment cleanup is complete.

37 The DOE-RL is responsible for three types of notifications: an immediate notification; the incident
38 assessment report; and the unit restart notification. Details of these notifications are provided below.

1 12.4.1.5.1 **Immediate Notification.** The DOE-RL will immediately notify Ecology and the individual
2 designated as the on-scene coordinator for the southeastern Washington area of the National Response
3 Center, telephone number (800) 424-8802, if the unit has had a fire, explosion, or release which requires
4 reporting under applicable regulations.

5 The DOE-RL report will contain the following information:

- 6 ▪ Name and telephone number of reporter
- 7 ▪ Name and address of the unit
- 8 ▪ Time and type of incident
- 9 ▪ Name and quantity of material(s) involved to the extent known
- 10 ▪ Extent of injuries if any
- 11 ▪ Possible hazards to human health or the environment outside the unit.

12 12.4.1.5.2 **Incident Assessment Report.** A written report is provided to Ecology within 15 days of
13 any incident that requires implementation of the contingency plan. This report includes the following
14 information:

- 15 ▪ Name, address, and telephone number of the owner or operator
- 16 ▪ Name, address and telephone number of the unit
- 17 ▪ Date, time, and type of incident
- 18 ▪ Name and quantity of material(s) involved
- 19 ▪ Extent of injuries if any
- 20 ▪ Assessment of actual or potential hazards to human health or the environment where this is applicable
- 21 ▪ Estimated quantity and disposition of recovered material that resulted from the incident
- 22 ▪ Cause of the incident
- 23 ▪ Description of corrective action taken to prevent recurrence of the incident.

24 12.4.1.5.3 **Unit Restart Notification.** If the 305-B unit stops operations in response to a fire, an
25 explosion, or release that may present a hazard to human health or the environment, the DOE-RL will
26 notify Ecology and the appropriate local authorities before normal operations are resumed in the affected
27 area(s) of the unit. The notification will indicate that cleanup procedures are completed and that
28 emergency equipment is cleaned and fit for its intended use.

29 **12.4.1.6 Spills, Discharges, and Leak Reports**

30 This section discusses the reports prepared as a result of unpermitted spills and discharges into the
31 environment.

32 12.4.1.6.1 **Spills and Discharges Reports.** In the event of any unplanned release of dangerous
33 materials, the building emergency director will document the incident on an Event Fact Sheet. A copy of
34 the Event Fact Sheet will be retained at the unit. PNNL line management will immediately notify the
35 DOE-RL. The following information will be transmitted to the DOE-RL:

- 1 ▪ Name and telephone number of reporter
- 2 ▪ Name and address of the unit
- 3 ▪ Time and type of incident
- 4 ▪ Name and quantities of material(s) involved to the extent known
- 5 ▪ Extent of injuries if any
- 6 ▪ Possible hazards to human health or the environment outside the unit.

7 The PNNL waste management organization immediately notifies the DOE-RL of all reportable releases to
8 the environment in accordance with DOE Orders.

9 The DOE-RL will immediately notify Ecology of all spills and discharges of hazardous materials (unless
10 permitted) in accordance with WAC 173-303-145(2) and Condition I.E.15 of the Facility Wide Permit.

11 **12.4.1.7 Closure Reports**

12 Reports regarding the closure of the 305-B unit will be made in accordance with the requirements of
13 WAC 173-303-610(6) and (9).

14 12.4.1.7.1 **Certification of Closure.** Within 60 days of completion of closure of the 305-B unit,
15 certification signed by the DOE-RL and an independent registered Professional Engineer will be
16 submitted to Ecology. The certification will be sent by registered mail. The certification will state that
17 the unit was closed in accordance with the approved closure plan. Documentation supporting the
18 independent registered Professional Engineer's certification will be supplied upon request of Ecology.

19 12.4.1.7.2 **Survey Plat.** The 305-B Storage Unit is not a disposal facility; therefore, this requirement is
20 not applicable.

21 **12.4.1.8 Post-Closure Reports**

22 Post-closure reports required by WAC 173-303-610(9), (10), and (11) are not required because the 305-B
23 unit is not a disposal facility.

24 **12.4.2 Recordkeeping Requirements**

25 The records kept by the 305-B unit include plans described in other portions of this permit application,
26 operating records, miscellaneous support records, and records of reports made to Ecology and EPA.
27 These records are described in the following sections.

28 **12.4.2.1 Permit Application Plans**

29 The plans described in other portions of this permit application and kept at the unit include:

- 30 ▪ Waste analysis plan
- 31 ▪ Contingency plan and amendments
- 32 ▪ Training plan
- 33 ▪ Closure plan
- 34 ▪ Inspection plans.

1 Copies of the plans described above are included in this permit application. These plans are maintained at
2 the 305-B unit during the life of the unit. Modifications or amendments required as a result of changing
3 regulatory or operational requirements or data gathered with the monitoring and sampling programs will
4 be submitted to Ecology and added to the plans maintained at the unit as required.

5 **12.4.2.2 Operating Record.**

6 The Operating Record maintained at the 305-B unit includes:

- 7 ▪ A description and the quantity of each dangerous waste received and the method(s) and date(s) of
8 storage at the 305-B unit in accordance with WAC 173-303-380
- 9 ▪ The location of each dangerous waste stored within the unit and the quantity at each location,
10 including cross-reference to manifest numbers
- 11 ▪ Waste analysis results
- 12 ▪ Contingency plan implementation reports
- 13 ▪ Inspection records
- 14 ▪ Copies of notices from off-site facilities informing 305-B that the off-site facilities have all required
15 permits.

16 **12.4.2.2.1 Waste Description and Quantity.** Each dangerous waste received at the 305-B unit is
17 described by its common name and dangerous waste number(s) from WAC 173-303-080 through 173-
18 303-104. When a dangerous waste contains multiple dangerous waste constituents, the waste description
19 includes all applicable dangerous waste numbers. For waste numbers that are not listed in WAC 173-303,
20 the waste description includes the name of the process that generated the waste. The waste description
21 includes the following information:

- 22 ▪ physical form (i.e., liquid, solid, sludge, or gas)
- 23 ▪ Weight, or volume and density, using one of the units of measure in WAC 173-303-380(2)(c)
- 24 ▪ Date and management method for each waste, including handling code specified in
25 WAC 173-303-380(2)(d).

26 **12.4.2.2.2 Waste Location.** The location of each dangerous waste container stored within the 305-B
27 unit is documented and maintained. This record provides a cross-reference to associated manifest
28 numbers.

29 **12.4.2.2.3 Waste Analysis.** As described in Section 3.2, most of the wastes received at 305-B do not
30 require analysis. Only those wastes which are unknown or for which the generator does not have
31 documentation of contents require analysis. Waste sampling and analysis is performed by the generator.
32 Waste analysis results are submitted to the PNNL waste management organization with the request for
33 disposal form. These results are used by the PNNL waste management organization to designate the
34 waste in accordance with WAC 173-303-070, to determine waste compatibility for proper storage, and to
35 determine waste packaging and labeling requirements. Results of waste analyses submitted with disposal
36 request forms are kept at 305-B and are cross-referenced to manifest numbers.

37 Analysis of wastes generated at 305-B would only be required in the case of spill or leak response when it
38 is necessary to determine whether cleanup residuals are dangerous wastes. 305-B staff are responsible for
39 sampling such wastes and having the required analyses performed by on-site or off-site laboratories. If
40 such wastes are determined to be dangerous wastes, copies of the waste analysis results will be kept at
41 305-B and cross-referenced to manifest numbers.

1 12.4.2.2.4 **Contingency Plan Implementation Report.** Records documenting the details of any
2 incidents requiring the implementation of the contingency plan, as described in Chapter 7.0 and
3 Section 12.4.1.5, are maintained as part of the 305-B unit Operating Record as required by
4 WAC 173-303-380.

5 12.4.2.2.5 **Inspection Records.** Records of the 305-B unit general inspections are maintained at the
6 unit for at least five years from the inspection date. The records include the following:

- 7 ▪ The date and time of inspection
- 8 ▪ The inspector's printed name and handwritten signature
- 9 ▪ Notations of observations
- 10 ▪ The date and nature of any repairs or other remedial actions.

11 12.4.2.2.6 **Waste Minimization Certification.** Annually, a certification by DOE-RL that the 305-B
12 unit has a program in place to reduce the volume and toxicity of hazardous waste is inserted into the 305-
13 B unit Operating Record as required by 40 CFR 264.73(b)(9).

14 12.4.2.2.7 **Land Disposal Restrictions Records.** Records related to storage of waste subject to land
15 disposal prohibitions are maintained as required by 40 CFR 264.73(b)(10) and (16). Records potentially
16 include:

- 17 ▪ Records of waste placed in land disposal units under an extension to the effective date of any
18 land disposal restriction granted pursuant to 40 CFR 268.5
- 19 ▪ Records of waste placed in land disposal units under a petition granted pursuant to
20 40 CFR 268.6
- 21 ▪ Records of the applicable notice and certification required by 40 CFR 268.7(a)
- 22 ▪ Records of the demonstration and certification required by 40 CFR 268.8, if applicable, for
23 waste subject to land disposal prohibitions or restriction.

24 Additional discussion of land disposal records is provided in the following sections.

25 12.4.2.2.7.1 **Date Extension.** The 305-B Storage Unit will not apply for an extension to the effective
26 date of a land disposal restriction. The Hanford Site generator or the permitted off-site disposal facility
27 may apply for an extension if required. If such an extension is approved by EPA, the generator or
28 permitted off-site disposal facility, as appropriate, will provide a copy of the approval indicating the waste
29 subject to the extension. Copies of these records, as well as the quantities and the date of placement
30 (information the permitted off-site disposal facility is requested to provide to 305-B following disposal)
31 for each shipment of waste subject to the date of the extension will be maintained in the 305-B files.

32 12.4.2.2.7.2 **Petition.** The 305-B Storage Unit will not petition to allow land disposal of a waste
33 subject to a land disposal restriction under 40 CFR 268, Subpart C. The permitted off-site disposal
34 facility may petition to the regulatory authority for a variance to allow disposal of a restricted or
35 prohibited waste if required. If such a petition is approved by EPA for waste shipped by 305-B, the
36 disposal facility will be requested to provide information related to the petition so that 305-B may ensure
37 that the waste shipped complies with the petition. Copies of the records of the petition, as well as the
38 waste quantities and date of placement (information on the permitted off-site disposal facility is requested
39 to provide to 305-B following disposal) for each waste shipment covered by the petition will be
40 maintained in the 305-B files.

1 **12.4.2.2.7.3 Notice and Certification.** Each waste generator is required to provide the PNNL waste
2 management organization with adequate waste characterization data for the waste management
3 organization to determine whether the waste is subject to land disposal restrictions. The waste
4 management organization determines whether the waste is subject to land disposal restrictions prior to
5 transporting the waste offsite from 305-B. If wastes are determined to be subject to land disposal
6 restrictions, the required notices and certifications are included with waste shipments from 305-B to off-
7 site treatment, storage, and/or disposal facilities. Such notifications are made as described below. Copies
8 of notifications, certifications, demonstrations, and supporting documentation for each shipment of waste
9 subject to a land disposal restriction or prohibition are maintained at 305-B.

10 **Waste Does Not Meet Applicable Treatment Standards or Exceeds Applicable Prohibition Levels.** If the
11 waste does not meet the applicable treatment standards or exceeds an applicable prohibition level set forth
12 in 40 CFR 268.32 or Section 3004(d) of RCRA, a notice is provided with each shipment of waste
13 containing the following information:

- 14 ▪ The EPA Hazardous Waste Number
- 15 ▪ Corresponding treatment standards and all applicable prohibitions set forth in 40 CFR 268.32
16 or Section 3004(d) of RCRA
- 17 ▪ The waste manifest number associated with the shipment of waste
- 18 ▪ Waste analysis data where available or a statement of the basis of the determination with
19 supporting data.

20 **Waste Meets the Applicable Treatment Standards.** If the waste meets the applicable treatment standards
21 and can be land-disposed without further treatment, a notice and certification is provided by the 305-B
22 unit with each shipment of waste. The notice contains the following information:

- 23 ▪ The EPA Hazardous Waste Number
- 24 ▪ Corresponding treatment standards and all applicable prohibitions set forth in 40 CFR 268.32
25 or Section 3004(d) of RCRA
- 26 ▪ The manifest number associated with the waste shipment
- 27 ▪ Waste analysis data where available or a statement of the basis of determination with
28 supporting data.

29 In addition, the shipment will be accompanied by the certification required under 40 CFR 268.7(a)(2)(ii)
30 that the waste complies with treatment standards and prohibitions.

31 **12.4.2.2.7.4 Demonstration and Certification.** Certain wastes may be land- disposed without
32 treatment under certain conditions which comply with 40 CFR 268. If such wastes are shipped from
33 305-B for land disposal, the initial shipment will be accompanied by the demonstration and certification
34 required under 40 CFR 268.8(a). Each additional shipment will be accompanied only by the certification
35 provided that the conditions covered by the original certification have not changed.

36 **12.4.2.3 Miscellaneous Support Records.**

37 Miscellaneous support records include the following:

- 38 ▪ Training records
- 39 ▪ Liability coverage documentation
- 40 ▪ Closure and post-closure cost estimates
- 41 ▪ Report records.

1 12.4.2.3.1 **Training Documentation.** The training plan is maintained at 305-B.

2 The name of each employee and the 305-B unit waste management position held is maintained by the
3 unit. Training records document that employees have received the training or have work experience
4 required for that position. The records are maintained by the unit. Training records on current employees
5 are kept until closure of the unit. Training records on former employees are kept for three years from the
6 date the employee last worked at the unit. Auditable copies of these records are maintained by the PNNL
7 training organization.

8 12.4.2.3.2 **Liability Coverage Documentation.** Financial assurance and liability coverage
9 mechanisms are not required for federal facilities. Therefore, this requirement is not applicable to the
10 305-B unit.

11 12.4.2.3.3 **Closure and Post-closure Cost Estimates.** Financial assurance mechanisms for closure
12 and post-closure costs are not required for federal facilities. However, projections of anticipated costs for
13 closure will be provided annually in accordance with Section 11.5.

14 **12.4.2.4 Report Records.**

15 The reports described in Sections 12.1, 12.2.2, and 12.4.1 are contained in records maintained either by
16 the 305-B unit or by other Hanford Site organizations as noted in Table 12-1. Copies of the reports will
17 be made available upon the request of Ecology or EPA.

18

**Hanford Facility RCRA Permit Modification Notification Forms
Part III, Chapter 6 and Attachment 36
325 Hazardous Waste Treatment Units**

Replacement Section

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APPENDIX 8A

TRAINING

1 **8.1.1 Job Titles and Job Descriptions [H-1a]**

2 The HWTU Technical Specialist(s) is responsible for the proper acceptance, treatment, storage, and
3 transport of dangerous waste at the HWTU. In addition, the HWTU Technical Specialist oversees
4 dangerous waste pickup and transportation to the HWTU storage areas. When adequate volumes of waste
5 have accumulated, the HWTU Technical Specialist is responsible for readying the waste for transfer.
6 These duties could include packaging, labeling, manifesting, and recordkeeping to ensure compliance
7 with applicable regulations. The Activity Manager will post and maintain a current list of the individuals
8 working in the 325 HWTUs. This list will be updated as necessary and will contain the job title, name of
9 person filling the position and their respective phone numbers. The list will be posted at the entrance to
10 the HWTUs/SAL and a copy maintained as part of the Operating Record.

11 **8.1.1.1 325 Hazardous Waste Treatment Unit Job Positions and Descriptions**

12 The HWTU Activity Manager is responsible for the daily operation of the HWTU in compliance with
13 regulations administered under the Resource Conservation and Recovery Act of 1976 (RCRA),
14 WAC 173-303, and PNNL waste operating procedures.

15 The HWTU Activity Manager ultimately is responsible for assessing HWTU compliance, conducting
16 inspections and overseeing any corrective actions that might result from the inspections, ensuring that
17 waste handling and storing procedures are followed, and implementing the 325 HWTUs Contingency
18 Plan and Emergency Procedures in coordination with the 325 Building Emergency Director (BED). In
19 addition to these responsibilities, the HWTU Activity Manager directs new employees so that successful
20 completion of introductory and on-the-job training is accomplished in the first 6 months of employment.
21 The HWTU Activity Manager has final authority on acceptance of waste at the HWTU. The HWTU
22 Activity Manager could review all waste disposal requests to ensure their accuracy and reliability,
23 designate the waste, determine treatment and storage requirements, and oversee treatment of the waste.
24 The HWTU Activity Manager also could perform waste management operations such as pickup and lab
25 packing of small containers, oversight of waste shipping, and ensuring compliance with U.S. Department
26 of Transportation regulations.

27 The HWTU Engineer/Scientist(s) is responsible for the proper acceptance, treatment, storage, and
28 transport of dangerous waste at the HWTU. In addition, the HWTU Science/Engineer Associate oversees
29 dangerous waste pickup and transportation to the HWTU storage areas. When adequate volumes of waste
30 have accumulated, the HWTU Science/Engineer Associate is responsible for readying the waste for
31 transfer. These duties could include packaging, labeling, manifesting, and recordkeeping to ensure
32 compliance with applicable regulations.

33 The HWTU Technical Specialist(s) also performs waste management operations such as pickup and lab
34 packing of small containers. The HWTU Technical Specialist(s) implements the 325 HWTUs
35 Contingency Plan and Emergency Procedures in the absence of the HWTU Activity Manager.

36 The HWTU Technician(s) is responsible for the physical operations at the HWTU. This person is
37 responsible for packaging, labeling, and preparing waste for transfer and assisting in any treatment or
38 sampling activities and/or waste pickups. The HWTU Technician(s) also is responsible for performing
39 minor maintenance and upkeep of the HWTU.

40 The HWTU Clerk(s) assists the technical specialist(s) and technicians(s) in recordkeeping and database
41 maintenance, verification of waste inventories, and preparation of reports, labels, manifests, waste
42 tracking forms, and other associated documentation.

1 **APPENDIX 8A**

2 **8.0 PERSONNEL TRAINING**

3 The 325 Hazardous Waste Treatment Units (325 HWTUs) training plan outlines the training program
4 developed and implemented for the 325 HWTUs employees whose duties are identified as being
5 associated with dangerous waste management. The 325 HWTUs training program uses existing training
6 courses. The program is designed to ensure the 325 HWTUs operations comply with the training
7 requirements instituted in accordance with WAC 173-303-330 (see Section 8.2).

8 **8.1 OUTLINE OF TRAINING PROGRAM [H-1]**

9 The training program was designed to ensure that the 325 HWTUs are operated and maintained in
10 accordance with the requirements of the U.S. Environmental Protection Agency (EPA), Washington State
11 Department of Ecology (Ecology), and the U.S. Department of Energy, Richland Operations Office
12 (DOE-RL). The training program also is designed to prepare employees to operate and maintain the units
13 in a safe, effective, efficient, and environmentally sound manner, and ensures that employees are prepared
14 to respond in a prompt and effective manner should abnormal or emergency conditions occur. The
15 325 HWTUs management is responsible for identifying training requirements and providing personnel
16 training. Training requirements for personnel outside of the 325 HWTUs is the responsibility of that
17 person's management.

18 Pacific Northwest National Laboratory (PNNL) personnel not assigned to the 325 HWTUs may, on an
19 occasional basis, assist with specific operations at this unit. Proper training for the job will be given to
20 the personnel in these situations, before the beginning of any unsupervised work. This training shall be
21 documented and kept on file at PNNL for future reference.

22 General requirements of a training program include:

- 23 ▪ Teaching personnel to perform duties in compliance with Washington Administrative Code
24 (WAC) 173-303 Dangerous Waste Regulations
- 25 ▪ Instruction by a person knowledgeable of dangerous waste management procedures to include
26 training relevant to the employee's position
- 27 ▪ Development of a unit-specific program that includes instruction to familiarize personnel with
28 applicable procedures, container management practices, spill response, and emergency procedures
- 29 ▪ New employees must receive training within 6 months of employment and must be supervised until
30 completion of training
- 31 ▪ Employees must participate in an annual, biennial, and triennial requalification of training.

32 Management reevaluates the training program courses annually to ensure that dangerous waste training
33 requirements continue to be met. These reevaluations could result in modifying or adding new material to
34 the current training program.

35 Training requirements are provided in Table 1.

1 **8.1.3 Training Coordinator [H-1c]**

2 Training at PNNL is scheduled and provided by a number of specialists in their fields. The staff
3 member's immediate line management has the responsibility for identifying training needs and
4 coordinating completion of the training. The immediate line management is knowledgeable in dangerous
5 waste management procedures.

6 PNNL also has a system that tracks and monitors training for employees. This coordination includes a
7 system for flagging affected employees when additional training and/or followup is warranted.

8 **8.1.4 Relevance of Training to Job Position [H-1d].**

9 At a minimum, all Treatment, Storage, and Disposal (TSD) unit personnel will receive training
10 commensurate with the level of knowledge necessary to ensure that each employee understands the
11 general and specific aspects of their work environment. The titles and job descriptions of personnel
12 involved in operating the 325 HWTUs are set forth in Section 8.1.1. All training for personnel is relevant
13 to the positions in which they are employed. For normal operating conditions, the training includes the
14 following.

- 15 ▪ Laboratory Standard Hazard Communication –Initial: This course familiarizes the personnel with
16 their rights under the right-to-know statutes. Information on material safety data sheets (MSDS) and
17 their availability and on standard industrial hygiene terms also is covered.
- 18 ▪ Radiological Worker I – General Radiation Safety–Biennial: This course gives information on
19 radiological fundamentals, radiation work permits, the ALARA program, personnel monitoring,
20 radiological postings and controls, and radiological emergencies. A brief refresher to this class is
21 required during alternate years.
- 22 ▪ Radiological Worker II – General Radiation Safety–Biennial: This course gives information on the
23 basic characteristics of radiation, natural and manmade sources, biological effects and risks of
24 radiation exposure, ALARA, contamination control, and warnings and alarms. A brief refresher to
25 this class is required during alternate years.
- 26 ▪ Advanced Waste Management [Hazardous (HAZ), Low Level (LLW), Mixed (MW), and Transuranic
27 (TRU)] – Course #1084: This training covers PNNL dangerous and mixed waste procedures and
28 issues and regulatory requirements applicable to PNNL operations.
- 29 ▪ Hazardous Material Shipping Representative – Annual: This course introduces the requirements for
30 transferring or shipping hazardous materials onsite and offsite.
- 31 ▪ Radioactive Generator Training Annual (Course #844): This course provides details associated with
32 the disposal of solid low-level waste. The course shows the waste certification process, along with
33 the paperwork associated with the physical disposal process.
- 34 ▪ Transuranic (TRU) Waste Packager Training – Annual: This class/ reading assignment covers the
35 applicable requirements for packaging, storing, certifying, and shipping TRU waste.
- 36 ▪ Laboratory Hood Safety Training – Biennial: This course explains the operation of, proper use of,
37 and hazards associated with laboratory hoods.

1 **8.1.1.2 Shielded Analytical Laboratory Job Titles and Descriptions.**

2 The SAL Technical Group Leader (Supervisor) has responsibility for all operations within the SAL
3 portion of the 325 HWTUs at the technical group management level. This includes all technical,
4 managerial, and operational aspects of the SAL.

5 The SAL Technical Group Leader has responsibility for all aspects of the day-to-day operation of the
6 SAL. Guidance and direction is provided to all personnel in the technical group. Final decision making
7 for operations within the technical group rests with the SAL Technical Group Leader. The SAL
8 Technical Group Leader is responsible for the daily operations of the SAL, including all aspects of mixed
9 waste treatment activities. This includes ensuring compliance with RCRA, WAC 173-303, and PNNL
10 waste operating procedures. The SAL Technical Group Leader also serves as a zone warden for the SAL
11 and assists the 325 Building BED in the event of an offnormal event or emergency.

12 The SAL Waste Management Technician is responsible for the preparation and analysis of dangerous
13 waste as performed in analytical chemistry hot cells and for the proper treatment and storage of mixed
14 waste materials. The SAL Waste Management Technician is responsible for recordkeeping, waste
15 designation, packaging, and transferring for the SAL portion of the 325 HWTUs. The position also
16 involves all aspects of hot cell operation and master/slave manipulator operation, including the operation
17 of analytical instrumentation situated in the hot cells.

18 The SAL Technical Specialist(s) and Technician(s) are responsible for the preparation and analysis of
19 samples and conducting research activities as performed in analytical chemistry hot cells. The positions
20 also involve all aspects of hot cell operation and master/slave manipulator operation, including the
21 operation of analytical instrumentation situated in the hot cells.

22 The SAL Clerk(s) assists the Technical Group Leader in recordkeeping, database maintenance, and
23 preparation of reports, labels, manifests, waste tracking forms, and other associated documentation.

24 325 Building Emergency Director.

25 The 325 Building BED has responsibility for directing emergency activities for the 325 Building, and
26 serves as the Emergency Coordinator as described in WAC-173-303-360. This person will receive, in the
27 event of an emergency, additional hazard information from the HWTU Activity Manager.

28 **8.1.2 Training Content, Frequency, and Techniques [H-1b]**

29 A list of required courses and associated training frequencies are provided in Table 1, and a brief
30 description of these courses is processed in Sections 8.1.4 and 8.1.5. Personnel training could consist of
31 both classroom and on-the-job training. Equivalent training that meets regulatory requirements could be
32 taken in lieu of training identified in Table 1, with approval from the HWTU Activity Manager.

33 New employees at the 325 HWTUs must successfully complete the training program within 6 months
34 after their employment or assignment to the unit or transfer to a new position within the unit. At a
35 minimum, the training familiarizes personnel with emergency equipment and procedures, and unit
36 operations. All current employees and new employees, upon completion of an initial qualification phase,
37 will receive ongoing training relevant to the position for which they are employed. The continuing
38 training received by each employee will be evaluated for relevance and completeness.

1 **8.1.5.1 Procedures for Using, Inspecting, Repairing, and Replacing Unit Emergency and**
2 **Monitoring Equipment.**

3 Personnel operating the 325 HWTUs are adequately trained to ensure prompt and effective response to
4 emergency situations that might arise during operation. The following required safety courses address
5 emergency response and outline procedures for using, inspecting, repairing, and replacing unit emergency
6 and monitoring equipment.

- 7 ▪ 325 Building Emergency Procedure and Contingency Plan—Annually or when changes are made,
8 whichever is more frequent: This course familiarizes personnel with the specific responsibilities of
9 the emergency procedures and the written contingency plan.
- 10 ▪ Respiratory Protection—Annual: This course familiarizes the personnel with the proper use of air
11 purifying respirators and their limitations. It also makes personnel aware of potential respiratory
12 hazards, how to recognize the hazards, and what actions to take.
- 13 ▪ Treatment, Storage, or Disposal (TSD) Facility Hazardous Waste Operations Training—24-hour initial
14 training and an 8-hour annual refresher: This course provides extensive instruction on the use of field
15 survey instruments such as combustible gas indicators, oxygen meters, detector tube systems, photo
16 and flame ionization instruments, organic vapor analyzer (OVA) meters, and atmospheric sampling
17 instruments. Other topics covered include heat-induced illnesses, OSHA's Emergency Response
18 Standards, lists of personal protective equipment, hazardous materials classification systems, confined
19 space work practices, liquid storage tanks, contamination control, toxicology, and medical
20 monitoring.
- 21 ▪ Emergency Safety Showers and Eyewash Stations—Initial: This 8-minute video course provides
22 personnel with training on emergency safety showers and eyewash stations.
- 23 ▪ Fire Extinguisher Use—Annual: This 1.5-hour course covers the actual use of a portable fire
24 extinguisher. The types, uses, and limitations of portable fire extinguishers are discussed; the trainee
25 demonstrates the ability to extinguish a combustible liquid fire.

26 **8.1.5.2 Key Parameter for Automatic Waste Feed Cut-Off Systems.**

27 The 325 HWTUs have no automatic waste feed systems.

28 **8.1.5.3 Communications or Alarm Systems.**

29 Personnel operating the 325 HWTUs are properly trained in handling communication devices, alarm
30 systems, and recognizing and understanding the meaning of alarm sirens. In addition, the 325 Building
31 Emergency Procedure, required reading for all 325 HWTUs personnel, also details communication and
32 alarm systems, as well as proper response to each system during an emergency.

33 **8.1.5.4 Response to Fires.**

34 Personnel at the 325 HWTUs are adequately trained in response to fires. All personnel are trained
35 annually in the implementation of the Contingency Plan, which outlines each person's immediate and
36 sequential actions in the event of any emergency. In addition, responsible personnel receive training for
37 proper handling, maintenance, and discharge of fire extinguishers and proper activation of alarm and fire
38 suppressant systems.

- 1 ▪ Glove Box Operational Safety – Biennial: This 1-hour course is designed to serve as the basis for
2 new glove box users and to refresh the experienced glove box user in the proper procedures of using
3 the glove box, including glove change and bag-out methods.

- 4 ▪ Crane Hoist and Rigging Safety – Triennial: This course provides instruction in the safe operation of
5 cranes and in proper rigging techniques.

- 6 ▪ Lock and Tag: General Employee Orientation – Initial: This course introduces the requirements of
7 the lock and tag policy to personnel who might be in areas where machinery or equipment could be
8 locked and tagged out of service.

- 9 ▪ Lock and Tag for Authorized Staff Members – Annual: This course familiarizes personnel with the
10 duties of identifying hazardous energy and the methods for its control, the importance of verifying
11 that hazardous energy is adequately controlled, and the means of properly installing and removing
12 lockout/tagout devices.

- 13 ▪ Operational Safety Requirements (OSRs) General Training – Biennial: This course is intended to
14 provide a general understanding of OSRs, why the requirements are needed, the development process,
15 and how the requirements are implemented.

- 16 ▪ 325 Building OSR Checklist Training – Biennial: This course is conducted to ensure that all
17 personnel who work on or with projects or building systems in the 325 Building are familiar with and
18 fully understand the contents and significance of the specific OSRs as detailed in the OSR Checklist.

- 19 ▪ 325 HWTUs Permit Application Review – Annually or whenever the permit is revised, whichever is
20 more frequent: This requirement is fulfilled by reading and studying the Permit and the permit
21 application documentation.

- 22 ▪ 325 Technical/Administrative Procedures – Initially and whenever the procedure content is revised:
23 This requirement is fulfilled by reading and studying the written procedures pertaining to the
24 individual's work area. The procedures include the Waste Handling Organization Procedures for
25 HWTU personnel and the TSD-related Analytical Chemistry Laboratory Procedures for SAL
26 personnel.

27 Training is tracked and documented through the laboratory training database system (LTDS). Training
28 records and class documentation are held on file in the operations offices at the 325 HWTUs as part of the
29 Operating Records.

30 **8.1.5 Training for Emergency Response [H-1e]**

31 Training is provided to ensure that personnel are able to respond effectively to emergencies and are
32 familiar with emergency procedures, emergency equipment, and emergency systems. Emergency
33 response training areas include, but are not limited to, the following:

- 34 ▪ Using, inspecting, repairing or replacing 325 HWTUs emergency and monitoring equipment
- 35 ▪ Activating and responding to communications and alarm systems
- 36 ▪ Responding to fires and explosions
- 37 ▪ Shutting down operations.

Table 8-1. 325 Hazardous Waste Treatment Units Training Requirements

1	TRAINING COURSE NAME	JOB POSITION								
		HWTU Personnel				SAL Personnel				
		AM	TS	T	C	GL	WT	T	C	BED
2	325 Building Emergency Procedure	A	A	A	A	A	A	A	A	A
3	325 HWTUs Contingency Plan	A	A	A	A	A	A	A	A	A
4	Laboratory Standard Hazard Communication	I	I	I	I	I	I	I	I	I
5	Radiological Worker I/Refresher	N	N	N	B	N	N	N	N	N
6	Radiological Worker II/Refresher	B	B	B	N	B	B	B	B	B
7	Respiratory Protection	A	A	A	N	N	A	A	N	N
8	Hazardous Waste Management	A	A	A	N	A	A	A	N	A
9	Hazardous Material Shipping Representative	B	B	N	N	N	B	N	N	N
10	24- & 8-Hour TSD Facility Hazardous Waste Operations	I/A	I/A	I/A	I/A	I/A	I/A	I/A	I/A	I/A
11	Radioactive Liquid Waste System Training	A	A	A	N	N	A	A	N	N
12	Low-Level Waste (LLW) Packager Training	A	A	A	N	A	A	N	N	N
13	Transuranic (TRU) Waste Packager	A	A	A	N	A	A	A	N	N
14	Emergency Safety Showers & Eyewash Stations	I	I	I	N	I	I	I	N	I
15	Laboratory Hood Safety	B	B	B	N	N	B	B	N	N
16	Glove Box Operational Safety	B	B	B	N	N	N	N	N	N
17	Lock & Tag for Authorized Staff Members	A	N	N	N	N	A	N	N	A
18	Lock & Tag General Employee Orientation	N	I	I	N	I	I	I	N	N
19	Crane-Hoist & Rigging Safety	T	T	T	N	N	T	T	N	N
20	Hands On Fire Extinguisher Use	A	A	A	N	N	A	N	N	N
21	Operational Safety Requirements General	B	B	B	B	B	B	B	B	B
22	325 Building OSR Checklist	B	B	B	B	B	B	B	B	B
23	325 HWTUs Permit Application Review	A	A	A	N	A	A	A	N	N
24	Applicable 325 TSD-related Operational Procedures	I*	I*	I*	N	I*	I*	I*	N	N

25 Job Position Key:

- 26 AM - HWTU Activity Manager
- 27 GL - SAL Technical Group Leader
- 28 WT - SAL Waste Technician
- 29 T - Unit/SAL Technical Specialist/Technician
- 28 TS - Unit Technical Specialist
- 29 C - Unit/SAL Clerk
- 30 BED - Building Emergency Director

31 Requirements Key

- 32 A - Annually
- 33 B - Biennially
- 34 I* - Initially, then when procedures are revised
- 35 I - Initially upon assignment to the unit
- 36 N - Not required
- 37 T - Triennially

1 **8.1.5.5 Response to Groundwater Contamination Incidents.**

2 Groundwater monitoring is not required for the 325 HWTUs.

3 **8.1.5.6 Shutdown of Operations.**

4 In the event of a shutdown of operations in the 325 HWTUs due to an emergency situation, personnel
5 follow plans outlined in the 325 HWTUs Contingency Plan. As mentioned previously, all personnel are
6 trained annually in the implementation of the Contingency Plan. The persons responsible for the decision
7 to shut down either unit are the HWTU Task Manager, the SAL Technical Group Leader, the Building
8 Emergency Director (BED) or any trained HWTUs staff member. The BED will be notified of any
9 325 HWTUs shutdown.

10 **8.2 IMPLEMENTATION OF TRAINING PROGRAM [H-2]**

11 The training program is currently being implemented. All personnel will receive training within 6 months
12 of their date of hire or their transfer to a new position in the 325 HWTUs. Personnel will not work in
13 unsupervised positions until they have successfully completed the appropriate training courses. Records
14 documenting formal training are maintained at the 325 HWTUs; primary files are kept at the office of the
15 PNNL Laboratory Training Coordinator. Training records of current employees will be kept until closure
16 of the unit. Records of former employees are kept for at least 3 years from the date when the employee
17 last worked at the 325 HWTUs.

Hanford Facility RCRA Permit

**Attachment 4
Hanford Emergency Management Plan, DOE/RL-94-02,
Revision 2**

Replacement

Index

DOE/RL-94-02, Revision 2

Hanford Emergency Management Plan

Date Published
October 1999

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Approved for Public Release

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ACRONYMS/ABBREVIATIONS

AIHA	American Industrial Hygienists Association
BED	Building Emergency Director
BHI	Bechtel Hanford, Inc.
BW	Building Warden
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPR	cardiopulmonary resuscitation
CSO	Cognizant Secretarial Officer
DOE	U.S. Department of Energy
DOE-HQ	U.S. Department of Energy, Headquarters
DOT	U.S. Department of Transportation
EAL	emergency action level
EAS	Emergency Alert System
Ecology	Washington State Department of Ecology
EDF	Emergency Decontamination Facility
EDO	Emergency Duty Officer
ENS	Emergency Notification System
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPZ	emergency planning zone
ERAP	Emergency Readiness Assurance Plan
ERC	Environmental Restoration Contract
ERDF	Environmental Restoration Disposal Facility
ERO	emergency response organization
ERPG	Emergency Response Planning Guideline
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation
FDA	Food and Drug Administration
FDH	Fluor Daniel Hanford, Inc.
FEMA	Federal Emergency Management Agency
FRERP	Federal Radiological Emergency Response Plan
HEHF	Hanford Environmental Health Foundation
HCC	health care center
IC	Incident Commander
ICP	Incident Command Post
JIC	Joint Information Center
MOU	memoranda of understanding
NFPA	National Fire Protection Association
ONC	Occurrence Notification Center
ORP	U.S. Department of Energy, Office of River Protection
OSHA	Occupational Safety and Health Administration

ACRONYMS/ABBREVIATIONS (cont)

PAG	Protective Action Guideline
PAR	protective action recommendation
PCB	Polychlorinated biphenyl
PHMC	Project Hanford Management Contract
PNNL	Pacific Northwest National Laboratory
POC	Patrol Operations Center
QSH	Quality, Safety, and Health Program Division
RAP	Radiological Assistance Program
RCRA	Resource Conservation and Recovery Act
RL	U.S. Department of Energy, Richland Operations Office
SARA	Superfund Amendment and Reauthorization Act of 1986
SAS	Safeguards and Security
SCAPA	Subcommittee on Consequence Assessment and Protective Actions
SCBA	self-contained breathing apparatus
SMT	Site Management Team
SRG	Scenario Review Group
TEDE	total effective dose equivalent
TEEL	Temporary Emergency Exposure Limit
TEP	Transportation Emergency Preparedness
TSD	treatment, storage, and disposal
UDAC	Unified Dose Assessment Center
USCG	U.S. Coast Guard
WAC	Washington Administrative Code
WNP-2	Washington Nuclear Project 2

1.0 INTRODUCTION

1.1 PURPOSE

The *Hanford Emergency Management Plan* for the U.S. Department of Energy (DOE), Richland Operations Office (RL) and Office of River Protection (ORP), incorporates into one document an overview of the emergency management program for the Hanford Site. The program has been developed in accordance with DOE Orders as well as Federal and state regulations to protect worker and public health and safety and the environment in the event of an emergency at or affecting the Hanford Site.

This revision of the plan recognizes the establishment of the ORP responsible for managing the River Protection Project (formerly called Tank Waste Remediation System), including those portions under privatization contracts, of the DOE at Hanford. The plan further assumes that ORP will retain the emergency management program requirements within the framework of the existing Hanford Emergency Response Organization (ERO). As more details of the interface between RL and ORP are defined and documented, this plan will be modified accordingly.

This plan provides a description of how the Hanford Site will implement the provisions of DOE O 151.1 and other applicable Orders in terms of overall policies and concept of operations. The plan should be used as the basis, along with DOE Orders, for the development of specific RL/ORP and site contractor implementing procedures.

Additionally, portions of this plan, together with Hanford Site location/activity-specific documentation established to meet contingency plan requirements, meet the Washington Administrative Code (WAC) 173-303 requirements for the Hanford Site contingency plan. Many documents comprise the Hanford Site contingency plan. Applicability of this plan to Hanford Site activities is described in the Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion, General Condition II.A. General Condition II.A applies to Hanford Site activities at operating treatment, storage, and disposal (TSD) units, TSD units undergoing closure and/or post-closure activities, and to transportation incidents on the site in accordance with the applicability matrix delineated in Attachment 3 of the Hanford Facility RCRA Permit. For interim status TSD units and 90-day accumulation areas, these activities will be consistent with emergency preparedness policy and implementation techniques required by the Hanford Facility RCRA Permit, General Conditions II.A and II.B. Contingency plan requirements from WAC 173-303-350 met in this plan are identified in the crosswalk matrix in Appendix A.

This plan, together with each Polychlorinated biphenyl (PCB) temporary accumulation area location/activity-specific documentation, also meets the requirements for a Spill Prevention Countermeasures and Control (SPCC) Plan and the notifications required by 40 CFR 761.

1.2 SCOPE

Event response is governed by an emergency preparedness documentation hierarchy that is shown in Figure 1-1. This hierarchy generally follows an integrated contingency plan approach. In such an approach, one set of documentation responds to a number of requirements (e.g., environmental regulations and DOE Orders). The crosswalk contained in Appendix A illustrates which portions of this plan address the specified requirements.

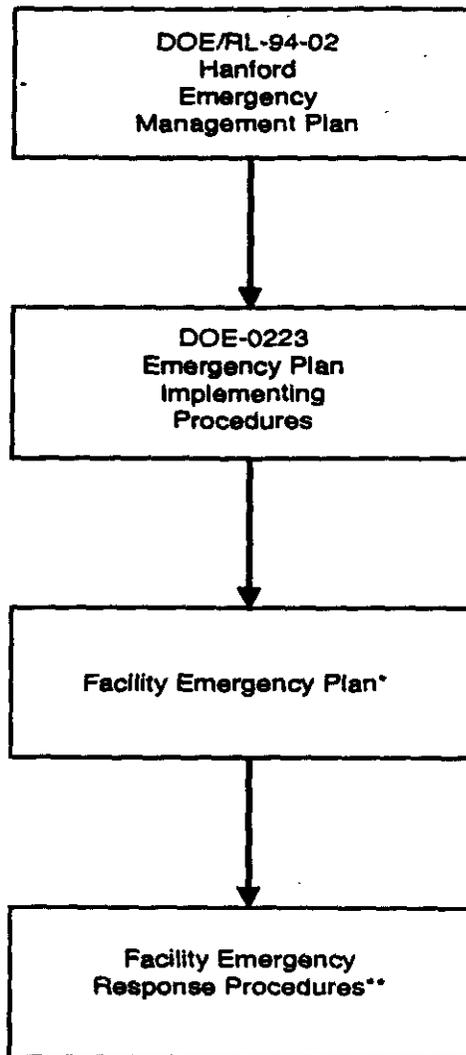
This plan describes the overall emergency organization, authorities, and responsibilities for response to and mitigation of emergency events involving facilities and activities on the Hanford Site. These events include the full spectrum of operational emergencies, natural phenomena, transportation events, and safeguard and security emergencies. This plan also describes the authorities, responsibilities, and agreements for response to offsite and near-site facility emergencies that have the potential for detrimentally affecting the health of personnel and safety of operations at the Hanford Site.

RL/ORP and each site contractor shall develop and maintain procedures or other documents necessary to implement the emergency management program described in this plan. Procedures shall contain detailed information and the specific instructions, including response actions, associated precautions and prerequisites, and identification of responsible individuals, needed to carry out the appropriate action during a drill, exercise, or actual emergency.

For the Hanford Site, these procedures shall include, but not be limited to, the following.

- RL/ORP site-wide emergency procedures used by RL/ORP and site contractors that delineate:
 - the operation of the Hanford Incident Command System and responsibilities of the Incident Command Organization;
 - the responsibilities for the DOE Hanford Emergency Operations Center (EOC), which includes the Policy Team, Site Management Team (SMT), and the Joint Information Center (JIC);
 - recognition, categorization/classification, and notification of emergencies and other incidents;
 - protective action recommendations (PARs);
 - response to nonradiological hazardous substance spills or releases during transportation incidents occurring on the site not covered by TSD unit-specific contingency plans or building emergency plans;

Figure 1-1. Emergency Preparedness Documentation Hierarchy.



* Facility Emergency Plans can include Building Emergency Plans, Supplemental Contingency Plans, or Facility Emergency Information Boards.

** In some facilities, the plan and procedures are integrated.

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NOTE: The term hazardous substances is defined in WAC 173-303-040 as: "any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical or biological properties described in WAC 173-303-090 or 173-303-100." Whenever the term "hazardous substances" is used in this document to denote the WAC 173-303 definition, the term will be referred to as "WAC hazardous substance." Otherwise, a hazardous substance will mean those regulated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

- response to PCB spills or releases in accordance with 40 CFR 761;
 - termination, reentry, and recovery for RCRA and DOE Order emergencies; and
 - response to onsite and offsite shipments of RL/ORP-owned radiological and nonradiological hazardous materials.
- Site contractor emergency procedures that:
 - enable the implementation of the responsibilities of the site contractors;
 - supplement, as necessary, implementation of RL/ORP emergency procedures;
 - include facility and organizational plans and procedures for response to, and recovery and restoration from, specific emergency conditions, to include bomb threats, at Hanford Site facilities; and
 - include building emergency plans and/or procedures which are required for buildings, facilities, and structures defined as a nuclear or reactor facility, regulated by the Washington State Department of Ecology (Ecology) Dangerous Waste Regulations, or regulated by the U.S. Environmental Protection Agency (EPA) Toxic Substances Control Act.

In addition to the program for response to and mitigation of emergencies, this plan also provides direction on the activities necessary to ensure emergency preparedness on the Hanford Site such as training, drills, exercises, and assessments. The authority and responsibility for interfaces with offsite organizations responsible for protecting the public and the environment, including those agencies that may provide or request support in the event of an emergency, is also delineated.

The RL responsibility to provide, upon request, radiological advice and assistance to other Federal, tribal, state, or local governments under the Radiological Assistance Program (RAP) is defined in DOE/RL-92-49, *U.S. Department of Energy Radiological Assistance Program Plan and Procedure Region 8* (DOE/RL 1992).

1.3 CONCEPT OF OPERATION

An integrated and comprehensive Hanford Site emergency management program has been developed to ensure that:

- the site can respond effectively and efficiently to emergencies so that appropriate response measures are taken to protect workers, the public, the environment, and the national security;
- emergencies are promptly recognized and classified, and parameters associated with the emergency are monitored to detect changed or degraded conditions;
- emergencies are reported and notifications are made; and
- reentry activities are properly and safely accomplished, and recovery and post-emergency activities commence properly.

1.3.1 Hanford Site Emergency Management Program Elements

There are five elements of the Hanford Site emergency management program. These elements are:

- **emergency planning** which includes identification of hazards and threats, hazard mitigation, development and preparation of emergency plans and procedures, and identification of personnel and resources needed for an effective response;
- **emergency preparedness** which includes acquisition and maintenance of resources, training, drills, and exercises;
- **emergency response** which includes the application of resources to mitigate consequences to workers, the public, the environment, and the national security, and the initiation of recovery from an emergency;
- **recovery** which includes planning for and taking actions following termination of the emergency to return the facility/operations to normal; and
- **readiness assurance** which includes assessments and documentation to ensure that stated emergency capabilities are sufficient to implement emergency plans.

1.3.2 Hanford Site Emergency Management Program Basis

The comprehensive Hanford Site emergency management program is based on and commensurate with the hazards and consequences associated with facilities and activities on the site (i.e., developed consistent with a graded approach), offsite facilities that may impact the site,

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and onsite and offsite RL/ORP transportation emergency preparedness (TEP) activities involving radiological and nonradiological hazardous materials.

1.3.2.1 Operational Emergency Base Program. Each site facility shall have an Operational Emergency Base Program that provides the framework for response to serious events involving health and safety, the environment, safeguards, and security. These events are not unique to DOE operations.

The Operational Emergency Base Program shall provide for compliance with applicable regulations and plans developed by other Federal agencies and DOE offices, and with those state and local planning and preparedness requirements that apply.

Additionally, the Operational Emergency Base Program shall provide for integrated planning to meet the response requirements identified in the hazards survey. Hazards surveys are discussed further in subsection 1.3.3.1.

1.3.2.2 Operational Emergency Hazardous Material Program. The Operational Emergency Hazardous Material Program adds to the Operational Emergency Base Program. Depending on the findings of the hazards survey, site facilities may be required to establish and maintain a quantitative hazards assessment. The hazards assessment will be used to define the provisions of the Operational Emergency Hazardous Material Program to ensure the program is commensurate with the hazards identified. Such hazard assessments are required if the hazard survey identifies hazardous materials in quantities exceeding the lower of the Threshold Quantities listed in 29 CFR 1910.119 or 40 CFR 68.130; Threshold Planning Quantities, listed in 40 CFR 355; or quantities listed in 10 CFR 30.72 for radionuclides. The results of this assessment provide the technical basis for establishing a graded approach that will meet the program requirements.

The extent of planning and preparedness directly corresponds to the type and scope of hazards present and the potential consequences of events. Hazards assessments prepared for Hanford Site hazardous facilities include identification of hazards and targets unique to a facility, analysis of potential events, and evaluation of potential event consequences. Hazards assessments are discussed further in subsection 1.3.3.2.

Using the accident scenarios and consequences identified in a facility hazards assessment, the observable methods of detecting or recognizing an emergency can be identified. These indicators, called emergency action levels (EALs), are used to determine the emergency class. The emergency class is used to trigger specified, preplanned responses and protective actions. Emergency classes and EALs are described further in the respective subsections of section 4.0. For each emergency class there shall be predetermined protective actions necessary to protect onsite personnel as well as recommended actions for the protection of offsite populations.

The Hanford Site ERO shall be formed, trained, and tested to ensure the recognition and classification of emergencies, and the implementation of protective actions. Recognition and classification of emergencies and protective action implementation is described further in subsequent sections of this plan.

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1.3.2.3 Hanford Transportation Emergency Preparedness Program. The Hanford Transportation Emergency Preparedness Program provides the framework for response to onsite and offsite transportation incidents involving radiological and nonradiological hazardous material.

For transportation planning purposes, shipments transported on roadways north of the site's Wye Barricade are exempt from the U.S. Department of Transportation (DOT) regulations found in 49 CFR. Shipments transported south of the Wye Barricade are considered "in commerce" and shall be regulated under the DOT regulation in 49 CFR, unless public access control is extended south of the Wye Barricade (but not beyond the site boundary) for special case shipments.

For transportation incidents that occur on the site, the Incident Command System is used to mitigate the situation. Upon notification of the event by the Patrol Operations Center (POC), the Hanford Fire Department shall assume incident command responsibilities. The Emergency Duty Officer (EDO) shall have the responsibility for event classification and activation of the Hanford ERO as appropriate.

For transportation incidents involving DOE-owned hazardous materials that occur off the site, the POC shall initially provide information to first responders on a 24-hour basis in accordance with DOT 49 CFR requirements. In addition, the POC will then connect the caller directly with the Transportation On-Call Representative and the EDO who will provide more detailed information regarding the shipment and follow on response assistance as appropriate.

Figure 1-3 outlines the response approach to a transportation emergency.

1.3.3 Hazards Survey and Hazards Assessment

Hazards surveys and hazards assessments are used for emergency planning purposes. DOE O 151.1 requires that emergency management efforts begin with the identification of hazards and that the scope and extent of emergency planning and preparedness be commensurate with the hazards. The hazards survey briefly describes the potential impacts of emergency events or conditions and summarizes the planning and preparedness requirements that apply. The hazards assessment includes the identification and characterization of hazardous materials (radiological and nonradiological) specific to a facility or activity, analyses of potential accidents or events, and evaluation of potential consequences.

1.3.3.1 Hazards Survey Process. A hazards survey (i.e., qualitative examination) shall be prepared to identify the conditions to be addressed by the comprehensive emergency management program. Much of the facility hazards survey should already have been done in the course of meeting other DOE, Federal, and state agency requirements.

The hazards survey shall:

- identify and describe each facility or activity;

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- identify (e.g., in matrix or tabular form) the emergency conditions (e.g., fires, work place accidents, natural phenomena, etc.);
- describe the potential health, safety, or environmental impacts related to specific and surrounding facilities; and
- summarize the planning and preparedness requirements that apply.

Each hazards survey shall combine as many facilities as possible that are subject to the same types of hazards and shall be updated whenever operations warrant a change, but no less than every three years.

Additional information/guidance to assist in the preparation of hazards surveys is delineated in the applicable section of the DOE *Emergency Management Guide* (DOE 1997).

1.3.3.2 Hazards Assessment Process. The release or loss of control of hazardous materials (radiological and nonradiological) shall be quantitatively analyzed. If the results of the analysis indicate the potential for an Alert, Site Area Emergency, or General Emergency, the results of the analysis shall be used to determine the necessary personnel, resources, and equipment for the Hazardous Materials Operational Emergency Program. If the hazards assessment indicates that all events would be classified as less than an Alert, the minimum program requirements shall encompass the requirements for Hazardous Waste Operations and Emergency Response found in 29 CFR 1910.120 and the Base Program Operational Emergency requirements specified in this plan.

Each facility with significant quantities of hazardous materials (radiological and nonradiological) shall develop and maintain a quantitative hazards assessment and meet more detailed emergency planning requirements. Hazardous materials are any solid, liquid, or gaseous material that is toxic, flammable, radioactive, corrosive, chemically reactive or unstable upon prolonged storage in quantities that could pose a threat to life, property, or the environment.

While not every conceivable situation will be analyzed, the hazards assessments will provide the framework for response planning to virtually any declared emergency. Assumptions, methodology, models, and evaluation techniques used in the hazards assessment shall be documented.

The hazards assessment shall be reviewed at least annually and updated to delineate significant changes to the facility or hazardous material inventories, and be maintained in accordance with site contractor document control requirements.

In addition, the hazards assessment shall include a determination of the size of the emergency planning zone (EPZ). The EPZ is the geographic area surrounding the site/facility for which special planning and preparedness actions are taken or need to be taken to reduce or minimize the impact to onsite personnel and public health and safety in the event of a Hazardous Material Operational Emergency.

1.3.3.2.1 Hazards Assessment Development. There are six steps in the hazards assessment development process.

Step 1: Define and describe the facility and its operations. This is accomplished through review of safety analysis reports or other documented analyses prepared for the subject facility.

Step 2: Identify and screen the hazards (both radiological and nonradiological). Threshold values of radiological and nonradiological materials are reviewed to determine those materials that exceed established criteria. These lists of materials are obtained from documents such as safety analysis reports, safety assessments, facility hazards classification documentation, Superfund Amendment and Reauthorization Act of 1986 (SARA) Title III inventories, and inventories of dangerous or mixed waste.

Step 3: Characterize the hazards remaining after the screening process.

Step 4: Develop event scenarios.

Step 5: Estimate the consequences of events.

Step 6: Compare the consequences to the emergency classification criteria.

Additional information/guidance to assist in the development of hazards assessments is delineated in the applicable section of the *DOE Emergency Management Guide* (DOE 1997).

1.3.4 Hanford Site Emergency Response

This section provides an overview of how the Hanford Site responds to events. It covers the actions to be taken for an event by the event discoverer, the facility staff, and by agencies such as the Hanford Fire Department and/or Hanford Patrol.

Since the Hanford Site has a diverse array of facilities and processes, a graded approach is used to respond to an event depending upon the nature of a facility and/or the severity of the event. There are a number of events to which the site has to be ready to respond, including releases, spills, operational events, fires, natural phenomenon, and security events.

The discoverer of an event (e.g., fire, release, spill, transportation incident, etc.) initiates response to the event. For some events, specific response actions to mitigate the event by the discoverer and/or facility staff may be appropriate. In such cases, actions may include shutting down systems, isolating materials, or performing other facility specific response actions when appropriate. Facility procedures may also direct protective actions for personnel.

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In other events, resources outside the facility may be required. In these cases, the general response approach is outlined in Figure 1-2 and requires the discoverer to call the 911 emergency number. Upon being contacted, the 911 emergency center assesses the situation and notifies the primary response agency – the Hanford Fire Department or Hanford Patrol for security events – that responds and ensures implementation of the Hanford Incident Command System. The Hanford Incident Command System provides for coordination of all responders including the facility emergency response organization (i.e., Building Emergency Director, Building Warden, etc.). The senior Hanford Fire Department official becomes the Incident Commander (IC), unless the event is determined to primarily be a security event, in which case the Hanford Patrol senior officer becomes the IC.

When the Hanford Incident Command System is established, a coordinated effort to plan and implement additional mitigative activities commences. In addition, the consequences of the event are further analyzed and additional protective actions are implemented through the use of emergency signals, crash alarm telephone systems, and barricades if determined necessary.

Whenever there is an event at Hanford, certain notifications are required depending upon the type and severity of the event. These notifications would include management notifications, activation of emergency response personnel, and offsite agency notifications as necessary. These notifications are performed primarily by the Occurrence Notification Center (ONC) and site contractor environmental single points-of-contact. For events that do not meet emergency criteria but could cause public concern or media interest, local and state emergency management agencies are notified as well as state regulatory agencies for information purposes. If the event exceeds regulatory criteria, the appropriate regulatory agencies are notified immediately.

Concurrent with the immediate notifications to the appropriate regulatory agencies, if the event is severe enough to be classified as an Alert, Site Area Emergency, or General Emergency, state and county agencies are notified within 15 minutes of declaration of the emergency. This notification allows the agencies to implement protective actions for their populations if necessary, and to begin mobilization of resources. In addition, preplanned protective actions are implemented for site personnel and the DOE Hanford EOC is activated to support the Incident Command Organization and coordinate interface with offsite agencies.

Upon mitigation of the event to the point the situation is stabilized and ensuring that actions have been taken to prevent reoccurrence, the event is terminated and the recovery effort begins. Recovery is the process of planning for and implementing actions to return the facility/process to pre-event conditions. Actions could include activities such as equipment repair, decontamination, proper storage of waste generated, and providing any follow-up reporting to appropriate regulatory agencies.

Figure 1-2. Emergency Response.

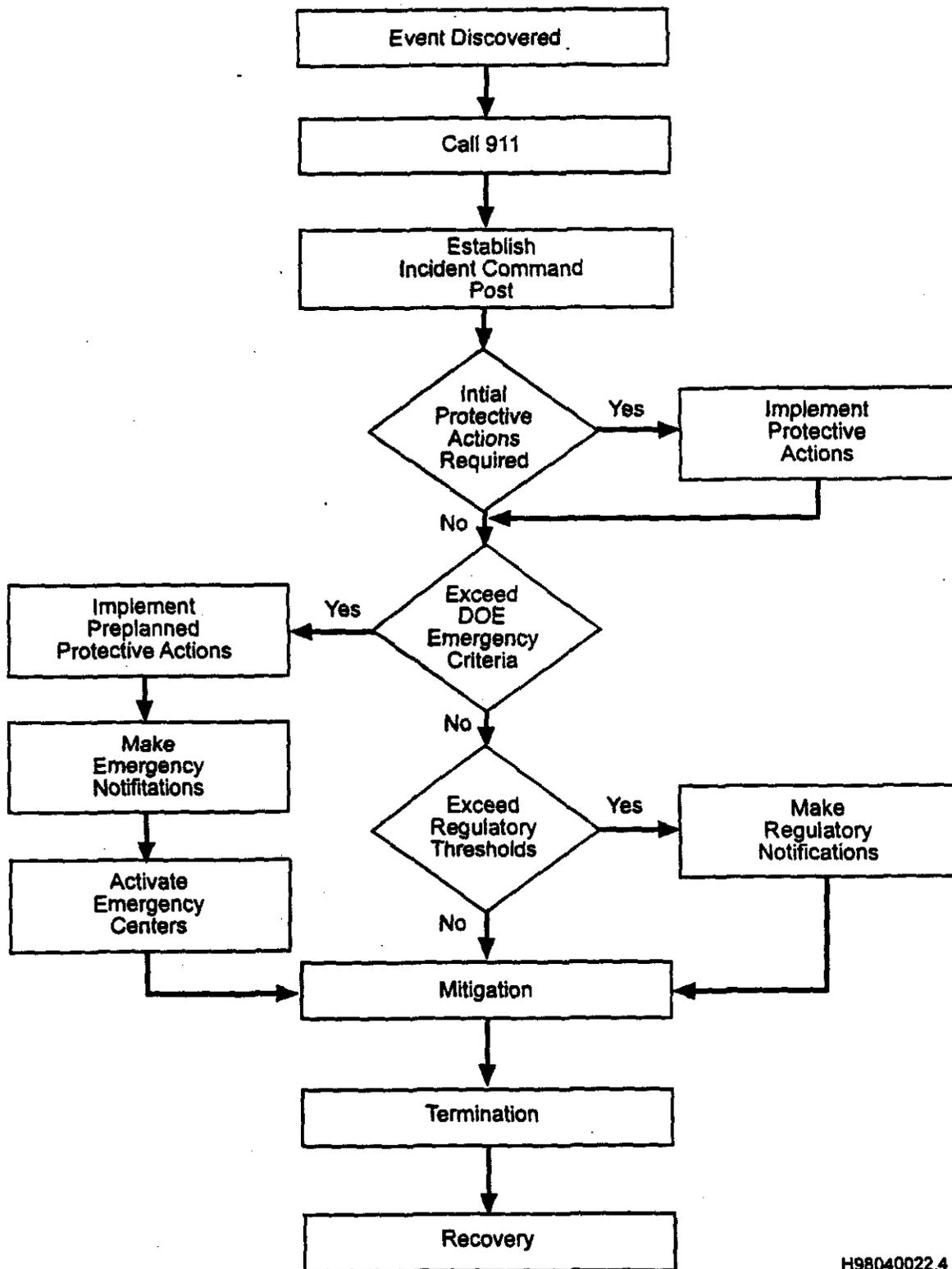
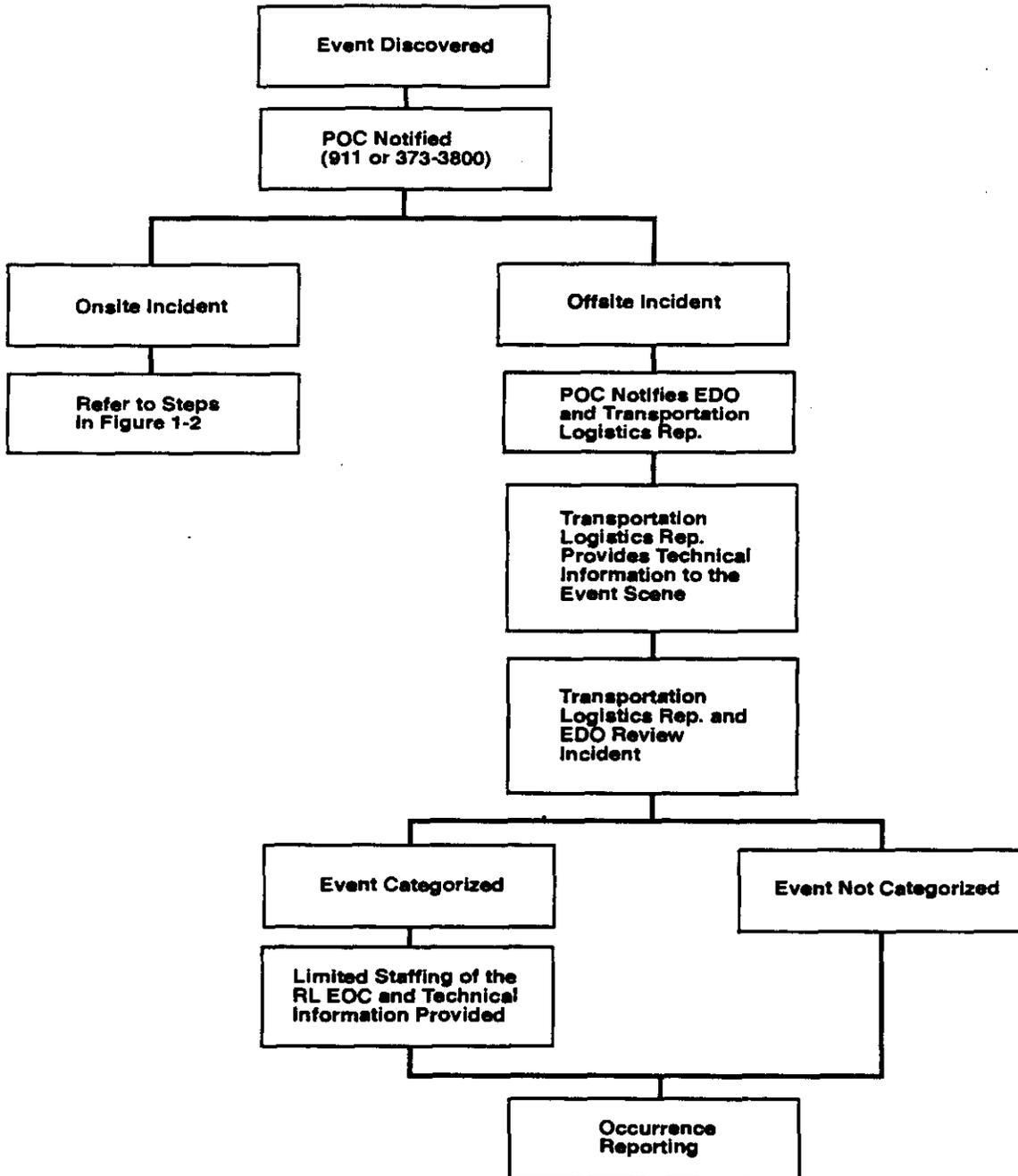


Figure 1-3. Transportation Emergency Response.



1.4 SITE DESCRIPTION

1.4.1 Overview Site Description

The 1,500-square-kilometer (560-square-mile) Hanford Site was originally acquired by the Federal government in 1943 for the construction and operation of facilities to produce plutonium that was used to help end the Second World War. In 1989, the Hanford Site mission changed from one of national defense production to waste management, environmental restoration, and technology development.

Hanford Site contractors operate/manage facilities and provide site services for RL/ORP. The site contains several types of complex facilities, including retired nuclear reactors, retired and active chemical processing facilities, nuclear waste storage tanks, and research laboratories. There are approximately 1,500 buildings (occupied and unoccupied) on the site with an infrastructure of utilities and transportation necessary to support an operation employing approximately 10,000 workers.

The Hanford Site is also defined as a single *Resource Conservation and Recovery Act of 1976* facility, identified by the EPA/State Identification Number WA7890008967, that consists of over 60 TSD units. This area consists of the contiguous portion of the Hanford Site that contains these TSD units and, for the purposes of the RCRA, is owned and operated by the U.S. Department of Energy (excluding lands north and east of the Columbia River, river islands, lands owned or used by the Bonneville Power Administration, lands leased to Energy Northwest, and lands owned by or leased to the state of Washington).

1.4.1.1 Hanford Site Facilities/Activities. The major facilities and activities on the Hanford Site, that are DOE-owned and contractor-operated, are grouped together in the following major areas.

- **100 Areas:** These areas are located along the Columbia River in the northern portion of the Hanford Site and contain nine former plutonium production reactors. The facilities in the 100 Areas are currently being prepared for permanent disposal.
- **200 East and 200 West Areas:** These areas lie on a plateau near the center of the site some 40 kilometers (25 miles) north of Richland, Washington, and are dedicated to waste management activities, laboratory support, waste characterization, and environmental restoration.
- **300 Area:** This area is approximately 8 kilometers (5 miles) north of Richland, Washington. Major activities include nuclear research and development.
- **400 Area:** This area, approximately 15 kilometers (9 miles) north of Richland, Washington, contains the Fast Flux Test Facility (in transition to shutdown) and related support facilities formerly involved in the liquid metal reactor program.

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- **600 Area:** This area includes all of the Hanford Site not occupied by the other listed areas. Land uses include the 310-square-kilometer (120-square-mile) Fitzner/Eberhardt Arid Lands Ecology Reserve, the Environmental Restoration Disposal Facility (ERDF), a U.S. Fish and Wildlife Refuge, and a recreational game site leased to the Washington State Department of Game.

The site also contains several major and minor operations that are not owned and/or operated by RL/ORP and its site contractors. The major operations include the following.

- A publicly owned commercial nuclear power plant, Washington Nuclear Power Plant No. 2 (WNP-2), operated by Energy Northwest on land leased from the Federal government on the eastern side of the site, near the Columbia River and about 15 kilometers (9 miles) north of Richland. This facility is operated in accordance with U.S. Nuclear Regulatory Commission licensing requirements and rules.
- A low-level radioactive waste disposal site located near the 200 Areas, on land that the state of Washington has leased from the Federal government. This facility is commercially operated by the US Ecology Company in accordance with state and Federal licenses and permits.
- A metalworking facility, Richland Specialty Extrusions, designed to manufacture aluminum products for commercial markets. This facility is located in the 313 Building of the 300 Area, which is leased from the Federal government until a permanent facility, to be located in Richland, can be completed.
- A commercial incubator project, administered by the Port of Benton, which will lease up to 22 excess site buildings adjacent to the 400 Area for private-sector businesses.
- An observatory to monitor the earth's gravitational waves, Laser Interferometer Gravitational Observatory (LIGO), located in the northern part of the 600 Area.

RL/ORP and its site contractors also lease site-related office and warehouse facilities off the Hanford Site in the city of Richland. These facilities can not generate an Alert or higher emergency.

1.4.1.2 Hazards. Activities at the Hanford Site involve both radiological and nonradiological hazardous materials. Major hazardous materials emergencies are associated with the potential for fire, explosion, or dispersion of radiological or toxic chemicals.

A significant hazard requiring emergency planning on the Hanford Site stems from the presence of large quantities of radioactive materials from the various separations, waste storage, research, and previous production and manufacturing materials. These materials, although contained, could affect worker and public health and the environment in the event of dispersion during a major accident.

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In addition to radiological hazards, large quantities of various nonradiological hazardous materials are stored and used in chemical processing and other operations at the Hanford Site. Hazardous materials are routinely transported by truck and rail to and around the site and are stored at various onsite locations. State Route 240, a main public highway that runs through the site, is used for transporting a wide range of chemicals, including agricultural chemicals to farms and orchards in the surrounding area.

Typically, hazardous materials of concern for emergency planning purposes include petrochemicals, explosives, toxic chemicals and chemical products, and fuel gases (e.g., propane and butane). Hazardous chemicals of particular concern are those with the potential for forming large, toxic airborne clouds that may travel long distances before dispersing. These chemicals include ammonia, chlorine, hydrogen fluoride, sodium, fuming acids, and others.

For purposes of emergency planning, facilities on the Hanford Site are described as hazardous, nonhazardous, or administrative.

1.4.1.3 Contractors. The Hanford Site contractors, responsible in their respective capacities for the operation or management of the Federal facilities, include the following.

- Fluor Daniel Hanford, Inc. (FDH): Manages the Project Hanford Management Contract (PHMC) that integrates a full range of work to support cleanup of the site. In addition, FDH has contracts with other companies to manage projects and perform site-wide services such as security and fire protection services. References to FDH in this plan are all inclusive of work performed by FDH and its subcontractors.
- Pacific Northwest National Laboratory (PNNL): Operates DOE's Hanford Site research and development laboratory, and performs environmental monitoring.
- Bechtel Hanford, Inc. (BHI): Manages the Environmental Restoration Contract (ERC) directing the cleanup of the Hanford Site which encompasses all phases of the investigation, decontamination and decommissioning, and restoration and remediation of Hanford's inactive radioactive and/or hazardous waste disposal facilities or release sites.
- Hanford Environmental Health Foundation (HEHF): Provides occupational health services to Hanford Site employees.

1.4.2 Physical Attributes of the Hanford Site

The Hanford Site is located in the southeastern area of the state of Washington. The site covers approximately 1,500 square kilometers (560 square miles) located in Benton, Franklin, and Grant Counties just northwest of the cities of Richland, Kennewick, and Pasco (Tri-Cities).

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For emergency preparedness purposes, the Hanford Site is defined as the near (south and west) bank of the Columbia River from the intersection of the existing western most site boundary and the Columbia River, following the Columbia River to the south boundary of the 300 Area, and proceeding west and north along the existing site boundary (see Figure 1-4). Based on this definition, portions of the existing Hanford Site that fall within Grant and Franklin Counties are considered outside of the site boundary.

The Columbia River runs across the northern half of the site then flows south across the eastern side of the site. The Yakima River borders part of the southern boundary of the site and joins the Columbia River below the city of Richland. A worst-case flood of the Columbia River or catastrophic breach of Grand Coulee Dam could impact parts of the 100 and 300 Areas but the central portion of the site would remain unaffected.

The Hanford Site and surrounding area has a semiarid climate with a sparse covering of vegetation. The terrain of the central and eastern parts of the site is relatively flat. Rattlesnake Mountain, the Yakima Ridge, and the Umtanum Ridge continue onto the site from the west and form the southwestern and western boundary. Two small ridges, Gable Butte and Gable Mountain, rise above the plateau on the central part of the site. It is an area of low seismicity in which moderate-level earthquakes can occur.

The area has moderate winters and hot summers. Severe thunderstorms are rare, although the site is vulnerable to lightning strikes causing wildland fires. Formation of a severe tornado is highly unlikely.

Primary land uses of the surrounding areas are irrigated and nonirrigated farming, residential living, and state- and Federal-controlled lands.

Because of the size of the site, there may be differences in the specific physical attributes in the vicinity of each hazardous facility. Detailed discussions and analysis of the local geography, geology, seismology, meteorology, and hydrology in the area of each hazardous facility are contained in safety analysis reports.

1.4.2.1 Population. The permanent population within the 50-mile (80-kilometer) site ingestion exposure EPZ, which is centered on WNP-2, is approximately 270,000 (Figure 1-5). The maximum transient population within the ingestion EPZ, including Hanford Site workers, offsite workers, and recreationists, is approximately 17,000.

The plume EPZ populations for Hanford Site EPZs are as follows.

- **100 Area:** A small portion of a sparsely populated area of southern Grant County consisting of a permanent population of approximately 150 residents, a transient population of seasonal employees, and no special populations.

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- **200 Areas:** A small portion of a sparsely populated area of northwestern Benton County consisting of a permanent population of less than 50 residents and no transient or special populations. Also, a small portion of northwestern Franklin County that is leased to the Washington State Department of Game consisting of no permanent, transient, or special populations.
- **300 Area:** A portion of western Franklin County consisting of a permanent population of approximately 750 residents, a transient population of seasonal employees, and no special populations. Also, a portion of the northern section of the city of Richland consisting of a permanent population of approximately 12,750 residents, a transient population of seasonal employees, and special populations consisting of four schools and three pre-schools.
- **400 Area:** A small portion of the Columbia River at the near bank of the site boundary. There are no permanent or special populations.

During the summer months, recreationists may be using the section of the Columbia River between Richland and Vernita.

Plume and ingestion EPZs are discussed further in subsection 7.1. Figure 7-1 depicts the EPZs for each site geographical areas with potential offsite consequences.

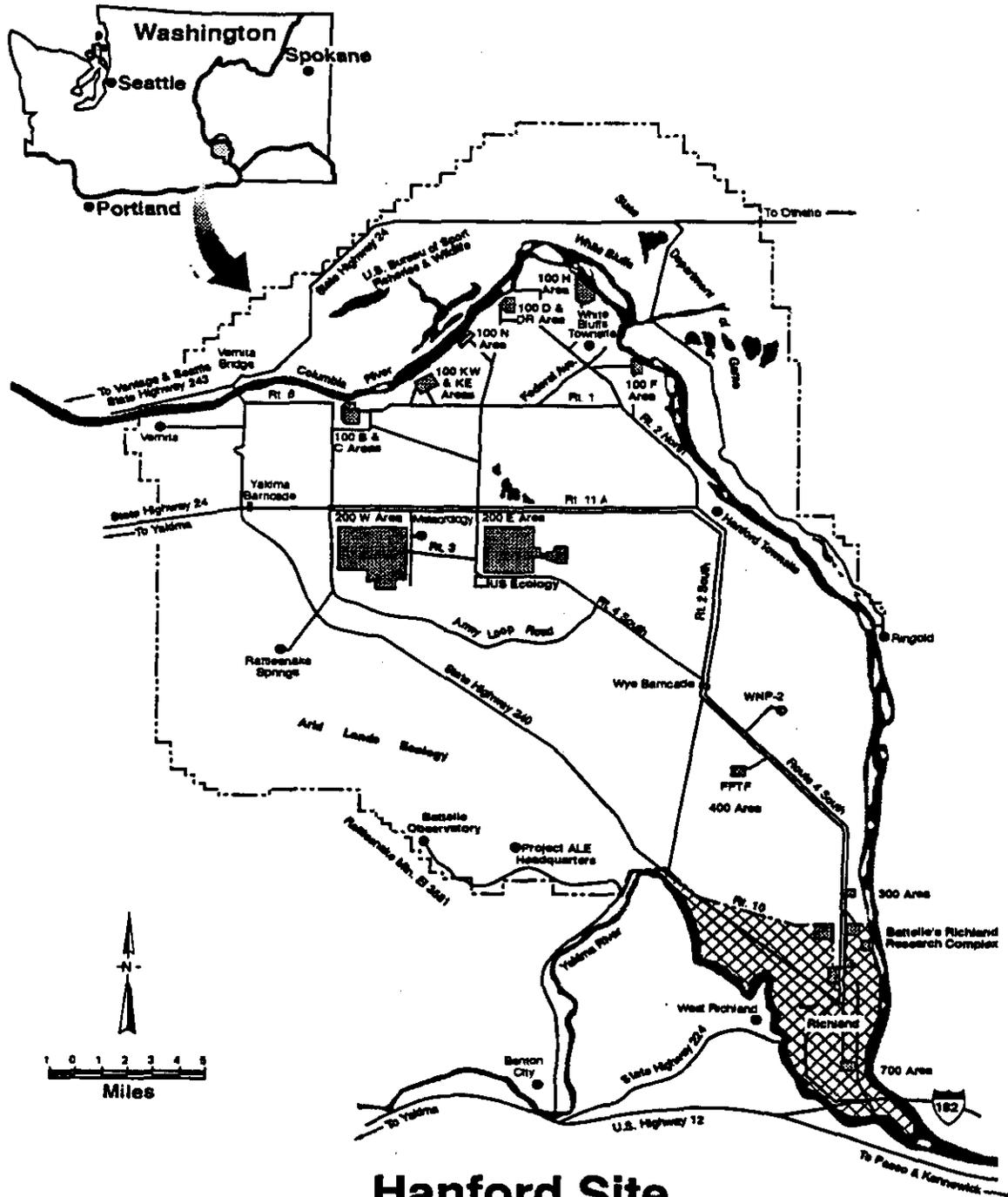
1.4.2.2 Transportation System. Hundreds of miles of roads are maintained on the Hanford Site. State Routes 240 and 24 and site roads are used by many types of vehicles including commercial trucks and private vehicles.

A 26-kilometer (16-mile) stretch of the southern portion of the site's 169-kilometer (105-mile) railroad system has been transferred to the Port of Benton. The remaining railroad lines are no longer in use.

The Richland Airport, nearest to the Hanford Site, is a small, general utility airport. The Tri-Cities Airport (Pasco) is used by regional carriers.

The section of the Columbia River that flows near the Hanford Site is used mainly by recreationists. Barge traffic does not operate on the stretch of the river that goes through the site.

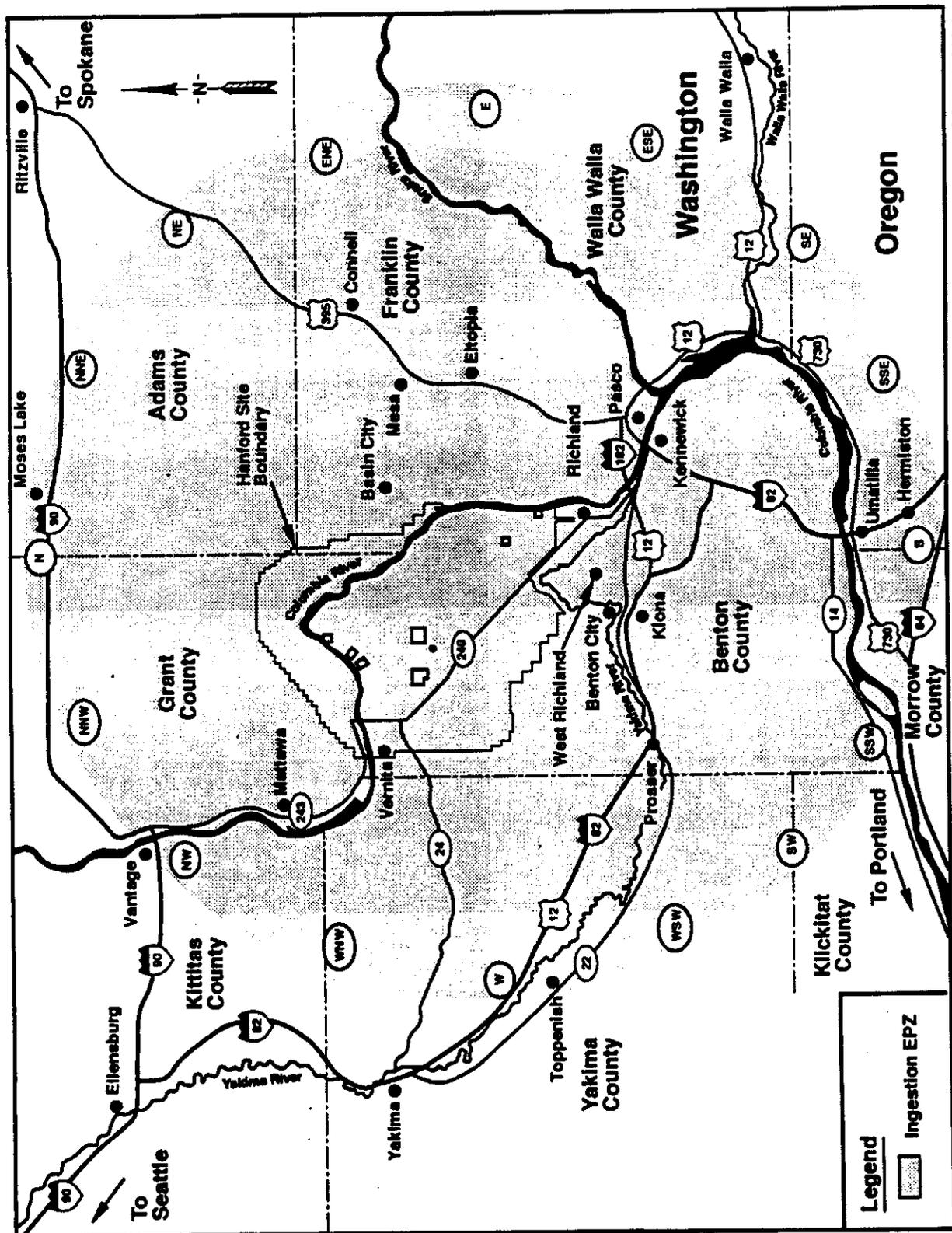
Figure 1-4. Hanford Site Map.



Hanford Site Department of Energy

Introduction

Figure 1-5. Ingestion Exposure Emergency Planning Zone.



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2.0 EMERGENCY RESPONSE ORGANIZATION (INTERNAL)

The mission of the Hanford Site ERO is to ensure that, in the event of an emergency, actions will be taken to prevent or minimize impacts to workers, the public, site, facilities, and the environment. The Hanford Site ERO shall be structured and staffed with adequate, trained personnel, including designated alternates, to enable the most timely and effective response possible, while meeting the requirements as set forth in DOE O 151.1 and other applicable Federal and state regulations. Hanford facilities and response organizations such as the Hanford Fire Department are governed by the standards and regulations of the National Fire Protection Association (NFPA) and Code of Federal Regulations, as well as the Washington Administrative Code and Revised Code of Washington for emergency response, training, and on-scene emergency management. Responsibilities and tasks shall be assigned to individuals identified by name, title, or position. In addition, each member of the Hanford Site ERO shall participate in a drill or exercise at least annually to demonstrate proficiency in response duties.

2.1 U.S. DEPARTMENT OF ENERGY, RICHLAND OPERATIONS OFFICE/ OFFICE OF RIVER PROTECTION AND HANFORD SITE CONTRACTOR ROLES AND RESPONSIBILITIES

Specific ORP responsibilities within the Hanford Site ERO are presently being defined as part of the ongoing RL/ORP interface clarification discussions. In the interim, the Hanford Site ERO has been developed to allow RL to maintain the option to assume overall management, direction, and control of site emergencies while the site contractors continue their management and operational roles. Contractor and RL/ORP roles and responsibilities are delineated below.

2.1.1 Hanford Site Contractors

Hanford Site contractors with responsibilities for facility operations/activities or for providing site services shall coordinate with one another and participate in the development and maintenance of a comprehensive Hanford Site emergency management program that meets the mission of the Hanford Site ERO. Such programs shall contribute to DOE's comprehensive Emergency Management System by promoting effective and efficient integration of applicable requirements, including those promulgated by other agencies.

2.1.1.1 Event Contractor. The site contractor that maintains responsibility for the facility or activity with the emergency is designated as the event contractor. The event contractor responsibilities include:

- prompt and accurate categorizing of occurrences in accordance with this plan and DOE Order 232.1A (DOE 1997);

Emergency Response Organization (Internal)

- initially classifying the emergency, if warranted;
- assisting, as necessary, in mitigating the emergency situation;
- initiating actions to protect workers within their geographic area of responsibility;
- contacting the POC and providing initial emergency information;
- requesting support from nonevent site contractors as necessary;
- establishing an initial Incident Command Post (ICP) and, as applicable, assigning other Incident Command Organization functions as delineated in Table 2-1, and other supporting entities such as radiological control technicians as available;
- arranging for employer notification (if not an event contractor employee), decontamination, and transport of a contaminated corpse;
- providing personnel to staff the DOE Hanford EOC to include senior management staff and technical representatives;
- providing event status information to the DOE Hanford EOC;
- ensuring proper cleanup, transportation, and storage of hazardous materials generated as a result of the event; and
- providing funding for performance of emergency response and recovery duties and replacement of supplies used by other contractors for event response.

Other site contractors shall provide support to the event contractor for actions related to the services they provide on the site, such as notifications, fire, security, or medical services.

2.1.1.2 Fluor Daniel Hanford, Inc. In addition to event contractor responsibilities for the Hanford Site facilities it operates, FDH emergency responsibilities include:

- fire suppression, emergency rescue, emergency medical, hazardous materials response, fire protection services, and incident response provided by the Hanford Fire Department;
- site security, access control, emergency service call answering and dispatching, and transportation emergency response contact provided through the Hanford Patrol;
- emergency communications including onsite and offsite notifications provided by the ONC;
- staffing of a 24-hour Emergency Duty Officer (EDO) position;

Emergency Response Organization (Internal)

- management and staffing of the DOE Hanford EOC;
- onsite radiation monitoring;
- environmental radiation sampling and monitoring;
- laboratory services;
- transportation;
- services in support of reentry and recovery operations, such as decontamination, engineering, equipment maintenance, utilities, procurement, and waste disposal;
- radio, telecommunications, computer, and audio/visual services; and
- managing sitewide radiological tasks which includes plume assessment and tracking; large group personnel survey, sort, and decontamination; survey of individuals evacuated from the Columbia River at the Vernita bridge and White Bluffs; and radiological control support (e.g., radiological control technicians, supervisory personnel, exposure evaluators as agreed upon by PNNL) during medical care of radiation accident patients at the local hospitals.

2.1.1.3 Pacific Northwest National Laboratory. In addition to event contractor responsibilities for the Hanford Site facilities it operates, PNNL emergency responsibilities include:

- weather information from the Hanford Site meteorology station;
- health physics technical support;
- control of nonmedical radiological operations of the Emergency Decontamination Facility (EDF);
- evaluation of radiological doses to personnel in the event of a criticality emergency; and
- senior management and technical staff support to the DOE Hanford EOC.

2.1.1.4 Bechtel Hanford, Inc. In addition to event contractor responsibilities for the Hanford Site facilities it manages, BHI emergency responsibilities include:

- senior management and technical staff support to the DOE Hanford EOC; and
- radiological control technician support.

Emergency Response Organization (Internal)

2.1.1.5 Hanford Environmental Health Foundation. HEHF has no event contractor responsibilities as delineated in subsection 2.1.1.1. However, emergency services provided by HEHF include:

- minor emergency medical care and consultation;
- medical support for chemical and radiologically contaminated patients;
- medical staffing and operation of the EDF;
- hostage negotiation and critical stress debriefing support;
- coordination with and support to community medical services; and
- senior management and technical staff support to the DOE Hanford EOC, and
- provide support to the Hanford Fire Department in the event of a large-scale mass casualty event on the Hanford Site as requested.

**2.1.2 U.S. Department of Energy,
Richland Operations Office/
Office of River Protection**

RL/ORP shall have a trained emergency response staff and shall provide facilities/activities under their cognizance with:

- direction to implement emergency management policy and requirements;
- direction in emergency planning and preparedness activities;
- support and assistance during emergencies; and
- support and assistance in resolving issues in site/facility/activity emergency management programs, as well as assessments of site/facility/activity emergency management programs.

2.1.2.1 RL/ORP Manager. The RL/ORP Manager (or designee) is the senior official who serves as the RL/ORP Emergency Manager with decision-making responsibilities and has the ultimate responsibility and authority for Hanford Site emergency response activities to ensure that effective management is provided for response to emergencies. If the event involves an ORP facility, the ORP Manager (or designee) will assume the responsibility. The RL Manager (or designee) will assume the responsibility in all other events. The RL/ORP Manager is responsible for overseeing the performance of onsite activities necessary to place the site in a safe condition and to minimize or terminate uncontrolled releases of hazardous materials. The RL/ORP Manager is also responsible for interfaces with offsite agencies and the public.

The RL/ORP Manager shall be supported by personnel with communications, technical, and liaison and public affairs expertise and shall ensure fulfillment of his or her responsibilities through direction of the Policy Team and RL/ORP representatives assigned to offsite emergency centers. The responsibilities and staffing of the Policy Team are described in subsection 2.2.2.1.1.

Emergency Response Organization (Internal)

2.1.2.2 RL/ORP Senior Management. As designated by the RL/ORP Manager, senior management personnel or their designees shall fill ERO positions that include:

- members of the Policy Team;
- representatives to the Site Management Team;
- representatives to state and county EOCs;
- a spokesperson in the JIC;
- liaisons to DOE emergency response assets; and
- a representative to DOE Headquarters (HQ), as requested.

2.1.2.3 DOE Facility Representative. The DOE Facility Representative serves in an oversight and liaison capacity at the ICP during declared emergencies. The primary function of the DOE Facility Representative is to observe ICP activities and, if required, report problems about facility conditions, event status, or mitigative actions to the Safety Oversight Director in the DOE Hanford EOC.

2.1.2.4 RL Chief Counsel. The Chief Counsel is responsible for advising the RL/ORP Emergency Manager regarding legal matters associated with the emergency, using required legal resources, and administering the contractual affairs and the legal agreements required by the emergency.

2.1.2.5 Chief Financial Officer. The Chief Financial Officer is responsible for:

- reviewing the current budget and reallocating available funds, if required;
- reconstructing financial status as of the date of an emergency;
- administering the emergency account and payroll activities;
- managing matters related to the payment of claims under nuclear liability insurance coverage;
- arranging payment for, or otherwise resolving, expenses incurred by DOE activities associated with implementing the emergency planning, preparedness, and response program; and
- arranging for emergency travel and providing subsistence to personnel from the RL/ORP in responding to emergency assistance.

2.1.2.6 Director, Procurement Division. The Procurement Division director is responsible for procuring required supplies and services.

2.1.2.7 Director, Site Services Division. The Site Services Division director is responsible for:

- reallocating office space, if required;

Emergency Response Organization (Internal)

- coordinating communications to include interfacing with the U.S. West Telephone Company to implement the emergency communications plan; and
- ensuring that vital records are available and accessible.

2.1.2.8 Director, Human Resources Division. The Human Resources Division director is responsible for supplying additional manpower required during the emergency.

2.1.2.9 Director, Site Engineering Division. The Site Engineering Division director is responsible for:

- coordinating power distribution in the event of a power failure;
- coordinating the combined efforts of the nuclear, mechanical, electrical, and civil engineers to provide technical design information for special tools, equipment, shielding, storage facilities, and other devices that may be essential during the emergency;
- assessing the extent of structural damage to DOE facilities; and
- providing liaison with onsite and offsite architectural, engineering, and construction contractors that may be called for assistance during the emergency.

2.2 EMERGENCY RESPONSE ORGANIZATION STRUCTURE

Emergency response on the Hanford Site is modeled after the NFPA Incident Command System. As such, the Hanford Incident Command System is an integrated emergency management system with clearly defined responsibilities and communication pathways that allows predesignated and trained individuals to jointly determine and implement incident mitigation strategies.

The Hanford Site ERO has two distinct components – the Incident Command Organization and the DOE Hanford EOC – each with emergency direction and control responsibilities.

The Incident Command Organization consists of the Facility/Building Emergency Response Organization with responsibility for implementing emergency response activities at the event facility, and site contractor emergency response personnel (i.e., Hanford Fire Department, Hanford Patrol) with the responsibility for on-scene mitigation. For nonhazardous and hazardous facilities with a Building Emergency Director (BED) or Building Warden (BW) on the premise at the time of the incident, the BED/BW shall be responsible for implementing appropriate emergency response procedures (e.g., protective actions, event classification, notification) until arrival of the Hanford Fire Department IC or the Hanford Patrol IC for security events. Upon arrival of the Hanford Fire Department or Hanford Patrol IC, the Facility/Building

Emergency Response Organization (Internal)

Emergency Response Organization becomes part of a consolidated Incident Command Organization. The BED/BW shall retain responsibility for direct configuration control over facility systems and components while the IC assumes the overall management strategy associated with the incident and ensures that all functional areas are appropriately staffed and working cohesively towards mitigation of the incident. If the BED/BW is not present at the nonhazardous or hazardous facility at the time of an incident (e.g., during off shift hours), the IC shall perform the duties of the BED/BW in addition to his/her own duties. The respective on-call BED/BW shall be summoned to the scene based upon the BED/BW listing maintained at the POC or PNNL Control Room. Upon arrival of the BED/BW at the scene, the IC will turn over the remaining BED/BW duties.

The DOE Hanford EOC has the responsibility to monitor and provide support for the onsite response, assist with issue resolution, assess the offsite impacts, and interface with offsite agencies and the public.

Both components of the Hanford ERO are depicted on Figure 2-1 and further delineated in the respective subsections below.

For nonfacility events (e.g., onsite transportation incidents, wildland fires), the IC shall be responsible for coordinating and performing the response activities. The EDO shall have the responsibility for further classifying the event (i.e., as an Alert, Site Area Emergency, or General Emergency) or determining if implementation of the contingency plan has occurred, if warranted. After the immediate threat of a release has been stabilized or eliminated, remaining duties will be delegated from the IC to the organization that offered the hazardous substance for transportation.

In all events, the Incident Command Organization shall have the authority to commit the resources needed to carry out the emergency response; and be thoroughly familiar with applicable plans and procedures, operations and activities at the facility, location and properties of all wastes handled, location of all records within the facility, and the layout of the facility.

2.2.1 Incident Command Organization

The Hanford Incident Command System provides a graduated response mechanism for unusual conditions and emergencies on the Hanford Site.

Depending on the severity of the event, the Incident Command Organization is comprised of two main groups — the Facility/Building Emergency Response Organization, and site contractor emergency response personnel (i.e., Hanford Fire Department, Hanford Patrol). Other emergency response support personnel may be called upon to assist in the mitigation of an event depending on the type of emergency, but are not considered part of the Hanford ERO. The appropriate personnel from each group may be located at either the event scene or ICP, or staging area. A description of each group, including roles and responsibilities, is provided in the following subsections.

In its most basic form, the Incident Command Organization may be staffed in its entirety by facility or process personnel as deemed necessary by the BED or BW. In these instances, the BED

or BW coordinates emergency response efforts at the scene to include oversight of mitigation efforts, use of appropriate personal protective equipment, facility protective actions, and relevant notifications. Examples of such events that do not require assistance from outside the facility (termed incidental responses) include small releases of known substances when mitigation can be accomplished by trained on-scene personnel, minor first aid cases, noninjury contamination incidents, and nonemergency plant responses.

As incidents escalate, the Hanford Incident Command System enables the use of additional site contractor emergency response personnel to mitigate the event. Requests for additional site contractor emergency response personnel are made to the POC via the 911 emergency number (or 373-3800 for cellular telephones) and, where applicable, automated alarm systems. This level of response requires the designation of an IC. The responding Hanford Fire Department senior officer for events involving fire, medical, hazardous materials, or rescue shall be the IC and also fulfill the role of the senior emergency response official. The Hanford Patrol Shift Commander will act in the capacity of the IC during security incidents.

Additionally, an ICP shall be established as required to meet the needs of the event. The ICP shall be established in a safe location near the incident scene. Organizations supporting the ICP retain responsibility for their technical operations and provide facility expertise to the IC. The IC is responsible for the health and safety of personnel at the event scene (i.e., the impacted area under his/her direct control) and for the overall management strategy associated with the incident to ensure that functional areas are appropriately staffed and working cohesively towards mitigation of the incident.

The Incident Command Organization is staffed by pre-appointed and trained individuals as delineated in Table 2-1. Personnel working in support of the Incident Command Organization delineated in Table 2-1 must complete initial, annual, and ongoing training on their respective roles, responsibilities, and authorities within the Incident Command Organization. Drills and exercises are used to provide a format for Incident Command Organization responders to demonstrate their proficiency.

Contractor personnel shall provide a BED or BW for the purpose of supporting the Incident Command Organization as soon as possible. In the event of full implementation of the Incident Command Organization, additional facility personnel shall be available to support required functions.

2.2.1.1 Facility/Building Emergency Response Organization. Hanford Site facilities are divided into one of three types – administrative, nonhazardous, and hazardous – depending on the hazards associated with the facility. Personnel and resources at the facility level comprise initial response capability for an emergency. Facilities shall direct appropriate emergency response actions, as delineated in the respective sections below, within the area under their control and at the scene of the emergency, including effective coordination with the IC and the DOE Hanford EOC. Initial direction and control of emergency response at the facility prior to establishment of an ICP is the responsibility of the Facility/Building Emergency Response Organization.

Table 2-1. Incident Command Organization Functions.

FUNCTION	RESPONSIBLE STAFFING
Incident Commander	Hanford Fire Department/Hanford Patrol
Building Emergency Director/ Building Warden	Affected facility
Public Information Officer	FDH or appropriate contractor personnel
Liaison Officer	Emergency Duty Officer
Safety Officer	Hanford Fire Department
ICP Communicator	Affected hazardous facility
ICP Hazards Communicator	Affected hazardous facility
Facility Operations Specialists	Affected facility
Operations Section Chief	Hanford Fire Department/Hanford Patrol
Security	Hanford Patrol
Radiological Hazards Assessor	Affected facility radiological control manager (or equivalent)
Chemical Hazards Assessor	Hanford Fire Department, on-call Industrial Hygienist, or affected facility
Communications Specialist	FDH
Planning Section Chief	Hanford Fire Department
Logistics Section Chief	Hanford Fire Department
Resource Staging Area Manager	Hanford Fire Department
Facility Staging Area Manager	Affected facility

Emergency Response Organization (Internal)

A list of all BEDs and BWs assigned to nonhazardous and hazardous facilities shall be maintained by the ONC in accordance with the Hanford Facility RCRA Permit (Dangerous Waste Portion) General Condition II.A.4. The list shall include telephone numbers (home and work) to ensure that these individuals can be reached 24 hours per day.

2.2.1.1.1 Administrative Facilities. Administrative facilities are defined as onsite office buildings or general-purpose facilities. The governing requirement for such facilities is 29 CFR 1910.38, which means that facilities where personnel are evacuated from the danger area when an emergency occurs, and are not permitted to assist in handling the emergency, are exempt from 29 CFR 1910.120(q) requirements.

The building management for administrative facilities shall assign BWs or BEDs (primary and alternates) who shall manage and control all aspects of the initial facility response and shall direct an emergency organization made up of individuals within the facility who will assist in the protection of personnel, the environment, and property. Personnel may take emergency actions to report an emergency, initiate protective actions including personnel accountability, and control of personnel while implementing protective actions. Typically, three emergency positions are identified for these response actions: the BW/BED, Staging Area Manager, and Personnel Accountability Aides (or other contractor-designated names). These positions may also be present in nonhazardous and hazardous facilities but only for emergency actions as required in 29 CFR 1910.38 and not for 29 CFR 1910.120. The BW/BED is responsible for emergency response at the event scene until arrival of the IC.

In addition, the building management, or designee, shall be responsible for:

- assigning and ensuring the training of the BW/BED, personnel accountability aides, and staging area managers (or other contractor-designated names); and
- maintaining the facility emergency response information boards/building emergency procedures.

Specific responsibilities of the BW/BED shall include, as applicable:

- (a) activating internal facility alarms or communications systems, where applicable, to notify building occupants of protective actions to be taken;
- (b) ensuring that a 911 telephone call is made when emergency assistance is required;
- (c) assisting the IC, as necessary, in mitigating emergencies within the assigned building; and
- (d) ensuring that building occupants take appropriate protective actions in response to events occurring in other onsite geographic areas or adjacent facilities.

Emergency Response Organization (Internal)

2.2.1.1.2 Nonhazardous Facilities. Nonhazardous facilities are defined as onsite facilities that can not generate an Alert, Site Area, or General Emergency but display hazards not found in administrative facilities. These facilities include, but are not limited to, radiological facilities, industrial class facilities, laboratory spaces, TSD units, waste accumulation areas (90-day accumulation areas), and PCB temporary accumulation areas.

The building management for nonhazardous facilities shall assign BWs or BEDs (primary and alternates) who shall manage and control all aspects of the initial facility response and direct a Facility/Building Emergency Response Organization made up of individuals within the facility who will assist in the protection of personnel, the environment, and property. The BW/BED is responsible for emergency response at the event scene until arrival of the IC.

In addition, the building management, or designee, shall be responsible for:

- assigning and ensuring the training of the Facility/Building Emergency Response Organization as necessary to support the Hanford Fire Department as the RL/ORP-designated hazardous materials emergency response agency;
- maintaining the facility emergency response information boards and/or building emergency plans/procedures;
- maintaining applicable facility-specific emergency response procedures in accordance with subsection 14.3.1;
- ensuring that facility personnel are aware of hazards; and
- ensuring that facility personnel are trained to respond to emergencies.

Specific responsibilities of the BW/BED shall include, as applicable:

- (a) determining when an event has occurred or a condition exists that requires response in accordance with applicable state and Federal regulations;
- (b) activating internal facility alarms or communications systems, where applicable, to notify building occupants of protective actions to be taken;
- (c) ensuring that a 911 telephone call is made when emergency assistance is required;
- (d) reporting events or conditions in accordance with applicable state and Federal regulations;
- (e) establishing an initial ICP and assigning other Incident Command Organization functions in accordance with established procedures to provide effective control at the event scene;

Emergency Response Organization (Internal)

- (f) assisting the IC, as necessary, in the mitigation of emergencies within the assigned building by:
- identifying the character, exact source, amount, and areal extent of any released material;
 - assessing possible hazards to human health and the environment that may result from the release, fire, or explosion;
 - taking reasonable measures (e.g., stopping processes/operations, collecting/containing released waste, removing/isolating containers) necessary to ensure that fires, explosions and releases do not occur, recur, or spread to other dangerous waste;
 - monitoring for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, as appropriate; and
- (g) ensuring that building occupants take appropriate protective actions in response events occurring in other onsite geographic areas or adjacent facilities.

The duties of the Facility/Building Emergency Response Organization may include, but will not be limited to:

- assisting in the alerting of employees of an emergency situation;
- assisting in building evacuations and building sweeps;
- providing assistance to the Hanford Fire Department and/or Hanford Patrol to include meeting and directing responders to the event scene, providing safe routes of travel, and providing immediate and constant interface, coordination, and information as the emergency situation requires.

Emergency training requirements for the Facility/Building Emergency Response Organization are delineated in subsection 12.2.2.1.2.

2.2.1.1.3 Hazardous Facilities. Hazardous facilities are defined as facilities capable of generating an Alert, Site Area, or General Emergency as defined by DOE O 151.1. Facilities in this group include reactor or nuclear facilities, or nonnuclear hazard facilities. TSD units containing quantities of wastes or materials capable of generating an Alert or higher emergency will also be categorized as a hazardous facility.

The building management for each hazardous facility shall establish and maintain a Facility/Building Emergency Response Organization with overall responsibility for the initial and ongoing response to and mitigation of an emergency. BEDs (primary and alternates) shall be assigned to manage and control all aspects of the facility response and to direct the

Emergency Response Organization (Internal)

Facility/Building Emergency Response Organization at the event scene until arrival of the IC. Initiation of emergency lifesaving measures or support of protective actions for facilities which require self-contained breathing apparatus (SCBA) must not rely entirely on the Hanford Fire Department to provide such equipment on emergency response vehicles. The minimum assumption used for emergency planning for the Hanford Fire Department arrival shall be 10 minutes plus travel time to destination. A BED (primary or alternate) must be present onsite and within reasonable proximity to the facility (as defined by contractor policy) if work is being performed which could generate an Alert or higher emergency classification. On-call BEDs, where designated, may be used for facilities where hazardous materials is in storage and stable, and the work being performed is that of surveillance.

The organization, size, and emergency response duties assigned to the Facility/Building Emergency Response Organization shall be based on a graded approach and upon hazards at the facility and the level necessary to support the Hanford Fire Department as the RL/ORP-designated hazardous materials emergency response agency. In addition, the positions and responsibilities of the Facility/Building Emergency Response Organization shall be documented in specific building emergency plans and/or procedures. The content, distribution and organizational approval of the building emergency plan and/or procedures shall be determined by the respective contractor emergency preparedness organization.

NOTE: Building emergency plans are not required for unoccupied hazardous facilities. However, BEDs shall be identified and trained to implement initial emergency response procedures.

The building management, or designee, shall be responsible for:

- assigning and ensuring the training of the Facility/Building Emergency Response Organization as necessary to support the Hanford Fire Department as the RL/ORP-designated hazardous materials emergency response agency;
- maintaining, reviewing, and revising the building emergency plan and applicable facility-specific emergency response procedures in accordance with subsection 14.3.1;
- ensuring that facility personnel are aware of hazards; and
- ensuring that facility personnel are trained to respond to emergencies.

Specific responsibilities of the BED shall include:

- (a) determining when an event has occurred or a condition exists that requires appropriate emergency event classification;

Emergency Response Organization (Internal)

- (b) activating internal facility alarms or communications systems, where applicable, to implement actions to protect workers within their respective geographic area of responsibility as defined in the building emergency plan or procedures;
- (c) assessing the potential or actual onsite and offsite consequences of the emergency;
- (d) contacting the POC, via the 911 emergency number, to implement predetermined onsite protective actions and provide initial emergency and classification information in accordance with established procedures;
- (e) reporting events or conditions in accordance with applicable state and Federal regulations;
- (f) establishing an initial ICP and assigning other Incident Command Organization functions in accordance with established procedures to provide effective control at the event scene;
- (g) assisting the IC, as necessary, in the mitigation of emergencies within the assigned building by:
 - identifying the character, exact source, amount, and areal extent of any released materials;
 - taking reasonable measures (e.g., stopping processes/operations, collecting/containing released waste, removing/isolating containers) necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other dangerous waste;
 - monitoring for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, as appropriate; and
- (h) ensuring that building occupants take appropriate protective actions in response to events occurring in other onsite geographic areas or adjacent facilities.

The duties of the Facility/Building Emergency Response Organization may include, but will not be limited to:

- assisting in the alerting of employees of an emergency situation;
- assisting in the safe evacuation of the incident scene hazard area;
- providing immediate first-aid if required;
- placing operating systems or controls in a safe configuration;

Emergency Response Organization (Internal)

- implementing or supporting the implementation of protective actions for the general population to include roadblocks and building sweeps;
- assisting in emergency classification and emergency notification of such classification within established regulatory time limits;
- providing assistance to the Hanford Fire Department and/or Hanford Patrol to include meeting and directing responders to the event scene, providing safe routes of travel, and providing immediate and constant interface, coordination, and information as the emergency situation requires;
- serving as emergency response team members in support of the Hanford Fire Department for entry into the incident scene hazard area for mitigation where personnel protective equipment requirements do not specify Level A or Level B dermal protection (refer to Appendix B of CFR 1910.120);
- providing chemical monitoring and assessment, in conjunction with the Hanford Fire Department Industrial Hygienist, for emergency response;
- providing radiological monitoring and assessment for emergency response; and
- providing support for chemical and/or radiological decontamination.

Emergency training requirements for the Facility/Building Emergency Response Organization are delineated in subsection 12.2.2.1.3.

2.2.1.2 Site Contractor Emergency Response Personnel

2.2.1.2.1 Hanford Fire Department. The Hanford Fire Department is the RL/ORP-designated incident command agency for control of all hazardous materials (radiological and nonradiological) and chemical/biological incidents on the site and, as such, controls the fire, hazardous materials, and/or personnel rescue response activities associated with an emergency. In this capacity, the Hanford Fire Department shall provide a hazardous materials response team, as defined in 29 CFR 1910.120(q)(6)(i)-(v) and NFPA 472, as well as a qualified Safety Officer for all emergency response activities.

As a 24-hour operational facility/dispatch center, the Hanford Fire Department also monitors facility fire alarm systems, and coordinates and provides emergency medical services on the Hanford Site. Emergency medical support responsibilities are further delineated in subsection 8.1.1.

2.2.1.2.2 Hanford Patrol. The Hanford Patrol monitors alarm systems and provides security services including coordination of the movement of emergency personnel through security gates, evacuation assistance, and barricade establishment where needed. Additional law enforcement is available through agreements with local and Federal agencies at the request of RL. The Hanford Patrol is the designated incident command agency for security emergencies.

Emergency Response Organization (Internal)

Additionally, the POC, a 24-hour operational facility/dispatch center, is responsible for emergency functions that include, but are not limited to:

- operating the site's enhanced 911 system;
- acting as the single point-of-contact to initiate emergency response by
 - notifying the BED/BW (when not on the premises)
 - requesting response from the Hanford Fire Department
 - notifying appropriate on-call personnel
 - activating or requesting activation of appropriate alarm signals;

NOTE: PNNL uses 375-2400 as single point-of-contact.

- activating the ONC conference bridge upon notification of a declared emergency and implementing onsite protective actions by activating warning sirens and crash alarm telephone systems; and
- receiving emergency response telephone calls during offsite shipments of RL/ORP-owned hazardous materials.

Emergency medical support responsibilities of the Hanford Patrol are further delineated in subsection 8.1.3.

2.2.1.3 Other Emergency Response Support Personnel. Some emergency situations may require facility or site support personnel to be used for emergency response at the event scene that are not assigned positions within the Hanford ERO. These emergency response support personnel – termed either as Skilled Support Personnel or Specialist Employees – are not trained to operate within the Hanford Incident Command System and must only be used for specific tasks defined in the following subsections.

2.2.1.3.1 Skilled Support Personnel. Personnel needed to operate specific support equipment, including those within the incident scene hazard area, but are not addressed in specific emergency response procedures, may be designated as Skilled Support Personnel. Such personnel shall receive a briefing prior to commencing any work. Training requirements in accordance with 29 CFR 1910.120(q)(4) are delineated in subsection 12.2.2.3.1.

2.2.1.3.2 Specialist Employees. Safety professionals and environmental specialists who provide technical advice within their field of expertise, but are not addressed in specific emergency response procedures, may be designated as Specialist Employees. Such personnel will only provide expertise and advise to the IC when requested and may not enter the incident scene hazard area. Training requirements in accordance with 29 CFR 1910.120(q)(5) are delineated in subsection 12.2.2.3.2.

Emergency Response Organization (Internal)**2.2.2 U.S. Department of Energy
Hanford Emergency Operations Center**

The DOE Hanford EOC is an emergency response facility maintained by RL for the purpose of providing an area where personnel may convene during emergency conditions to provide essential response functions. These functions include public information, offsite protective action recommendations, field monitoring and sampling, hazard assessment, oversight of onsite mitigative activities, and oversight of onsite protective actions.

The DOE Hanford EOC shall be activated and operational within one hour upon declaration of an Alert or higher emergency.

The DOE Hanford EOC may also be fully or partially activated in the following situations.

- As directed by the RL/ORP Manager, or designees, when events occur that are not classified as an Alert or higher emergency but where action to provide monitoring or assistance to the event scene or other agencies, is requested. Such events may include:
 - Hanford Site emergency conditions that potentially involve significant onsite or offsite consequences;
 - security events;
 - natural disasters (i.e., earthquake, tornado) that could or does result in significant onsite or offsite public or environmental impact;
 - requests from other government agencies for support of regional emergencies; or
 - threats or acts of terrorism, or when a national emergency is declared by the President of the United States or the United States Congress.
- As directed by the RAP team leader to support a RAP response.
- In response to non-DOE emergencies that affect the Hanford Site.
- In response to TEP events involving the offsite shipment of RL/ORP-owned hazardous materials.

The DOE Hanford EOC is made up of several organizations that are responsible for implementing defined emergency response tasks. These organizational areas are defined in the following subsections. Detailed procedures for the activation, staffing, and operation of the DOE Hanford EOC are contained in DOE-0223, *Emergency Plan Implementing Procedures*.

Emergency Response Organization (Internal)

2.2.2.1 Policy Team. The primary functions of the Policy Team are the oversight of onsite activities, approval and communication of offsite protective action recommendations, approval of reclassification recommendations, oversight of public information activities, and coordination with offsite agencies.

The Policy Team is staffed by the RL/ORP Emergency Manager, Public Information Director, Emergency Preparedness Advisor, Offsite Interface Coordinator, DOE-HQ Liaison, and the responding state and county representatives.

During security incidents, RL is responsible for decisions that address mitigation of the security event. This involves direction and control of Hanford Site security and patrol forces, and coordination of facility response. However, the Federal Bureau of Investigation (FBI) may exercise the option to take command of security events involving the violation of the Atomic Energy Act of 1954 or other Federal statutes. Associated response by site contractor personnel for personnel and operational safety rests with the IC and the BED.

2.2.2.1.1 Policy Team Staffing and Responsibilities. The RL/ORP Manager (or designee) shall be the RL/ORP Emergency Manager. If the event involves an ORP facility, the ORP Manager (or designee) will assume the responsibility. The RL Manager (or designee) will assume the responsibility in all other events. The RL/ORP Emergency Manager is responsible for oversight operations of the DOE Hanford EOC and for ensuring implementation of the responsibilities of RL as the lead Federal agency. In consultation with the DOE Hanford EOC staff, the RL/ORP Emergency Manager approves emergency reclassification and termination, offsite PARs, and notifications.

Once operational, general functions of the Policy Team include:

- overview of onsite response and mitigation actions, and providing assistance to the event contractor as needed;
- providing offsite notifications and PARs to state, local, and Federal agencies, and continuous updates to the state/counties about conditions;
- notifying the DOE-HQ Cognizant Secretarial Officer (CSO) and the DOE-HQ Emergency Management Team if facility operations were shut down as a part of the protective action response;
- providing direction and control, as appropriate, during a security incident;
- reclassifying or terminating the emergency;
- directing the activities of the JIC in providing timely and accurate release of information to the public and media, including approval of RL/ORP news releases;
- forwarding requests for additional DOE emergency response assets to the Regional Response Coordinator as needed;

Emergency Response Organization (Internal)

- providing liaisons to offsite emergency centers and responding DOE emergency response assets;
- providing a representative to DOE-HQ as requested; and
- designating a recovery organization.

2.2.2.2 Joint Information Center. The primary function of the JIC is the dissemination of accurate and timely information to the public and employees about RL/ORP activities during declared emergencies. The JIC is staffed by RL/ORP, contractor, state, and county communication professionals responsible for coordinating the release of information to the public and media.

One or more Newswriter(s) reside next to the Policy Team area in order to obtain the most current information for the development of draft press releases. Once developed, the Newswriter(s) ensures that the releases are reviewed for technical accuracy and security sensitivities prior to approval by the RL Public Information Director. Upon approval, the press releases are sent to the JIC for dissemination.

The JIC provides a single location where RL/ORP and site contractors can coordinate the release of information with other Federal agencies, state, and local jurisdictions. The JIC operates under the direction of the RL Public Information Director and is managed and staffed by RL/ORP and site contractor personnel. Provisions shall be made at the JIC for representatives from the states of Washington and Oregon, plume EPZ counties, and other Federal agencies that may be involved in the emergency response.

The functions performed at the JIC include:

- preparing and coordinating information released to the public and media;
- answering questions of the public and media; and
- rumor control.

2.2.2.3 Site Management Team. The primary functions of the SMT are to provide support to the Incident Command Organization by providing additional resources not easily obtained by the IC; tracking the status of onsite protective actions; developing and directing implementation of additional onsite protective actions away from the event scene (i.e., the area not under the direct control of the IC) as required; and providing communications support. The SMT is also responsible for hazards assessment activities, tracking personnel medical issues, developing additional offsite protective action recommendations, record keeping, and overall operation of the center.

The SMT is made up of four support organizations that are responsible for implementing defined emergency response tasks. These organizations are defined below.

2.2.2.3.1 Executive Team and Support Staff. The Site Emergency Director is responsible for the coordination of all SMT activities. In this role, the Site Emergency Director is responsible for the activities of the Event Support Coordinator, EOC Operations Manager, and the Consequence Assessment Director.

Since RL has an operational function over Hanford security forces, the Security Director is responsible for the activities of the Security Operations Coordinator. The Security Director will receive information from and provide direction to the security forces. The Security Director will communicate planned actions of security forces to the Site Emergency Director and Safety Oversight Director to ensure all safety and security issues are addressed and coordinated. The Site Emergency Director, in conjunction with the Security Director and Safety Oversight Director, is responsible for periodically providing status information to the RL/ORP Emergency Manager and the Policy Team. The Contractor Representative and SMT Emergency Preparedness Advisor provide support to the Site Emergency Director.

2.2.2.3.2 Security and Event Support. As part of the SMT staff, the Security Operations Coordinator's primary functions are security operations, which include interface with local law enforcement agencies, coordination with the Federal Bureau of Investigation (FBI), and oversight of onsite patrol activities. The Security Operation Coordinator reports directly to the Security Director.

The Event Support Coordinator is responsible for event support activities to include site support services, technical support, communications with the event scene, and coordination with the Emergency Decontamination Facility and other medical assessment activities. The Event Support Coordinator reports directly to the Site Emergency Director.

2.2.2.3.3 Unified Dose Assessment Center. As part of the SMT, the primary Unified Dose Assessment Center (UDAC) functions are monitoring and evaluating existing emergency conditions in order to develop additional protective action recommendations. The UDAC is responsible for field team activities to include plume tracking, monitoring, and sampling.

Representatives from the states of Washington and Oregon participate in the development of recommendations and provide direction for offsite environmental monitoring. The UDAC is operated by site contractor personnel with knowledge in the technical areas of meteorology, toxicology, industrial hygiene, and health physics. The Consequence Assessment Director is responsible for all UDAC activities and reports directly to the Site Emergency Director.

Specific UDAC responsibilities include:

- acquiring necessary data and measurements to evaluate personnel radiation doses and chemical exposures resulting from the event;
- assessing the potential for onsite and offsite consequences of a release of radioactive or nonradioactive materials based on meteorological conditions, source term, location and dispersal of the hazardous material;

Emergency Response Organization (Internal)

- assisting the event contractor or other Hanford Site contractors in onsite hazard assessment or development of onsite protective actions;
- analyzing the consequences associated with evacuating versus remaining in a take cover situation for onsite personnel and recommending appropriate additional protective actions if necessary;
- developing offsite PARs in coordination with representatives from the states of Washington and Oregon; and
- coordinating and directing emergency environmental monitoring teams that are not assigned to the event facility. This may include state field teams performing offsite monitoring if requested by the states.

2.2.2.3.4 DOE Hanford EOC Operations. As part of the SMT, the primary functions of the DOE Hanford EOC Operations team are administration, record keeping tasks, and dissemination of information to offsite agencies (i.e., RL Notification Form, UDAC products, etc.). The EOC Operations Manager is responsible for these activities. In this role, the EOC Operations Manager reports directly to the Site Emergency Director.

5.0 NOTIFICATIONS AND COMMUNICATIONS

5.1 NOTIFICATIONS

Notifications are made for events on the Hanford Site according to the event category – Operational Emergency, RCRA (Environmental), Abnormal Event, Unusual Occurrences, and Off-normal Occurrences. Notifications shall be made in order of urgency with Operational Emergency (Hazardous Material Operational Emergency only) notifications performed first; Environmental notifications performed second; and Abnormal Event (including Base Program Operational Emergency), Unusual Occurrence, and Off-Normal Occurrence notifications performed last.

Contractors shall maintain procedures to ensure that notification and reporting requirements are made in accordance with DOE O 151.1 and DOE O 232.1A; applicable Federal, state, or local requirements; and special agreements with offsite agencies or tribal governments.

The Unusual and Off-normal Occurrence categories are used solely for reporting versus immediate action purposes. Notifications and written reports of incidents meeting occurrence reporting criteria are made to DOE-HQ and also to offsite entities as requested. RL shall maintain a listing of offsite agencies that are to receive the occurrence reports. Additional information regarding Unusual and Off-normal Occurrences is delineated in the Hanford implementing directive HFID 232.1B, *Notification, Reporting, and Processing of Operations Information*, and, therefore, will not be addressed further in this plan. Offsite transportation events involving RL/ORP-owned hazardous materials shall be reported in accordance with DOE O 151.1 and 49 CFR 171.15.

RL/ORP shall monitor the notification process to ensure notifications of applicable emergency events as necessary or appropriate.

5.1.1 Operational Emergency Notifications

Prompt and accurate emergency notifications are essential to mitigating consequences and for protecting the health and safety of workers and the public. For Operational Emergencies, procedures shall be established and maintained to provide prompt initial notification to workers and emergency response personnel and organizations, including appropriate offsite agencies, under the most limiting set of conditions.

For Operational Emergencies that also meet RCRA emergency criteria, personnel shall categorize the event in accordance with subsection 4.2 and perform notifications in accordance with subsection 5.1.2.

Notifications and Communications

5.1.1.1 Base Program Operational Emergency Notifications. Site contractors shall ensure that their designated points-of-contact (e.g., BED/BW, contractor single point-of-contact) report events that meet notification criteria delineated in Appendix A of HFID 232.1B, *Notification, Reporting, and Processing of Operations Information*, to the ONC. These notifications shall be made as soon as possible (within 30 minutes). The designated point-of-contact, with assistance from ONC personnel, will assess the event information to determine if the event should be categorized as a Base Program Operational Emergency. If the event meets the Base Program Operational Emergency criteria, the ONC shall notify the DOE-HQ EOC within 30 minutes following categorization and the offsite agencies immediately following as part of the Abnormal Event notification delineated in subsection 5.1.3.

The same notification requirements apply to offsite transportation events involving RL/ORP-owned hazardous materials. The EDO shall provide categorization information to the ONC so that the notifications can be initiated.

5.1.1.2 Hazardous Material Operational Emergency Notifications. Hazardous Material Operational Emergency notifications shall be made quickly and accurately to:

- augment the site and facility operating staff with personnel in designated response roles to respond to the emergency;
- activate emergency centers;
- facilitate public notification by offsite authorities and agencies that have decision-making authority for directing protective actions (e.g., evacuation of local areas); and
- protect site and facility personnel and emergency workers through the provision of information necessary to implement accountability and protective actions such as sheltering, decontamination, and evacuation.

The Hazardous Material Operational Emergency notification process is outlined in Figure 5-1.

5.1.1.2.1 Initial Onsite and Offsite Notifications. The initial event classification (Alert, Site Area Emergency, or General Emergency per criteria delineated in subsections 4.1.2.1, 4.1.2.2, and 4.1.2.3 respectively) shall be made by the BED or IC in accordance with established procedures.

The BED/IC shall initiate immediate notifications via the 911 emergency number to request emergency response assistance and to notify onsite personnel within their geographic area of responsibility via sirens, the onsite crash alarm telephone system, or plant telephone so that they can take appropriate protective actions.

Notifications and Communications

The BED/IC is responsible for making notifications for the purpose of onsite protective actions. The protective actions include, as applicable, actuating appropriate facility sirens, notifying the POC to actuate additional sirens, and/or initiating crash alarm telephone system notifications.

Additionally, the BED/IC is responsible for ensuring that a completed copy of the RL Notification Form (Figure 5-2) is transmitted to the ONC in accordance with established procedures. If a facsimile machine is not available, the BED/IC is responsible for ensuring that pertinent information from the RL Notification Form is provided to the ONC.

For nonfacility events (e.g., onsite transportation incidents, wildland fires, etc.), the EDO is responsible for making the initial event classification and providing notification, including information to complete the RL Notification Form, to the ONC.

Upon notification from the BED/IC or EDO regarding the declaration of a emergency event classified as Alert, Site Area Emergency, or General Emergency, the ONC shall make offsite notifications within 15 minutes to:

- DOE-HQ EOC;
- Benton County, Franklin County, Grant County, Washington State, and Energy Northwest (WNP-2) via the DOE Crash Alarm Telephone System (hot line); and
- Oregon State.

The ONC shall also initiate the automated Emergency Notification System (ENS) and pager system to activate the DOE Hanford EOC and make onsite notifications, as appropriate, to the:

- DOE Hanford senior management on-call;
- Emergency Duty Officer (FDH);
- PNNL single point-of-contact;
- BHI single point-of-contact; and
- HEHF single point-of-contact.

Within 30 minutes of the event declaration, the ONC Duty Officer shall notify, as applicable to the event, other offsite agencies that may have personnel working in remote locations of the Hanford Site (e.g., personnel at locations without alarm or siren capabilities). All other notifications shall be made as soon as practical. The ONC shall maintain a list of agencies to be notified.

5.1.1.2.2 Reclassification Notifications. Reclassification of rapidly escalating emergencies shall be made by the BED/IC until the DOE Hanford EOC is declared operational. The BED/IC shall provide immediate appropriate protective action notification to onsite personnel within their respective geographic area of responsibility and also provide notification to the POC and

Notifications and Communications

ONC via the 911 emergency number regarding the reclassification. The ONC then shall notify the offsite emergency response organizations of the event reclassification.

Upon declaration of their operability, the DOE Hanford EOC shall have the responsibility for reclassifying or terminating emergencies, disseminating additional protective action decisions to onsite personnel, and performing offsite notifications that include protective action recommendations.

The same offsite notification requirements listed above apply anytime an event is reclassified.

5.1.1.2.3 U.S. Department of Energy Emergency Response Assets. It is the responsibility of the DOE Hanford EOC to forward any requests for national DOE emergency response assets to the Regional Response Coordinator. Response to events requiring DOE emergency assistance shall be directed to appropriate DOE-HQ elements. DOE responsibilities for emergency assistance are delineated within interagency Federal response and recovery plans, Executive Orders, and/or international agreements. Specific notifications for response to a request for radiological assistance are described in DOE/RL-92-49, *U.S. Department of Energy Radiological Assistance Program Plan and Procedure Region 8*.

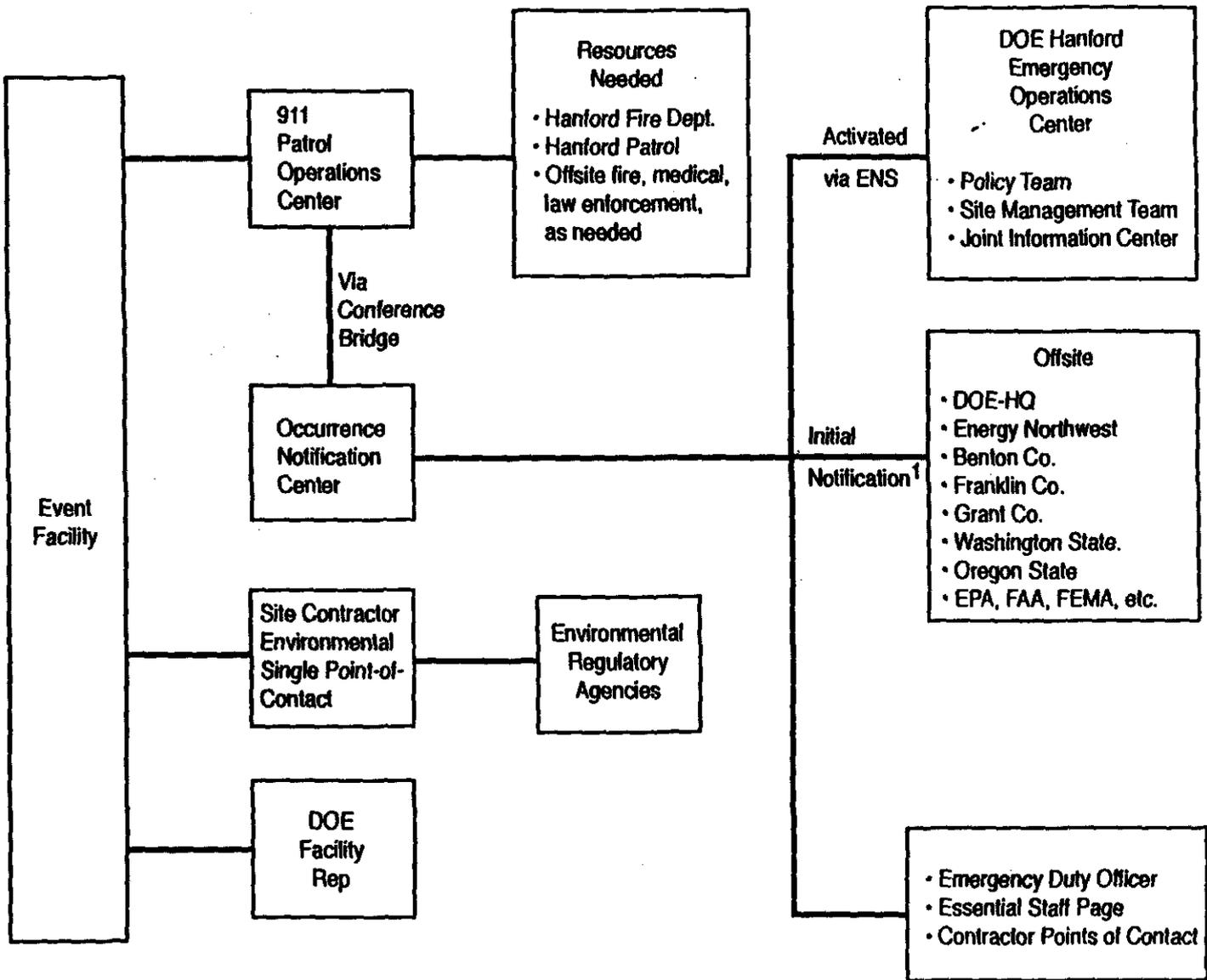
5.1.1.2.4 Reports. Following termination of emergency response, and in conjunction with the Final Occurrence Report per DOE O 232.1A, the facility shall submit a final report on the emergency to the Occurrence Reporting and Processing System. The RL/ORP Manager shall designate a lead evaluator to conduct an evaluation and submit a final report on the emergency response. Upon approval by the RL/ORP Manager, the final report shall be submitted to the Associate Deputy Secretary for Field Management and the Director of Emergency Management.

All reports and releases shall be reviewed for classified or Unclassified Controlled Nuclear Information prior to being provided to noncleared personnel, entered into unclassified data bases, or transmitted using nonsecure communications equipment.

5.1.2 Environmental Notifications

There are numerous environmental notifications that must be made including those required under the RCRA emergency category. These notifications are made either verbally or in writing, dependent on the event type. In many cases, notification requirements are based upon the quantity and location of a spill or release.

Site contractors shall maintain procedures to ensure implementation of environmental notifications in accordance with Federal, state or local requirements and agreements. Since events relating to spills or releases usually do not meet criteria for a DOE Order classifiable emergency (i.e., Alert, Site Area Emergency, or General Emergency), contractors must ensure that environmental notification procedures are consistent with the environmental notification process depicted in Figure 5-3.



¹ Subsequent notifications made by the DOE Hanford EOC once operational.

G99070062.3

Figure S-1. Hazardous Material Operational Emergency Notifications.

Figure 5-2. RL Notification Form.

RL-F-8640.1
(02/88)

U.S. DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE

NOTIFICATION FORM

Notification No. _____

1 NOTIFICATION PROVIDED BY: Name: _____ Phone: (509) _____

2 AREA AND FACILITY: _____ **3** TYPE EVENT: a. Emergency b. Exercise/Drill

4 CLASSIFICATION/STATUS:
a. Initial Classification b. Reclassification c. Termination d. PAR Change/Addition e. Information

5 EMERGENCY CLASSIFICATION LEVEL AND PROTECTIVE ACTION RECOMMENDATIONS:

AREA	a. <input type="checkbox"/> ALERT EMERGENCY	b. <input type="checkbox"/> SITE AREA EMERGENCY	c. <input type="checkbox"/> GENERAL EMERGENCY
<input type="checkbox"/> 100K	Evacuate Columbia River from White Bluffs to Vernita Bridge.	Evacuate Columbia River from White Bluffs to Vernita Bridge.	<ul style="list-style-type: none"> • Evacuate Columbia River from White Bluffs to Vernita Bridge. • Evacuate Section 5, east of Hwy. 24.
<input type="checkbox"/> 200	None	Evacuate Columbia River from Vernita to Leslie Groves Park.	<ul style="list-style-type: none"> • Evacuate Columbia River from Vernita to Leslie Groves Park. • Evacuate Sections 5, 6, and 7.
<input type="checkbox"/> 300	None	Evacuate Columbia River from White Bluffs to Howard Amon Park.	<ul style="list-style-type: none"> • Evacuate Columbia River from White Bluffs to Howard Amon Park. • Evacuate 3 mile radius.
<input type="checkbox"/> 400	None	Evacuate Columbia River from White Bluffs to Leslie Groves Park.	Evacuate Columbia River from White Bluffs to Leslie Groves Park.
<input type="checkbox"/> Others	None	None	None

6 TYPE OF INCIDENT: *check all that apply*

a. Fire b. Explosion c. Radiological d. Security e. Hazardous Materials f. Electrical
g. Other

EAL Used for Classification: DOE-0223, RELP 1.0, Appendix 1-

Description of Incident: _____

7 RELEASE INFORMATION:

a. No Release
b. Airborne Release Estimated Start Time of Release _____
c. Spill _____
d. Release to Columbia River
e. Unknown Assumed Duration of Release _____
f. Release Terminated

8 METEOROLOGICAL DATA:

Wind Speed _____ mph
Wind Direction: from _____ toward _____
Precipitation: Yes No
Stability Class:
A B C D E F G

9 PROGNOSIS OF SITUATION:
a. Unknown b. Stable c. Escalating d. Improving

FOR EOC USE ONLY.

10 ADDITIONAL OFFSITE PROTECTIVE ACTION RECOMMENDATIONS:

11 BASIS FOR ADDITIONAL OFFSITE PROTECTIVE ACTION RECOMMENDATIONS:
a. Security c. Hazardous Materials Release
b. Facility Condition d. Other _____

APPROVED: _____ DATE: _____ TIME: _____

Notifications and Communications

5.1.2.1 Initial/Verbal Notifications. For any incident which involves a spill, release, fire, explosion, or environmental permit exceedence, the respective site contractor environmental single point-of-contact shall be notified to determine applicability of requirements and perform appropriate environmental notifications. The respective site contractor environmental single point-of-contact shall notify the appropriate Federal, state and/or local agencies. Additionally, the ONC shall be notified in order to determine if an Abnormal Event notification is also required as delineated in subsection 5.1.3.

5.1.2.2 Written Reports. The respective site contractor shall develop any necessary written reports and submit to RL/ORP for review and concurrence. RL/ORP shall submit written reports to the appropriate Federal, state or local agencies within the required time frames.

5.1.2.3 Resumption of Operations. The respective site contractor environmental single point-of-contact shall notify the appropriate Federal, state and/or local agencies that the facility is in compliance with cleanup activities described in subsection 9.2.3 before operations are resumed.

5.1.3 Abnormal Event Notifications

There are a variety of events or situations that may occur on the Hanford Site that, while not creating or indicating an emergency condition, may generate public concern or media interest. Local, state and tribal entities need timely information on these events in order to reassure the public that these situations do not threaten their health or safety.

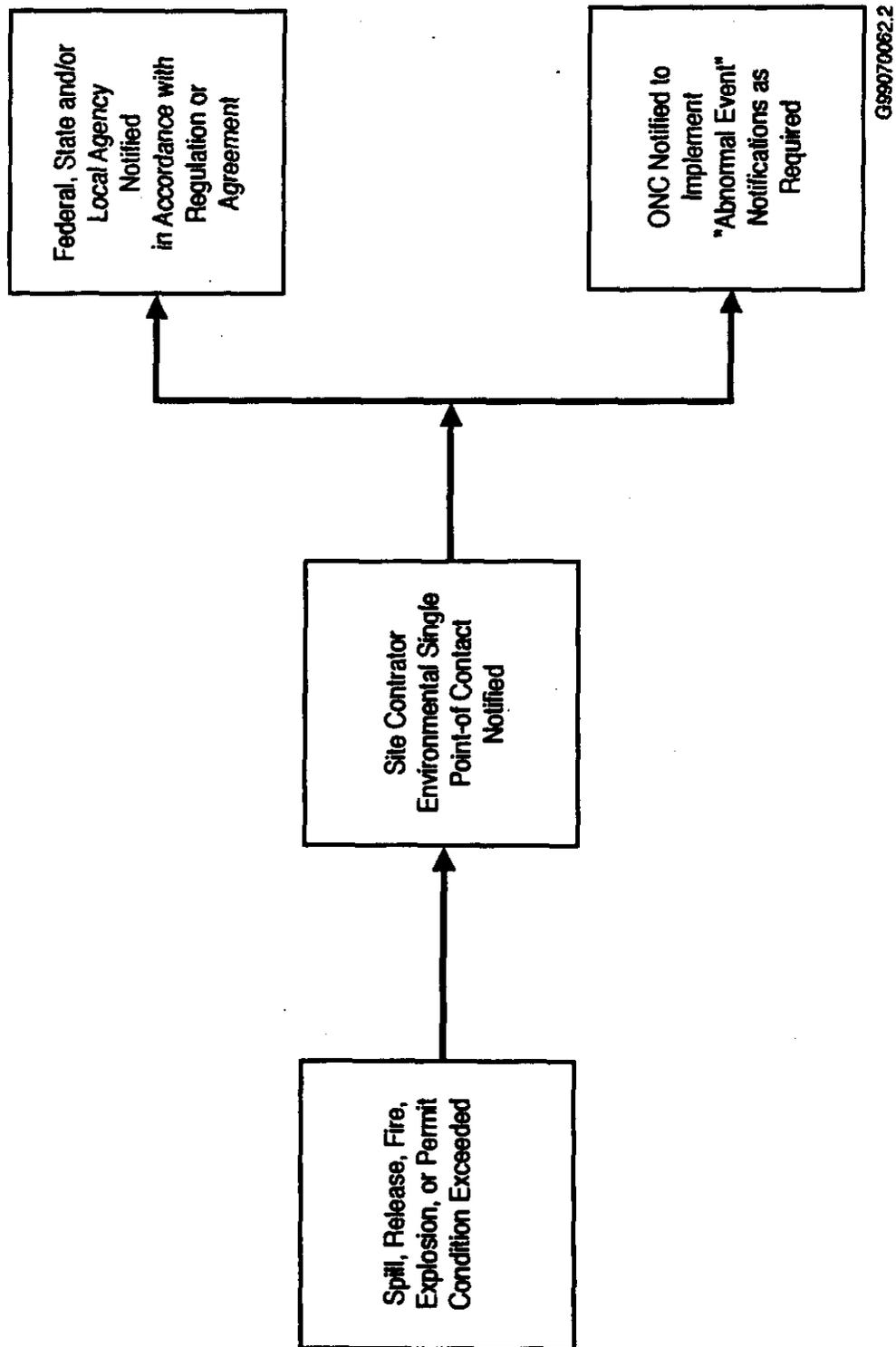
RL shall maintain a process to advise offsite entities of situations - termed Abnormal Event - which may generate public concern or media interest. RL will work with appropriate offsite entities to maintain the criteria to be used to initiate the Abnormal Event notifications, the notification procedure, and a list of entities to be notified. Additionally, RL shall notify the site contractors when criteria change. The Abnormal Event notification process is further delineated in the Hanford implementing directive HFID 232.1B, *Notification, Reporting, and Processing of Operations Information*.

Site contractors are responsible to ensure that events meeting the HFID 232.1B Abnormal Event notification criteria at their respective facilities are promptly reported to the ONC. The ONC will initiate Abnormal Event notifications when notified of a situation which meets the agreed upon criteria. Additionally, offsite agencies will notify the ONC if public or media inquiries indicate the need to initiate notifications.

5.2 COMMUNICATIONS

Effective communications methods shall be established between event scene responders, emergency managers, and response facilities. Provisions shall also be established for continuing effective communication (i.e., back up means of communication) among the response organizations throughout an emergency. To minimize the potential for confusion in disseminating information, the simplest, most direct system for communications should be established.

Figure 5-3. Environmental Notifications.



Notifications and Communications

The communications system shall provide for designated point(s) of contact for receipt of notifications; compatibility with other Federal, tribal, state, and local response organizations; and rapid dissemination of information received to provide for timely and effective response actions.

5.2.1 Telephone Number 911

The Hanford Site emergency number for requesting emergency response is 911. This number shall be monitored and recorded at all times by the Hanford Patrol at the POC. The 911 emergency number shall be called when emergency conditions exist that requires responses from the Hanford Patrol or Hanford Fire (including ambulance or the Hazardous Materials Response Team), or whenever there is any doubt as to the conditions present.

Where cellular telephone is the only method of communication, onsite emergency response may be requested by calling the POC at 373-3800.

5.2.2 Telephone Number 373-3800

This is the 24-hour business telephone number for the POC. Additionally, this number is used as the Hanford Site single point-of-contact number for notification of offsite transportation events involving RL/ORP-owned hazardous materials shipments.

5.2.3 Telephone Number 376-2900

This is the Hanford Site telephone number for reporting occurrences to the ONC in accordance with occurrence reporting requirements. This number shall be monitored at all times by ONC personnel.

5.2.4 Site Contractor Environmental Single Point-Of-Contact

Each site contractor shall maintain a communications mechanism (e.g., telephones, pagers) in order to perform the notifications described in subsection 5.1.2.1.

5.2.5 Onsite Crash Alarm Telephone System

The crash alarm telephone system is composed of dedicated telephones (red in color) which are activated through a conference bridge to provide a quick, reliable, and interactive medium for simultaneously disseminating emergency messages, protective actions, and information to key personnel at various, individual locations. The system is activated by the POC at the direction of the BED or the IC.

Notifications and Communications

Independent crash alarm telephone systems provide coverage for the 100B/C, 100DR, 100H, 100K, 100N, 200, 300, and 400 Areas.

5.2.6 Emergency Notification System

The ENS provides a medium for rapidly relaying emergency messages and information to key emergency personnel by the use of a computerized calling and message-delivery system, with the capability to record selected responses. The ENS is used to notify/activate emergency center response personnel. The ENS shall be initiated by the ONC.

5.2.7 Priority Message System

The priority message system or management bulletin is a network of e-mail and/or facsimile machines used to disseminate information to Hanford Site employees. Priority messages will be developed and disseminated by public affairs personnel.

5.2.8 Radios

Multiple radio systems and frequencies are available for emergency communications. A repeater station located on Rattlesnake Mountain provides sitewide communications capability.

Radio transmissions, as well as mobile telephone communications, are conducted over frequencies monitored not only by Hanford Site contractors, but also by non-DOE personnel and the general public. Extra precautions shall be taken to prevent communication of sensitive information during regular and emergency communications (such as names and speculative information).

5.2.9 Incident Command Post Communications

The ICP shall have communications to facilities outside of the affected event scene. Methods of communication include the use of:

- commercial telephone (adjacent buildings should be identified where commercial telephones are available);
- cellular telephone; and
- portable and/or fixed radio with capability to transmit on the Hanford Site safety network, Hanford Patrol, or Hanford Fire frequencies.

Notifications and Communications

**5.2.10 U.S. Department of Energy
Hanford Emergency Operations
Center Communications**

The DOE Hanford EOC shall have appropriate methods of communications including backup communications. These shall include:

- commercial telephone;
- cellular telephone; and
- portable and/or fixed radio with capability to transmit on the Hanford Site safety network, Hanford Patrol, or Hanford Fire frequencies.

Additionally, the following two dedicated networks will be maintained.

- The DOE Crash Alarm Telephone System which establishes a conference bridge with:
 - Energy Northwest (WNP-2);
 - Benton County;
 - Franklin County;
 - Grant County;
 - Washington State;
 - Oregon State;
 - Hanford POC;
 - ONC; and
 - DOE Hanford EOC.

NOTE: This system will be used by the ONC to make initial notifications of emergency classification and PARs, and by the DOE Hanford EOC to make subsequent notifications of emergency classifications or reclassification, PARs, and emergency termination.

- The ERO Communications Line that establishes a conference bridge and is the primary method to communicate event information between the DOE Hanford EOC and the ICP.

5.2.11 Secure Communications

Secure communications in the DOE Hanford EOC shall be accomplished, as necessary, using the Secure Telephone Unit III (STU-III) telephone system. This system enables establishment of a secure, closed network for voice communications.

5.2.12 Emergency Signals

Table 5-1 lists the standard Hanford Site emergency signals, their meanings, and normal response actions.

Table 5-1. Standard Emergency Signals.

SIGNAL	MEANING	ACTIONS
Gong/electronic chime	Fire	Vacate building; proceed to staging area.
Steady tone on whistle, Klaxon horn, or siren	Area evacuation	Vacate building; proceed to evacuation staging area. Personnel in vehicles shall proceed to the nearest facility staging area and report to the staging area manager.
Wavering siren or short blasts on whistle, klaxon horn or siren	Take cover (shelter)	Proceed to shelter or stay indoors. Close all exterior doors, turn off all intake ventilation (as applicable), and notify manager of whereabouts. Personnel in vehicles shall proceed to the nearest occupied facility and report to facility management.
AH-00-GA horn (howler) or flashing blue light (in high noise areas)	Nuclear criticality	Run at least 100 feet from building; proceed to staging area.
Red light with ringing bell	Air contamination	Stop work activities; immediately exit the area; notify Radiological Control personnel.
Ringling of a red crash alarm telephone	Emergency communications	Lift receiver, do not speak, listen to caller, and relay message(s) to the BED/BW and the building occupants.

6.0 CONSEQUENCE ASSESSMENT

Initial and continuous consequence assessments are necessary to protect workers, the public, and the environment during a declared emergency. Consequence assessments evaluate and interpret radiological or other hazardous materials measurements or other information to provide a basis for decision-making. In this context, planning includes developing and preparing postulated scenarios for onsite and offsite consequence projections for development of PARs, and identifying personnel and resources to provide an effective response.

6.1 CONSEQUENCE DETERMINATION

Provisions shall be established to adequately assess the potential or actual onsite and offsite consequences of an emergency. Hanford Site consequence assessment activities shall:

- be timely throughout the emergency;
- be integrated with the event classification and protective action process;
- incorporate monitoring of specific indicators and field measurements; and
- be coordinated with offsite agencies.

The airborne release pathway typically represents the most time-urgent situation, requiring a rapid, coordinated response. Releases to aquatic and ground pathways may not have the same time-urgency, however considerations of these pathways shall be a part of the consequence assessment activities at the Hanford Site.

6.1.1 Meteorological Monitoring

Representative collection of meteorological data currently is required to support environmental monitoring activities for ensuring that Hanford Site operations involving airborne releases of hazardous material comply with applicable Federal, state, and local environmental protection laws and regulations, executive orders, and internal department policies. Characterization of atmospheric transport and diffusion conditions (e.g., wind speed, wind direction, stability) in the vicinity of the Hanford Site facilities is essential for consequence assessments of airborne releases of hazardous materials. Other meteorological conditions (e.g., precipitation, temperature, and atmospheric moisture) are important to environmental surveillance activities (both routine and nonroutine) such as air concentration and ground deposition monitoring.

6.1.2 Water/Groundwater Monitoring

The water/groundwater monitoring and environmental surveillance programs required by DOE Order 5400.1 (DOE 1990) shall be used to characterize transport and diffusion of accidental releases of hazardous materials to aquatic pathways in the vicinity of a Hanford Site facility.

Consequence Assessment

6.1.3 Event Scene Consequence Assessments

These assessments will be conducted at the event scene by the ICP staff. The ICP staff should continuously evaluate the environmental conditions for inhabitants of the command post and relocate the command post as necessary.

6.1.4 Area Consequence Assessments

It is necessary to evaluate the consequences of releases of radioactive and nonradioactive materials at locations beyond the immediate vicinity of the event scene. This is typically within a defined Hanford Site area (e.g., 100K, 200E, 200W, 300, 400 Area) and includes all areas outside of the event scene and within the immediately affected area. The types of evaluations that should be conducted are those that affect the ability of operations staff to safely shutdown operational facilities and those that affect the ability of residents to take protective actions. This activity typically is performed by the UDAC for impacts to other Hanford Site populations.

6.2 COORDINATION OF CONSEQUENCE ASSESSMENT RESULTS

The UDAC has the primary responsibility for overall onsite and offsite consequence assessment for the Hanford Site. The UDAC staff shall continuously assess event conditions that may include:

- release source terms;
- mitigation efforts;
- onsite and offsite field team data; and
- meteorological conditions.

Modeling tools shall be used to predict the consequences of a release of hazardous materials. The results of these calculations are shared with onsite and offsite emergency responders and appropriate PARs are disseminated to affected individuals.

RL shall make provisions for representatives from Washington and Oregon to participate in the consequence assessment, field team coordination, and the offsite PAR development process.

8.0 EMERGENCY MEDICAL SUPPORT

This section describes the emergency medical responsibilities and actions for injuries that may occur on the Hanford Site and illustrates the interfaces that exist between Hanford and offsite medical facilities.

RL/ORP shall ensure that provisions exist on the Hanford Site for emergency medical aid, triage, and decontamination, and the planning for mass casualty situations. Because of the potential for injuries to be accompanied by radiological contamination, medical support shall include documented arrangements with offsite medical facilities to accept and treat contaminated, injured personnel for emergency medical services not provided on the site. A synopsis of the MOUs with offsite medical facilities can be found in Table 3-1.

8.1 EMERGENCY MEDICAL RESPONSIBILITIES

Medical support shall be planned in advance in accordance with DOE O 440.1A (or replacement directive) for workers contaminated by hazardous material. Hanford Site organizations are authorized by RL/ORP to provide the medical response to onsite emergencies. Their roles and responsibilities are outlined in the following subsections. Specific procedures related to each major organization involved in site emergencies are located within documentation maintained by the respective organization.

A Hanford Site medical emergency is defined as any medical incident that results in the activation of the 911 emergency response system.

A mass casualty incident is defined as a medical incident that initially overwhelms the ability of the responders and/or medical care facilities to initially provide normal levels of care to injured victims.

8.1.1 Hanford Fire Department

The Hanford Fire Department, which includes emergency medical technicians and paramedics, is the lead agency for responding to medical emergencies. In this capacity, the Hanford Fire Department is responsible for:

- operating according to the Mid-Columbia Emergency Medical Services and Trauma Council and their medical program director;

Emergency Medical Support

- meeting the requirements outlined in the *Hanford Fire Department Emergency Medical Services Program Plan* and the patient care guidelines of *Mid-Columbia Guidelines for Patient Care*. These requirements include, but are not limited to:
 - patient care;
 - triage at the site;
 - ambulance transport of injured or ill employees to medical facilities and, if available, arrange for air transport directly from the site in extreme medical situations; and
 - notification and activation of mutual aid assistance that may be needed during the emergency or who require notifications
- implementing the Hanford Incident Command System to manage and control major medical incidents;
- requesting assistance from HEHF when additional medical support is needed; and
- coordinating a temporary morgue for Hanford fatalities.

8.1.2 Hanford Environmental Health Foundation

The primary roles of the HEHF during onsite medical emergencies are to activate and operate the Emergency Decontamination Facility (EDF) and to provide support to the IC as requested. In this capacity, HEHF is responsible for:

- directing medical treatment activities of patients taken to the EDF;
- providing medical support, treatment, and facilities (e.g., on-call physicians, physician assistants, occupational health nurses, behavioral health clinicians, industrial hygienists, and other related medical support staff) for emergencies in support to the IC;
- providing support for the medical treatment of employees who have received internal or external contamination from radionuclides;
- maintaining an appropriate supply of pharmaceuticals for use in Hanford emergencies;
- coordinating the site medical activities with the medical program director of Mid-Columbia Emergency Medical Services and Trauma, local hospitals, and other medical organizations as appropriate; and

Emergency Medical Support

- managing and providing staffing for the Health Care Centers (HCCs) and the EDF.

8.1.3 Hanford Patrol

The Patrol Operations Center operates the site 911 emergency response system. As part of the medical response, the POC is responsible for:

- contacting the Hanford Fire Department when a request for fire and/or emergency medical services has been received;
- performing emergency medical dispatch activities according to the guidelines of the South Central Emergency Medical Services and Trauma Care Council and those in *Criteria Based Dispatch*;
- contacting the HEHF on-call provider for medical incidents involving radiological or chemical exposures; and
- providing information regarding onsite medical emergencies to appropriate contractor organizations.

8.1.4 Hanford Internal and External Dosimetry and Whole Body Counting Programs

During medical emergencies that involve internal or external radionuclide contamination, these programs provide support (e.g., *in vivo* radio assays, bioassay program, exposure evaluators) to HEHF and other medical personnel to help determine the appropriate medical treatment.

8.1.5 Other Hanford Site Contractors

Site contractor health physics and radiation protection technologists and/or industrial hygienists provide decontamination for injuries, as appropriate. Hanford Site contractors also provide support for transportation, security, notifications, communications, etc., as described in respective subsections of section 2.0.

8.1.6 Local Hospitals

Through memorandums of understanding with RL, Kadlec Medical Center in Richland, Kennewick General Hospital, and Our Lady of Lourdes Health Center in Pasco provide emergency health care for patients delivered by the Hanford Fire Department.

Emergency Medical Support

This care includes:

- accepting patients transported by Hanford Fire Department as the result of Hanford emergencies;
- assuming responsibility for patient care once patient arrives at the hospital; and
- coordinating with Mid-Columbia Emergency Medical Services, Tri-City Trauma Services, and other agencies for support and air transport as needed.

A copy of each MOU is provided in Appendix B.

8.2 MEDICAL EMERGENCY FACILITIES AND EQUIPMENT

8.2.1 Health Care Centers

The HCCs are located in various areas throughout the Hanford Site. HEHF operates the HCCs to treat patients with occupational injuries or illnesses that do not require hospitalization. The HCCs are routinely staffed by occupational health nurses; however, some HCCs have physicians or physician assistants in addition to the occupational health nurses. Initial treatment for minor medical emergencies may be provided at these centers before transport to a local hospital.

8.2.2 Emergency Decontamination Facility

The EDF, located north of Kadlec Medical Center in Richland, is operated for RL by the HEHF. The EDF is an unoccupied, hardened facility designed to be used for patient decontamination, treatment of internal contamination, and minor medical treatment for persons who are radiologically contaminated and have minor injuries.

8.2.3 Site Decontamination Equipment

Decontamination equipment is available at a number of locations on the Hanford Site. Equipment or facilities range from eye washes, showers, and skin decontamination kits, to a mobile hazardous materials decontamination unit operated by the Hanford Fire Department.

8.2.4 Medical Emergency Equipment

Equipment for cardiopulmonary resuscitation, cardiac defibrillation, and advanced cardiac life support; supplies and equipment for the management of trauma; and equipment to support rescue and/or extrication of casualties is maintained by the Hanford Fire Department. Supplies for triage are available on board each Hanford Fire Department ambulance.

8.2.5 Medical Emergency Transportation

Ambulances shall be maintained and operated by the Hanford Fire Department. Provisions shall be made for air transportation of contaminated patients to medical facilities for specialized medical treatment in conjunction with the Aviation Safety Committee. Transportation support beyond that provided by the Hanford Fire Department shall be coordinated according to mutual aid and trauma service agreements.

8.2.6 Offsite Medical Facilities

The three local hospitals, Kadlec Medical Center in Richland, Kennewick General Hospital, and Our Lady of Lourdes Health Center in Pasco, provide treatment for emergency patients from the Hanford Site; however, because of proximity, Kadlec Medical Center is the facility most often used by the site. These hospitals have combined to provide Level Three trauma care for the community.

Memorandums of understanding with each hospital are maintained by RL. A copy of each MOU is contained in Appendix B. Other offsite medical facilities may be involved in Hanford medical emergencies through agreements with the local hospitals.

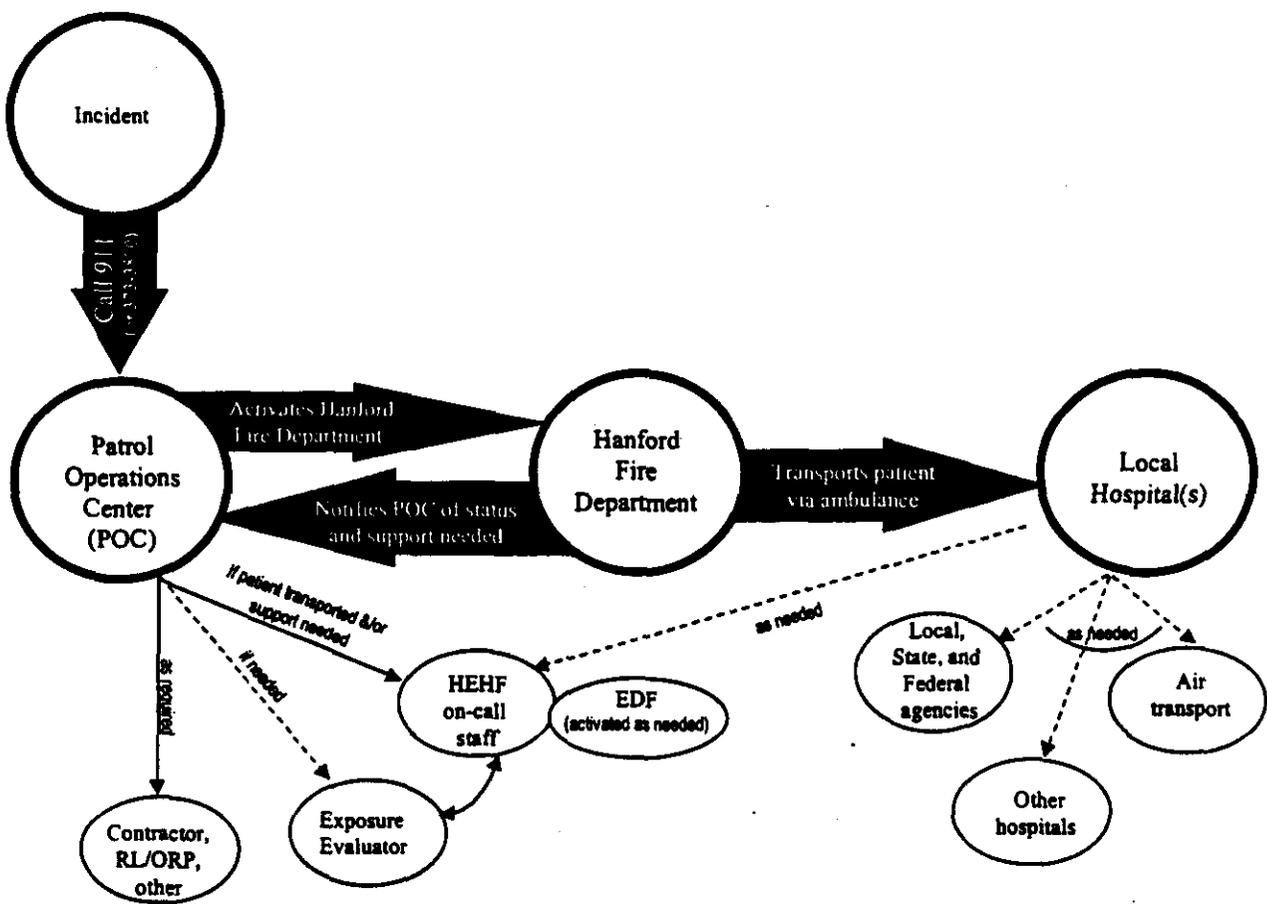
RL shall ensure the provision of training and exercise support related to the services provided to the site. The HEHF shall provide medical expertise on radiological and chemical exposure decontamination and treatment, as requested.

8.3 MEDICAL EMERGENCY COMMUNICATIONS

The communications process during a Hanford medical emergency is illustrated in Figure 8-1.

Emergency Medical Support

Figure 8-1. Medical Emergency Response Communications.



9.0 EMERGENCY TERMINATION AND RECOVERY

This section describes the responsibilities for termination and recovery planning and operations. Predetermined criteria for termination of emergencies shall be developed and maintained in DOE-0223, *Emergency Plan Implementing Procedures*. Recovery shall include notifications associated with termination of an emergency and establishment of criteria for resumption of normal operations.

9.1 TERMINATION OF THE EMERGENCY

In general, response activities are terminated when the situation has been stabilized. At this point, potential threats to workers, the public, and the environment have been characterized, conditions no longer meet established emergency categorization criteria, and it appears unlikely that conditions will deteriorate. Once the emergency has been declared terminated, activities may then focus on recovery.

It is the function of the BED/BW/IC to declare the termination of an event after applicable criterion has been met where the DOE Hanford EOC has not been activated.

In an event where the DOE Hanford EOC has been activated, termination occurs after applicable criteria have been met and concurrence between the event contractor and RL/ORP has been obtained. The BED, IC, and Site Emergency Director must confer and agree that termination can be declared. The Site Emergency Director shall then communicate the information to the RL/ORP Emergency Manager.

The RL/ORP Emergency Manager will coordinate the termination recommendation with the state and county representatives and make the official emergency termination declaration. The Policy Team will proceed with official notification to offsite emergency agencies that the emergency is terminated and the recovery phase has been initiated. Notification will be done through the DOE Hanford EOC emergency communications network. The criteria for the termination decision and the basis for relaxing applicable offsite PARs will be included in the notification as appropriate. Press releases will be prepared and disseminated through the JIC.

9.2 RECOVERY PLANNING

Upon termination of the emergency event, onsite and offsite emergency organizations must develop and implement plans necessary to return the affected facility and surrounding areas to normal. Restart of operations is performed in accordance with the approved plans. RL/ORP shall direct recovery planning for Hanford Site facilities and support the offsite recovery efforts of Federal, state, and local agencies.

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Recovery planning shall include dissemination of information to offsite agencies regarding the emergency and possible relaxation of public protective actions; planning for decontamination actions; establishment of a recovery organization; development of reporting requirements; and establishment of criteria for resumption of normal operations.

The RL Manager shall determine the type of accident investigation necessary and ensure that actions are performed in accordance with DOE O 225.1A, *Accident Investigations* (DOE 1997). In addition, the RL/ORP Emergency Manager, with assistance from the event contractor, shall provide for investigation of emergency root cause(s) and corrective action(s) to prevent recurrence in accordance with DOE requirements (e.g., see DOE O 225.1A and DOE 5480.19) and RLIP 5484.1A, *Environmental Protection, Safety, and Health Protection Information Reporting Requirements* (DOE/RLIP 1981).

9.2.1 Planning and Operations for Onsite Recovery

The RL/ORP Emergency Manager shall designate a Manager of Recovery Operations. This manager will assess the extent of recovery actions necessary and determine the organization needed to implement recovery operations.

The RL/ORP recovery organization shall be comprised of two teams: the Recovery Support Team and the Onsite Recovery Team.

9.2.1.1 Recovery Support Team. The Manager of Recovery Operations shall appoint a Recovery Support Team to provide oversight for the onsite recovery effort, and information and assistance to the offsite agencies.

The Recovery Support Team should consist of sufficient staff to perform functions as applicable to the situation. Initial staff may be members of the DOE Hanford EOC, since activities performed during the recovery phase closely parallel many of the activities performed during the emergency. Responsibilities of the Recovery Support Team include:

- coordinating personnel safety and health recovery actions such as stress debrief and case management activities;
- discussing and coordinating recovery issues with offsite agencies;
- coordinating response to requests for offsite assistance;
- providing input to and review of Onsite Recovery Plan;
- responding to technical questions from DOE-HQ and offsite authorities;
- reviewing UDAC data and providing late phase onsite PARs to the Onsite Recovery Team for inclusion in Site Recovery Plan;

Emergency Termination and Recovery

- requesting offsite Federal assistance after consultation with the state;
- reviewing assessment data and recommendations to formulate offsite intermediate and late phase PARs, as requested by the states;
- coordinating press information for release to the public through the JIC or RL Office of External Affairs;
- reviewing and coordinating employee information releases, including general information and specific information for displaced workers;
- providing information on recovery activities to DOE-HQ, state and county EOCs; and
- making emergency procurement arrangements for offsite assistance or to implement the Site Recovery Plan when directed by Manager of Recovery Operations.

9.2.1.2 Onsite Recovery Team. The Contractor Representative for the SMT shall appoint an Onsite Recovery Manager, who is responsible for appointing members of the Onsite Recovery Team. The Onsite Recovery Team is responsible for the development and implementation of the Onsite Recovery Plan. The team should consist of sufficient staff to perform the functions as applicable to the situation.

The Onsite Recovery Team consists of the following functions as applicable.

- **Recovery Planning:** Proposes and evaluates courses of action and address other major aspects of the recovery operation.
- **Task Management/Scheduling:** Identifies and plans specific tasks for implementation of the Site Recovery Plan. Monitors and coordinates the status of tasks.
- **Engineering Support:** Provides the support for procedure preparation, data analysis, technical support to the operations staff, and other tasks related to the technical support of recovery. Provides engineering design, materials, and the construction support needed to implement any required modification of plant structures or systems.
- **Safety:** Assesses the extent of contamination of buildings and systems. Establishes processing and decontamination priorities based on this assessment, performs surveys, releases areas, provides radiological support for maintenance and operations, and maintains radiological and exposure records. Provides for the monitoring of hazardous chemicals. Ensures work is performed in accordance with company safety requirements and procedures.

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- **Plant Operations:** Routine performance of plant operations functions for the duration of the recovery.
- **Operations Support:** Supports the recovery efforts in areas such as personnel, communications, transportation, and temporary office space when required. Coordinates logistical support to displaced workers as detailed in the Site Recovery Plan.
- **Communications:** Prepares releases for employee information, including general information and specific information for displaced workers. Provides information to the RL Public Information Director for use in dissemination to the public.
- **Recorder:** Maintains the Onsite Recovery Log, which will serve as a chronological record of the recovery efforts. Ensures that records and plant data are stored in accordance with site contractor records procedures.

The Onsite Recovery Manager shall direct development of a detailed Site Recovery Plan. The plan shall outline the Onsite Recovery Organization, objectives, facilities available to the organization, a schedule, disposition of displaced workers, cost estimates, and recovery actions.

The Manager of Recovery Operations shall approve the Site Recovery Plan after review by the Recovery Support Team. The Site Recovery Plan can be submitted in phases to allow initial recovery activities to take place during planning.

As recovery activities decrease, the Manager of Recovery Operations should reduce the number of personnel involved in recovery activities by combining positions. If minimal activities are taking place, consideration should be made for assigning functions to site organizations as part of normal activities.

9.2.2 Planning and Operations for Offsite Recovery

The states of Washington and Oregon are responsible for determining when the relaxation of protective measures can begin, and will make offsite reentry and recovery decisions. The states shall coordinate recovery activities with the affected counties, who will coordinate local public health actions and disaster assistance. Recovery actions also will be coordinated with RL/ORP.

The major areas of effort for offsite recovery include:

- maintenance of access and traffic control of contaminated areas until cleanup is accomplished;
- imposition of control measures on possibly contaminated food and dairy products until radioactivity or chemical contaminant levels are deemed acceptable or the products are decontaminated or destroyed;

Emergency Termination and Recovery

- dissemination of public health advice for individuals with noncommercial sources of food and dairy products;
- direction of decontamination activities, by way of natural radioactive decay, contamination removal, burial, treatment, or dilution;
- determination of radioactivity or chemical contaminant levels by field and laboratory analysis;
- documentation of population doses, individual doses, and environmental radioactivity or chemical contaminant levels; and
- dissemination of public information through press releases and other means.

RL/ORP shall provide representatives to state recovery task forces, as may be established, if determined necessary by the RL/ORP Emergency Manager or Manager of Recovery Operations.

A major event at the Hanford Site affecting offsite populations could involve the implementation of the Federal Radiological Emergency Response Plan (FRERP) and the Federal Response Plan. Implementation of these plans would activate several Federal agencies including the FEMA, the EPA, Department of Agriculture, and many other agencies (including DOE) to support state and local relief and recovery efforts. Overall coordination of activities under these plans is the responsibility of FEMA.

For an event involving a facility on the Hanford Site owned by DOE, RL will become the lead Federal agency. The FRERP details the responsibilities of the lead federal agency which include:

- assessing the emergency and providing notification to the appropriate Federal, state, and local governments;
- providing offsite monitoring, assessment, and PARs;
- providing for the release of public information on the emergency; and
- providing initial support to the state and local governments on recovery monitoring and decontamination activities. The EPA will assume these responsibilities for the long-term after receiving a pledge of support from DOE.

9.2.3 Incompatible Waste

After an event, the BED/BW and/or Onsite Recovery Manager and staff shall provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility. The BED/BW and/or

Onsite Recovery Manager and staff shall further ensure that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed.

Cleanup activities shall be performed by trained site personnel. In order to meet 29 CFR 1910.120(q)(11) criteria, such personnel shall have completed the training requirements of 29 CFR 1910.38(a), 29 CFR 1910.134, 29 CFR 1910.1200, and other appropriate safety and health training made necessary by the tasks that they are expected to perform (e.g., personnel protective equipment, decontamination procedures). In addition, all equipment to be used in the performance of the clean-up work shall be in serviceable condition and shall have been inspected prior to use.

Activities may include, but are not limited to:

- neutralization of corrosive spills;
- chemical treatment of reactive materials to reduce hazards;
- overpacking or transfer of contents from leaking containers;
- use of sorbents to contain and/or absorb leaking liquids for containerization and disposal;
- decontamination of solid surfaces impacted by released material, e.g., intact containers, equipment, floors, containment systems, etc.;
- disposal of contaminated porous materials that cannot be decontaminated and any contaminated soil;
- containerization and sampling of recovered materials for classification and determination of proper disposal technique; and
- follow up sampling of decontaminated surfaces to determine adequacy of cleanup techniques as appropriate.

Waste from cleanup activities shall be designated and managed as newly generated waste. A field check for compatibility before storage shall be performed, as necessary, to ensure that incompatible wastes are not placed in the same container and containers of waste are placed in storage areas appropriate for their compatibility class.

If it is determined that incompatibility of waste was a factor in the incident, the BED/BW and/or Onsite Recovery Manager and staff ensures that the cause is corrected. Examples would be modification of an incompatibility chart or increased scrutiny of waste from a generating unit when incorrectly designated waste caused or contributed to an incident.

10.0 PUBLIC INFORMATION

Public information is an integral part of the emergency management program at the Hanford Site. Accurate, candid, and timely information consistent with requirements of the Freedom of Information Act and the Privacy Act shall be provided to site workers and the public before, during, and after emergencies so as to establish facts and avoid speculation. RL/ORP shall coordinate interagency and public information activities at the regional level and coordinate directly with DOE-HQ.

RL/ORP and state and local governments share the responsibility to provide this information. RL/ORP shall develop a public information program, including methods and procedures, to provide for the:

- education of the public and employees on what to do in the event of an emergency;
- dissemination of accurate, timely information during any level of emergency; and
- dissemination of information to help the public and employees recover after an emergency.

Coordination with offsite agencies that have the responsibility to provide emergency warning, instructions, and information to the public is key to the success of the public information program. The RL Office of External Affairs shall have the lead in coordinating the RL/ORP public information program with offsite agencies. Interfaces and assistance provided to offsite agencies related to public information shall be documented in MOUs. Applicable MOUs are contained in Appendix B.

10.1 EMERGENCY PUBLIC INFORMATION PROGRAM

RL/ORP and site contractor personnel shall cooperatively ensure that an adequate emergency public information program is established and maintained, commensurate with site hazards, to ensure that information can be provided to the public and media during an emergency.

The emergency public information program shall be adequately staffed with personnel trained to serve as spokespersons and newswriters, and to provide support in media services, public inquiry, Joint Information Center management and administrative activities, and media monitoring. Persons with technical expertise about the emergency and with spokesperson training shall also be assigned to the emergency public information staff.

Adherence to emergency public information policies and requirements shall be demonstrated during exercise evaluations, appraisals/evaluations, and approved training programs.

10.2 EMERGENCY PUBLIC INFORMATION ORGANIZATION

The Emergency Public Information organization shall be activated upon declaration of an emergency, activation of the DOE Hanford EOC, or as otherwise directed by the RL Manager or RL Office of External Affairs director. Notification to Hanford Site personnel is accomplished via the automated ENS or a call tree fan-out, as backup. Emergency public information support to offsite responses under the RAP is addressed in DOE/RL-92-49, *U.S. Department of Energy Radiological Assistance Program Plan and Procedure Region 8*.

The Emergency Public Information organization shall be made up of site contractor and RL/ORP personnel working under the direction of the RL Office of External Affairs director. Personnel assignments shall correspond as closely as possible to normal duties. Two components within the DOE Hanford EOC have responsibilities for emergency public information: the Policy Team and the JIC.

10.2.1 Policy Team

The Policy Team has overall responsibility for emergency public information. The RL Public Information Director provides direction to the Emergency Public Information organization and reports to the RL/ORP Emergency Manager.

The RL Public Information Director and DOE Hanford EOC Newswriter work in the DOE Hanford EOC. Communications with the JIC are available via telephone, computer, and facsimile equipment. A closed circuit television system enables the DOE Hanford EOC to watch news conferences as they are conducted. Cable television service also is available in the DOE Hanford EOC for viewing of local and national news reports.

10.2.1.1 Responsibilities. The RL Office of External Affairs director serves as the RL Public Information Director and is responsible for:

- timely and accurate release of information to the public and media;
- advising the RL/ORP Emergency Manager on actions and responses that will reduce public uncertainty;
- approving the release of emergency public information;
- informing DOE-HQ of emergency public information actions;
- minimizing liabilities; and
- protecting the organization's image/credibility as they relate to emergency responses, control, and recovery.

The DOE Hanford EOC Newswriter is responsible for writing the primary emergency news releases, which are approved by the RL Public Information Director.

10.2.2 Joint Information Center

Public information activities at the Hanford Site are coordinated with offsite agencies through a JIC. The Hanford Site JIC is located at the Federal Building (Rooms 157 and 158), 825 Jadwin Avenue, Richland, Washington. Upon activation, the JIC may also use the Federal Building auditorium and portions of the lobby.

10.2.2.1 Information Release. Information is released in a variety of ways from a number of official sources. The emergency public information program at the Hanford Site is designed with the JIC as the single point from which emergency information is released. This allows RL/ORP, Hanford Site contractors, and offsite agencies to coordinate the accurate and timely release of public information. The JIC also coordinates the release of information with DOE-HQ.

RL shall encourage the participation of impacted offsite agencies in the JIC. In addition to RL/ORP and Hanford Site contractors, the states of Washington and Oregon, and the counties within the plume EPZs of the Hanford Site have included this participation in their emergency plans. The JIC is the sole source of information to the public on the event, corrective actions and potential ramifications. Additionally, local authorities utilize the JIC as their means to provide information to the media and the public. State agencies may release information directly from the state EOC, however, it will be coordinated through and simultaneously released at the JIC.

The information release functions of the JIC include:

- coordination of news releases with affected agencies;
- conducting news conferences with participation from RL/ORP, site contractors, and offsite agencies;
- rumor control;
- response to telephone inquiries from the public and media; and
- information to employees.

In situations involving classified information, the JIC will provide sufficient unclassified information to explain the emergency response and protective actions required for the health and safety of workers and the public. Public announcements that contain information that may present a security risk shall be reviewed by an Authorized Derivative Classifier or reviewing official before release and released as appropriate.

10.2.2.1.1 News Releases. Each agency shall develop and approve their own news releases. However, copies of proposed news releases shall be shared with agencies to ensure accuracy and consistency of information being released. News releases then will be released to the media from the JIC.

RL/ORP shall provide the initial news release within one hour of the emergency classification. RL/ORP shall provide copies of releases to DOE-HQ.

10.2.2.1.2 News Conferences. News conferences will be conducted from the JIC with spokespersons from local, state, and affected Federal agencies, and RL/ORP and site contractors. Conferences will be conducted, as the situation warrants, to provide an opportunity for the media to ask questions of responding agencies.

10.2.2.1.3 Rumor Control. Rumors may be identified by any member of the onsite or offsite emergency response organization. Within the JIC, the telephone teams and the media monitor are the primary identifiers of rumors. Any misinformation identified will be corrected as soon as possible through news releases, news conferences, and the telephone teams.

10.2.2.1.4 Telephone Teams. Telephone teams, staffed by RL/ORP and site contractor personnel, will answer questions from the public and media. Telephone teams will utilize news releases, emergency broadcast messages, fact sheets, and contacts with agency JIC representatives to provide information necessary to respond to inquiries.

10.2.2.1.5 Media Tours. Media tours of the affected area may be provided, if appropriate.

10.2.2.1.6 Information to Hanford Site Personnel. Information regarding work schedules, route closures, and other critical information is provided to site personnel, as priority messages from the RL/ORP Emergency Manager, via electronic mail. Information to be provided to off-duty personnel shall be provided through the media.

10.2.2.2 Staff Work Areas and Communications. The Joint Agency News Coordination Team, JIC Newswriters, Rumor Control, and Media Telephone Teams utilize Rooms 157 and 158 for a work area. Access to this area will be controlled once the JIC is activated. Equipment necessary for the coordination, development, and dissemination of press releases also is available in this work area. This includes computers, facsimile, and duplicating equipment.

Communications to site personnel, via priority messages using the site computer system, originates from a facility two blocks north of the JIC.

Coordination and dissemination of information to DOE-HQ is provided via telephone and facsimile.

10.2.2.3 Media Work Areas, Briefing Areas, and Communications. Portions of the Federal Building lobby shall be used as a work area for the media. Telephones will be connected in the work area for the use of the media.

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News conferences will be conducted in the Federal Building auditorium. Audio and visual equipment will be available for use in the news conferences. News conferences are transmitted via closed circuit television to the JIC staff work area and DOE Hanford EOC.

The media is provided information using telephone notifications, facsimile transmission of news releases, JIC distribution of news releases and news conferences, affected areas tours (if possible), and the media telephone team.

10.2.2.4 Staffing and Responsibilities. The JIC staff shall receive initial training on the JIC concept of operations and their specific tasks. Retraining shall be provided annually. Additionally, team members shall participate in one exercise annually. Offsite agencies that participate in the JIC also are given the opportunity to participate in training and drills related to their functions at the JIC. Offsite agency participation is requested for two exercises per year.

The JIC staffing shall be outlined in JIC procedures and shall provide functions to include:

- the timely release of accurate and understandable information to the public and media, and for responses to public inquiries;
- providing technical or risk-related information to spokespersons;
- conducting news conferences with participation from RL/ORP, Hanford Site contractors, and appropriate offsite agencies;
- providing graphic, photographic, and video support for use in news conferences and by the media;
- recording television and radio station broadcasts, and reviewing broadcasts for inaccuracies;
- identifying and correcting rumors and inaccuracies;
- producing written announcements, fact sheets, and news releases;
- relaying press announcements to the media, providing updates to the media not present at the JIC, and providing responses to incoming media phone queries;
- arranging for authorized media tours during the incident;
- reviewing, as necessary, information released to the media or the public for classified information; and
- transmitting emergency releases, bulletins, and updates to employees.

Public Information

The Joint Agency News Coordination Team is composed of Public Information Office representatives of Benton, Franklin, and/or Grant Counties, the states of Washington and Oregon, and involved Federal agencies. The basic function of the team is to jointly coordinate releases of information to the media and to provide accurate and timely information to the public regarding operations in their jurisdictions. They will have the opportunity to participate in news conferences.

10.3 PUBLIC EDUCATION

RL shall assist the jurisdictions within Hanford Site EPZs in the development and implementation of programs to educate their residents on the actions to take in the event of an emergency at the Hanford Site.

RL/ORP shall participate in public meetings sponsored by state, tribal, or local emergency management officials to make the public aware of DOE activities in the region, the potential risk from these activities, and the Hanford Site emergency preparedness program. RL/ORP shall coordinate the provision of information on the emergency management program to the media with offsite agencies.

RL/ORP shall provide information to the public and the media for each major exercise in order to educate the local community on Hanford Site activities to test the emergency preparedness program. This information will be coordinated with local emergency management officials.

10.3.1 Plume Emergency Planning Zone Public Education

The state of Washington and Benton, Franklin, and Grant Counties have instituted a public education program to ensure that the members of the public within a plume EPZ of the Hanford Site are aware of the proper actions to take following notification of an emergency. The counties' programs have been identified in their respective emergency plans. These plans, developed cooperatively with RL and Energy Northwest, include:

- annual distribution of an emergency information calendar for residents within the plume EPZs;
- distribution of a brochure for farmers and growers;
- distribution of information for special audiences such as boaters or Spanish-speaking residents;
- periodic public meetings; and
- annual surveys to determine the effectiveness of these programs.

Public Information

Information provided to residents includes:

- a description of the hazards;
- how they will be notified;
- protective actions they may be asked to take (i.e., sheltering or evacuation);
- evacuation routes and where to go if they are asked to evacuate;
- special provisions for schools or other special facilities; and
- how those with special needs can get help.

10.3.2 Ingestion Emergency Planning Zone Public Education

The states of Washington and Oregon, affected tribal organizations, and counties are responsible to provide education to residents within the ingestion EPZ. Information may include:

- a description of the potential impact of an emergency on residents and the agriculture community;
- preventive measures to help avoid or reduce the impact if a release occurs; and
- actions to take during and after a release.

Information may be provided through the dissemination of printed materials to target audiences, conducting public meetings and providing information to the media.

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12.0 TRAINING AND DRILLS

In addition to training that site personnel receive on their day-to-day functions, a coordinated program of training and drills for developing and/or maintaining specific emergency response capabilities shall be an integral part of the Hanford Site emergency management program.

12.1 GENERAL TRAINING REQUIREMENTS

12.1.1 General Employee Training

Initial training and periodic drills shall be provided to all workers who may be required to take protective actions (e.g., assembly, evacuation) when they are employed, when their expected actions change, or when the facility-specific emergency plan/procedure changes. This may be provided through general employee training and participation in drills or exercises.

Refresher training shall be provided annually to Hanford Site employees who are likely to witness a hazardous material release and who are required to notify proper authorities of the release.

In addition, site personnel are provided information on the specific emergency response documentation of their facility. Information is also provided to each employee, which describes the emergency signals, basic instructions, and the emergency response structure. By telephone, site personnel can hear a recording of the emergency signals. Drills and exercises provide additional training for site personnel on the specific actions of their building.

12.2 HANFORD EMERGENCY RESPONSE ORGANIZATION TRAINING REQUIREMENTS

A formal training program shall be provided for the instruction and qualification of all personnel (i.e., primary and alternate) comprising the Hanford Site ERO to include both initial training and annual refresher training.

Training programs should include a mix of classroom instruction, tabletop exercises or walk-throughs, and drills. In addition, training programs should be systematic and performance based (i.e., based on the analysis of tasks to be performed during an emergency) and developed using performance objectives that place emphasis on team training and facility-specific emergency response scenarios.

Annual refresher training should include lessons learned from past drills and exercises, changes to plans and procedures, and lessons learned from emergencies at DOE and other industrial facilities.

12.2.1 U.S. Department of Energy, Hanford Emergency Operations Center Staff Training

Site personnel assigned to the DOE Hanford EOC shall receive training prior to assignment to an activation list and at least annually thereafter. Offsite personnel with designated positions in the DOE Hanford EOC receive initial orientation training as requested.

12.2.2 Incident Command Organization Training

Personnel working in assigned roles of the Incident Command Organization, as delineated in Table 2-1, shall attend incident command and task-specific training prior to assignment and at least annually thereafter. Training shall include roles, responsibilities, and authorities for the respective position within the Incident Command Organization.

Personnel directing or supervising response actions must be trained for all tasks they assign to be performed and have the same level of qualification for emergency response as the personnel being directed.

Additional training requirements, as applicable, are delineated in the following subsections.

12.2.2.1 Facility/Building Emergency Response Organization Training.

12.2.2.1.1 Administrative Facilities. All designated BWs/BEDs (primary and alternates) shall attend BW/BED training prior to assignment and at least annually thereafter. The training shall include an overview of the Hanford Incident Command System including roles and responsibilities.

Personnel accountability aides and staging area managers (or other contractor-designated names) shall be trained on their respective roles and responsibilities prior to assignment and at least annually thereafter. The annual retraining requirement may be met by participation in a drill or exercise or by classroom training.

12.2.2.1.2 Nonhazardous Facilities. All designated BWs/BEDs (primary and alternates) shall attend BW/BED training prior to assignment and at least annually thereafter. The training shall include an overview of the Hanford Incident Command System including roles and responsibilities.

Additionally, the building management, or designee, shall ensure that documented training is provided to the Facility/Building Emergency Response Organization on their respective roles and responsibilities prior to assignment and at least annually thereafter.

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12.2.2.1.3 Hazardous Facilities. All designated BEDs (primary and alternates) shall attend BED training prior to assignment and at least annually thereafter.

Additionally, the building management, or designee, shall ensure that documented training is provided to the Facility/Building Emergency Response Organization (including the BED) prior to assignment and at least annually thereafter. The training shall include:

- duties delineated within DOE-0223, *Hanford Emergency Plan Implementing Procedures* and supporting facility-specific emergency response procedures (see Note below);
- an overview of the Hanford Incident Command System including roles and responsibilities; and
- an overview of the facility hazards and hazard control measures specified in accident scenarios such as those contained in authorization basis documentation (e.g., safety analysis report, facility hazards analysis) and supporting emergency response procedures.

NOTE: Some site contractors may interpret DOE-0223 actions through contractor-specific emergency management documentation.

Facility/Building Emergency Response Organization personnel who have been designated to support emergency response at the event scene must have first aid training (to include cardiopulmonary resuscitation (CPR) and blood borne pathogen training) and SCBA training. Contractors may grant exceptions from this training where it can be demonstrated that these services are not required. Contractors shall provide documentation of such exemptions to the RL Emergency Preparedness Program Manager.

12.2.2.2 Site Contractor Emergency Response Personnel Training. Site Contractor Emergency Response Personnel requiring certification/qualification are identified as 911 dispatchers, ICs, firefighters performing defensive or offensive operations in the incident scene hazard area, and/or emergency medical personnel. These staff shall obtain and maintain such certification/qualification.

12.2.2.3 Other Emergency Response Support Personnel Training. Skilled Support Personnel and Specialist Employees are not designated members of the Hanford ERO and, as such, are not required to meet specific Hanford ERO training requirements. However, other safety measures or training are required, as delineated in the following subsections, to ensure that such personnel are protected against hazards that may be present at the event scene.

12.2.2.3.1 Skilled Support Personnel. Site support personnel who are skilled in the operation of certain equipment, such as mechanized earth moving or digging equipment or crane and hoisting equipment, and who are needed temporarily to perform immediate emergency support work that will or may expose them to hazards at the event scene shall be given an initial briefing prior to their participation in any emergency response. The initial briefing shall include

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instruction in the wearing of appropriate personal protective equipment, what hazards are involved, and what duties are to be performed. All other appropriate safety and health precautions shall be used to assure the safety and health of these personnel. This training meets the requirements of 29 CFR 1910.120(q)(4).

12.2.2.3.2 Specialist Personnel. Personnel who, in the course of their regular job duties, work with and are trained in the hazards of specific hazardous (radiological and nonradiological) substances and who will be called upon to provide technical advise or assistance to the IC shall receive training or demonstrate competency in the area of their specialization annually. This training meets the requirements of 29 CFR 1910.120(q)(5).

12.3 TRAINING PROGRAM EVALUATION

Emergency preparedness training programs shall include evaluation methods to ensure that all emergency response personnel are trained in the program elements pertinent to their position and are able to respond effectively in an emergency.

The effectiveness of the emergency preparedness training program shall be evaluated during the conduct of drills and exercises. Performance shall be documented as part of the drill and exercise critiques and will be used for program improvements.

The programs also shall contain self-assessment activities that analyze overall training program effectiveness. Results of self-assessment activities will be utilized to upgrade and improve the emergency preparedness training program.

12.4 EMERGENCY PREPAREDNESS COURSES

Emergency preparedness training courses conducted at the Hanford Site are identified in Table 12-1.

12.5 RECORD KEEPING

The emergency preparedness training programs for the Hanford Site will include a consistent, auditable method for maintaining training records. The system will include a means for tracking attendance and for reminding employees when refresher training is needed.

The system will be incorporated into site contractor/site central training record organizations when possible.

Table 12-1. Emergency Preparedness Training Courses.

TRAINING COURSE	FREQUENCY	COURSE SUMMARY
General Employee Training	Annually	Training provides basic emergency preparedness response procedures to DOE and site contractor employees.
DOE Hanford Emergency Operations Center Training	Before assignment; annually thereafter ¹	Training provides an overview of the Hanford Emergency Response Organization as well as specific roles and responsibilities for the various positions which make up the DOE Hanford EOC teams.
Facility/Building Emergency Response Organization Training	Before assignment; annually thereafter	Training addresses emergency procedures, responsibilities, and command and control for members of the Facility/Building Emergency Response Organization (i.e., BED/BW and support staff).
Incident Command Organization Training	Before assignment; annually thereafter	Training addresses the roles, responsibilities, and authorities for the respective position within the Incident Command Organization.
Visitor, Vendor, Subcontractor, Consultant, and Regulatory Agency Personnel Training	Before badge issuance	Training provides safety, security, and emergency preparedness information to visitors, vendors, subcontractors, consultants, and regulatory agency personnel.
¹ Applicable only to Hanford Site personnel with designated positions in the DOE Hanford EOC. Offsite personnel with designated positions in the DOE Hanford EOC receive initial orientation Training as requested.		

12.6 VISITORS/VENDORS/SUBCONTRACTORS/CONSULTANTS/ REGULATORY AGENCY PERSONNEL

Visitors, vendors, subcontractors, consultants, and regulatory agency personnel must receive an orientation regarding safety, security, and emergency preparedness requirements while on the Hanford Site each time a security badge is issued. A security badge will not be issued unless compliance with this requirement is met.

Visitors to the site will also view a video or receive a brochure containing safety, security, and emergency preparedness information when the security badge is issued.

12.7 OFFSITE TRAINING SUPPORT

No offsite training support has been identified to substitute existing emergency preparedness training courses. However, emergency response personnel shall participate in training opportunities offered by other field elements or offsite agencies that may benefit the emergency response organization.

12.8 OFFSITE PERSONNEL TRAINING

Emergency-related information, transportation information, and training on site-specific conditions and hazards shall be made available to offsite personnel who may be required to participate in response to an emergency at the Hanford Site. The training will be provided in support of and in conjunction with the counties, tribes, and states at their request. Information on hazards and emergency response procedures also shall be provided to the media and the public as appropriate.

Offsite agencies that participate in the DOE Hanford EOC are given the opportunity to participate in training and drills related to their respective functions.

Area hospitals and local ambulance providers receive training on the handling and care of radiologically contaminated patients from Energy Northwest and county emergency management organizations.

12.9 INSTRUCTOR TRAINING AND QUALIFICATION

The emergency preparedness training programs shall identify and document course instructor qualifications. Instructor qualification criteria shall be in accordance with contractor procedures where applicable. Emergency preparedness program managers have the responsibility for qualification of instructors for each course offered. The qualification process shall identify both experiential and/or academic requirements for instructors.

12.10 DRILLS

Drills shall provide supervised, "hands-on" training and application sessions for members of the Hanford Site ERO. These sessions provide an opportunity to demonstrate and maintain individual and organizational proficiency. In order to ensure response proficiency is maintained, drills will be assessed and/or graded to identify and document training needs and areas of less than adequate performance.

Training and Drills**12.10.1 Drill Definitions**

There are three types of drills conducted at the Hanford Site – operational, emergency preparedness, and functional. Each drill is defined in the following subsections.

12.10.1.1 Operational Drill. An operational drill involves hazardous and nonhazardous facility response personnel only. The drill focus is on an event that can be mitigated through the use of plant response procedures and allows for the demonstration of nonemergency notifications. An operational drill may also include the use of the appropriate *Emergency Plan Implementing Procedures* (DOE-0223) and be performed using a tabletop format. The drills should be performed at the direction of the facility/building manager and documented to include concerns or demonstrated lack of knowledge regarding action(s) taken. Examples of an operational drill include alarm response, contamination spread, and other applicable operating functions. Operational drills may be evaluated during operational readiness reviews, readiness assessments, conduct of operation assessments, and assessments performed for compliance with DOE 5480.20A, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities*.

12.10.1.2 Emergency Preparedness Drill. An emergency preparedness drill at hazardous facilities involves designated facility emergency response personnel and the Hanford Incident Command System. Such drills could include tabletop drills, walk-through training drills (controller interaction with players as coaches or instructors), and evaluated drills (no controller interaction with players for coaching or instruction). The type of drill to be conducted shall be clearly communicated to all participants, observers, and evaluators.

Emergency preparedness drills require the use of the appropriate *Emergency Plan Implementing Procedures* (DOE-0223) and, at a minimum, should demonstrate:

- implementation and coordination of facility and/or area (i.e., 100 Area, 200 Area, 300 Area, etc.) protective actions such as take cover or evacuation;
- event recognition, and classification;
- event mitigation;
- emergency and environmental notifications and communications; and
- interface with other Incident Command Organization functions and other affected facilities.

NOTE: Facility personnel in administrative and nonhazardous buildings located within an EPZ or those that meet life-safety code requirements shall participate in one protective action drill (evacuation to a staging area or take cover) annually to ensure that personnel are knowledgeable of response to alarms, can take immediate shelter, and are able to safely evacuate their work area.

Training and Drills

12.10.1.3 Functional Drill. A functional drill involves a specific function of the emergency response organization not normally associated with a specific facility. Examples of a functional drill include field team dispatch and control, Columbia River alerting, DOE Hanford EOC, area take cover and evacuation drills, ONC staff, POC staff, Emergency Duty Officers, and Hanford Fire Department responders.

12.10.2 Drill Development and Conduct

Drills should be of sufficient scope and frequency to ensure an adequate and trained emergency response organization.

In addition, drills should be designed to demonstrate proficiency for as many of the following items, as appropriate, for the facility being drilled:

- notification (hazardous and nonhazardous facilities);
- response to fire and medical emergencies (all facilities);
- response to spills and releases of hazardous materials including the detection and monitoring of such releases (hazardous and nonhazardous facilities);
- personnel accountability (all facilities);
- protective actions (hazardous and nonhazardous facilities);
- event classification (hazardous and nonhazardous facilities);
- activation of the initial ICP (hazardous and nonhazardous facilities); and
- personnel decontamination (hazardous and nonhazardous facilities).

Contractors with facilities that can generate an Alert or higher emergency or a RCRA emergency reportable event shall establish a drill program to ensure adequate training and proficiency for all emergency response personnel. Each contractor shall identify drill coordinators who have successfully completed drill coordinator training or demonstrated equivalent training or experience.

The designated emergency preparedness coordinator is responsible for the design and execution of the facility drill program. The emergency preparedness coordinator shall approve the grade assigned to the drill, sign the drill report and forward to the facility/building manager. The emergency preparedness coordinator is responsible for entering deficiencies into the appropriate commitment tracking system. The emergency preparedness coordinator will insure the adequacy of the drill package, including the scenario and will select the drill control organization. The emergency preparedness coordinator should serve as the lead controller for drills whenever possible.

Training and Drills

Drills shall be conducted by a qualified, trained, and experienced control organization. Drill controllers shall be qualified to control areas of performance assigned and for emergency preparedness and functional drills shall have attended drill controller/evaluator training. Site contractors, however, may authorize equivalent training.

A graded approach to the number, type, and extent of facility and functional drills shall be based on the hazards present in the facility or those to which the functional organization would be expected to respond. Each contractor required to conduct drills shall develop an annual drill schedule.

Drill packages contain, as a minimum,:

- objectives, scope, and limitations;
- scenario;
- technical data (e.g., realistic plant conditions, proper source terms, etc.);
- evaluation criteria; and
- a narrative summary of the conduct of the drill.

Operational and/or emergency preparedness drills shall be conducted with a frequency sufficient to provide proficiency and complete confidence in response capability. Personnel assigned emergency duties should participate in drills covering emergency events or hazardous conditions in their respective facility (e.g., fire, injury, spill, radiological release, loss of power, loss of ventilation, etc.) Where proficiency is not achieved, more than one drill per event or hazardous condition should be considered.

12.10.3 Emergency Preparedness and Functional Drill Evaluation

For emergency preparedness and functional drills, each drill objective and the overall drill shall be graded. Each drill and objective should be graded on a scale of 1 to 5. The definition of each grade is delineated in this section. Site contractors may, however, substitute an equivalent evaluation process.

A participant critique shall be conducted immediately following the drill to provide preliminary feedback on objectives and to allow participants to conduct a self-assessment. Areas of inadequate response or improvement should also be addressed.

In a separate controller critique, following the participant critique, the controllers will determine the grade on each objective and on the overall drill. The primary method will be consensus. The lead controller will determine when consensus is reached and will document the grade. No minority opinions will be published. Controllers who disagree with the final grade shall address their concerns to the emergency preparedness coordinator.

The emergency preparedness coordinator is responsible for the drill and will receive the report from the lead controller.

Training and Drills

GRADE	DEFINITION
1	<u>Excellent</u> : Standards of performance are very high. The minimum requirements are exceeded in most areas. Performance and programmatic improvements may be needed in very few areas.
2	<u>Meets Expectations</u> : Standards of performance are high. The minimum requirements are met, and in some areas, exceeded. Performance and programmatic improvements are needed in a few areas.
3	<u>Meets Minimum Requirements</u> : Standards of performance are acceptable. The minimum requirements are met. Performance and programmatic improvements are needed in some areas.
4	<u>Below Expectations</u> : Standards of performance are marginal and need to be raised. The minimum requirements are generally met in most areas. Performance and programmatic improvements are needed in many areas. Increased management attention and emphasis on facility self-assessment efforts is warranted to ensure deficiencies are identified and corrected.
5	<u>Significantly Below Expectations</u> : Standards of performance are not acceptable and need to be raised significantly. The minimum requirements are not met in some areas. Performance and programmatic improvements are needed in most areas. The margin of operational safety is low and the lack of program implementation could lead to a significant event. Immediate and decisive action is needed to correct identified deficiencies. Increased management attention and emphasis on facility self-assessment efforts is required to ensure deficiencies are identified and corrected.

13.0 EXERCISES

Exercises provide the opportunity for participants to demonstrate their proficiency in assigned emergency response duties and are used to validate the adequacy of emergency procedures, facilities, equipment, training and personnel response.

13.1 EXERCISE PROGRAM

The Hanford Site Emergency Exercise Program organization shall establish and maintain a formal exercise program to validate all elements of the Hanford Site emergency management program over a multi-year period. Each exercise shall have specific objectives and shall be fully documented (e.g., by scenario packages that include objectives, scope, timelines, injects, controller instructions, and evaluation criteria).

Exercises shall be evaluated. A critique process, which includes gathering and documenting observations of the participants, shall be established. Corrective action items that are identified as a result of the critique process shall be incorporated into the Hanford Site emergency management program.

The Hanford Site Emergency Exercise Program organization shall exercise the emergency preparedness response capability of selected hazardous facilities annually as designated in the exercise schedule. The exercises shall include at least facility-level evaluation and critique. Evaluations of annual facility exercises by DOE entities (e.g., RL/ORP or the DOE-HQ Office of Emergency Management) shall be performed periodically so that each facility has external DOE evaluation at least every 3 years.

Site contractors with facilities that can generate an Alert or higher emergency, create a RCRA emergency, or have organizations and functions that respond to events shall:

- comply with annual exercise schedule issued by RL QSH;
- support development, conduct, and evaluation of exercises at their facility or involving their functional areas;
- provide members to participate in the scenario development process when their facility or function is involved;
- provide controllers and or evaluators for conduct and evaluation of exercises; and
- require participation by their appropriate staff in exercise and associated training.

Exercises

The DOE Hanford EOC shall participate in selected exercises annually as designated in the exercise schedule. The exercises shall be designed to test and demonstrate the site's integrated emergency response capability. The basis for the exercises shall be rotated among facilities.

Adherence to Operational Emergency notification and reporting requirements shall be demonstrated in all emergency management exercises.

13.2 EXERCISE DEFINITIONS

There are three types of exercises conducted at the Hanford Site – limited, tabletop, and field. Each exercise is defined in the following subsections.

13.2.1 Limited Exercise

A limited exercise tests and validates the responsibilities of the Incident Command Organization, POC, ONC, and DOE Hanford EOC staff. There is no offsite involvement.

Communication links, at a minimum, will include the:

- POC;
- ONC;
- IC to the Site Emergency Director;
- ICP Communicator to Event Scene Liaison; and
- ICP Hazards Communicator to the UDAC Hazards Communicator.

13.2.2 Tabletop Exercise

A tabletop exercise allows the Hanford Site ERO and designated offsite responders to work through a scenario in one room, under tabletop conditions, to demonstrate how each facet of a major response organization contributes to an emergency response. A tabletop exercise is conducted annually as a precursor to the field exercise.

13.2.3 Field Exercise

A field exercise tests and validates the responsibilities of all aspects of the Hanford Site ERO, which includes the Incident Command Organization, POC, ONC, and the DOE Hanford EOC. Offsite involvement may include DOE-HQ, state and county EOCs, and supporting staff such as radiological field teams.

A dress rehearsal exercise is conducted prior to the field exercise to provide an opportunity for the Hanford Site ERO to work together as a team.

13.3 EXERCISE DEVELOPMENT AND CONDUCT

Exercises shall be of sufficient scope and frequency to ensure the development and maintenance of an adequate response capability.

The Hanford Site Emergency Exercise Program organization shall be responsible for:

- developing and maintaining procedures to implement the requirements of the exercise program;
- developing, maintaining, and communicating a five-year and annual schedule of exercises;
- developing and maintaining an exercise objectives matrix that identifies the elements to be tested during the conduct of exercises and determining appropriate objectives based on approved procedures to be tested and verified; and
- providing controller/evaluator training to ensure trained controllers/evaluators are available for exercises.

Proposed goals and objectives shall be provided to RL QSH for review before each exercise. A scenario shall be developed to ensure that events occur to address the objectives. Each major exercise "draft" package shall be submitted to RL QSH for review, comment, and approval.

The Hanford Site Emergency Exercise Program organization shall conduct exercises on a minimum frequency as listed in Table 13-1.

13.4 EXERCISE EVALUATION AND CORRECTIVE ACTION

The Hanford Site Emergency Exercise Program organization shall ensure that an evaluation is conducted for each exercise.

The exercise evaluation criteria will be based on this plan, *Emergency Plan Implementing Procedures* (DOE-0223), and site-specific criteria. An overall graded evaluation of the exercise will be scored as either satisfactory or unsatisfactory.

A system to formally track exercise deficiencies and weaknesses to completion shall be maintained. Improvement items will be provided to the appropriate organization for implementation as required. A system to provide trending and lessons learned shall also be maintained for exercises.

Quarterly reports shall be provided to RL QSH on the status of all formally tracked corrective actions.

13.5 OFFSITE COORDINATION

Offsite agencies, including DOE-HQ, tribal, state, local, and appropriate Federal organizations, shall be invited to participate in the preparatory tabletop and annual field exercises. Participation by offsite agencies is dependent upon the scenario and the agencies desired level of participation.

Coordination of offsite participation shall be accomplished through a Scenario Review Group (SRG), which shall meet periodically prior to an exercise to develop the exercise scenario package. Exercise needs of offsite agencies shall be discussed with the SRG and included in the scenario, to the extent possible, without compromising the onsite exercise requirements.

Table 13-1. Exercise Frequency.

EXERCISE TYPE	FREQUENCY	INITIATED BY/ EVALUATED BY	ORGANIZATIONAL PARTICIPANTS
Tabletop and Field	The Hanford Site shall conduct one tabletop and one field exercise per year unless otherwise directed by RL.	Hanford Site Emergency Preparedness	Facility ERO, Incident Command Organization, POC, ONC, DOE Hanford EOC, Hanford Patrol, Hanford Fire Department, radiation control, industrial hygiene, UDAC field teams, first response organizations, affected offsite agencies, etc.
Limited	The Hanford Site shall conduct three limited exercises per year unless otherwise directed by RL.	Hanford Site Emergency Preparedness	As noted above in tabletop/field exercise except for offsite agencies.

References

15.0 REFERENCES

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- DOE, 1997, *Accident Investigations*, DOE O 225.1A, U.S. Department of Energy, Washington, D.C.
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- NFPA 471, *Recommended Practice for Responding to Hazardous Materials Incidents*, National Fire Protection Association, 1997 Edition.
- NFPA 472, *Standard on Professional Competence of Responders to Hazardous Materials Incidents*, National Fire Protection Association, 1997 Edition.
- NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, National Fire Protection Association, 1997 Edition.
- NFPA 1561, *Standard on Fire Department Incident Management System*, National Fire Protection Association, 1995 Edition.
- NFPA 1620, *Recommended Practice for Pre-Incident Planning*, National Fire Protection Association, 1998 Edition.
- Oregon State Hanford Emergency Response Program*, 1993, Oregon Department of Energy, Salem, Oregon.
- PNL, 1994, *Locations of Criticality Alarms and Nuclear Accident Dosimeters at Hanford*, PNL-MA-583, Pacific Northwest National Laboratories, Richland, Washington.
- Resource Conservation and Recovery Act of 1976*, 42 USC 6901 et seq.
- Superfund Amendment and Reauthorization Act of 1976*, 42 USC 11001 et seq.
- Washington State Hanford Emergency Response Plan*, Washington State Department of Community, Trade, and Economic Development, Olympia, Washington.

APPENDIX B

MEMORANDA OF UNDERSTANDING

This appendix contains copies of memoranda of understanding between the U.S. Department of Energy Richland Operations Office and the agencies listed in the table below.

Agency/Title	Page
State of Washington	3
Benton and Franklin Counties	7
Grant County	13
Energy Northwest (formerly Washington Public Power Supply System)	17
Energy Northwest (formerly Washington Public Power Supply System) and Hanford Environmental Health Foundation	23
Hanford Environmental Health Foundation and Siemens Power Corporation (formerly Advanced Nuclear Fuels)	27
National Weather Service	29
Our Lady of Lourdes Hospital	31
Kadlec Hospital	35
Kennewick General Hospital	39
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Tri-County Mutual Aid Agreement	51
Mutual Law Enforcement Assistance (Example of agreements established with Richland, West Richland and Kennewick Police, Benton and Franklin County Sheriffs, and Washington State Patrol)	55
Siemens Power Corporation	61

Memoranda of Understanding

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NOTE:

**Hard copies of Memoranda of Understanding
are not included in this uncontrolled copy.**

Hanford Fire Department Equipment List

APPENDIX C

HANFORD FIRE DEPARTMENT EQUIPMENT LIST

EQUIPMENT	DESCRIPTION	*NORMALLY LOCATED
Engines 4 ladders 4 pumpers	Examples of equipment contained on engines: <ul style="list-style-type: none"> • 1,500-2,000 gal/min (5,678.1-7,570.8 L/min) pump; • 300-500 gal (1,135.6-1,892.7 L) portable tank; • telescoping nozzle; and • Jaws of Life. 	1 at each station
Tankers 6 each	Examples of equipment contained on tankers and pumpers: <ul style="list-style-type: none"> • 500 gal/min (1,892.7 L/min) pump; • 1,500 gal (5,678.1 L) tank; • 6x6 with 2,000 gal (7,570.8 L) porti-tank; and • hose, nozzles, fittings, and tools. 	1 at Station 1 2 at Station 2 1 at Station 4 2 at Station 3
Water Tenders 1 each	Examples of equipment contained on water tenders: <ul style="list-style-type: none"> • 450 gal/min (1,703.4 L/min) pump; • 4,500 gal (17,034.3 L) tank; and • hose, nozzles, fittings, and tools. 	Station 1
Grass Fire Units 4 each	Examples of equipment contained on grass fire units: <ul style="list-style-type: none"> • 100 gal/min (378.5 L/min) pump; • 250 gal (946.3 L) tank; • 4-wheel drive; and • hose, nozzles, fittings, and tools. 	1 at each station
Ambulances 5 each	Examples of equipment contained on ambulances: <ul style="list-style-type: none"> • life support systems; and • medical and emergency response supplies. 	1 at Station 1 2 at Station 2 1 at Station 3 1 at Station 4
Command Vehicles 3 each	Contains communications equipment and protective equipment for commander.	Station 2

Hanford Fire Department Equipment List

EQUIPMENT	DESCRIPTION	*NORMALLY LOCATED
Attack Vehicles 1 each	Examples of equipment contained on attack vehicles: <ul style="list-style-type: none"> • 450 lb (204.1 kg) of purple-K; • 300 gal (1,133.5 L) aqueous film-forming foam concentrate; • 300 gal (1,135.6 L) of aqueous film-forming foam pre-mix solution; and • hose, nozzles, fittings, and tools. 	Station 2
Hazardous Materials Vehicle 2 each	Examples of equipment contained on hazardous materials vehicle: <ul style="list-style-type: none"> • protective clothing for Hazardous Materials Response Team; • breathing apparatus for Hazardous Materials Response Team; • diking, plugging, and damming equipment; • detection instruments for Hazardous Materials Response Team; • tools for plugging and repairing leaking containers; • overpack containers for leaking containers; • command module with material safety data sheets, software, and portable meteorological station; and • tools and communications devices necessary to provide communications during emergency response activities. 	1 at Station 2 1 at Station 3
Metal Fire Response Vehicle 1 each	Examples of equipment contained on metal fire response vehicle: <ul style="list-style-type: none"> • equipment for response to special metals fire; • 500 lb (226.8 kg) of extinguishing powder; and • 1,000 lb (453.6 kg) of carbon microspheroids. 	Station 4
Mobile Air Vehicle 1 each	Examples of equipment contained on mobile air vehicle: <ul style="list-style-type: none"> • mobile air compressor, recharges self-contained breathing apparatus cylinders; and • tools and fittings for operation of vehicle and spare cylinders. 	Station 4
<p>*The Hanford Fire Department Chief has the authority to: 1) direct the placement of equipment as needed to control emergency events; and 2) take proactive action and assign different vehicle locations based on conditions such as fuel moisture content, area fire history, work in progress, or other conditions that could arise.</p>		

Hanford Facility RCRA Permit
305-B Storage Facility
Part III, Chapter 2, and Attachment 18
Replacement Chapters

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Chapter 6

Chapter 8

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1 **6.0 PROCEDURES TO PREVENT HAZARDS [F]**

2 The 305-B Storage Unit is operated to minimize exposure of the general public and operating personnel
3 to dangerous and mixed wastes.

4 **6.1 SECURITY [F-1]**

5 Security for 305-B is provided by a combination of the overall security system for the 300 Area, and a
6 specific security system for the waste storage unit. The former controls access to the 300 Area proper,
7 while the latter controls access to 305-B.

8 The 305-B Storage Unit is located within the Hanford 300 Area. As part of the Hanford Site, the 300
9 Area is subject to a restricted access and personnel security system for the protection of Government
10 property, classified information, and special nuclear materials. The 300 Area is a controlled access area
11 with access limited to persons authorized to enter and having appropriate security clearances or escorts.

12 The security program for 305-B, in addition to 300 Area access, is designed to limit building access to
13 those personnel within the 300 Area authorized to enter the unit. Access to 305-B can be gained through
14 five walk-in doors, and two large roll up doors, which facilitate loading and unloading activities. All
15 doors to 305-B are kept locked at all times except when in use. All requests for keys are reviewed and
16 approved by the unit operating supervisor and the building manager, and a record of the personnel issued
17 keys is kept in the Operating Record at all times.

18 Keys to the unit are issued only to unit personnel, security personnel, and emergency response personnel.
19 The unit operating supervisor approves any additions to this list, and the building. Specific aspects of the
20 security programs for both the 300 Area and 305-B Storage Unit are described in more detail below.

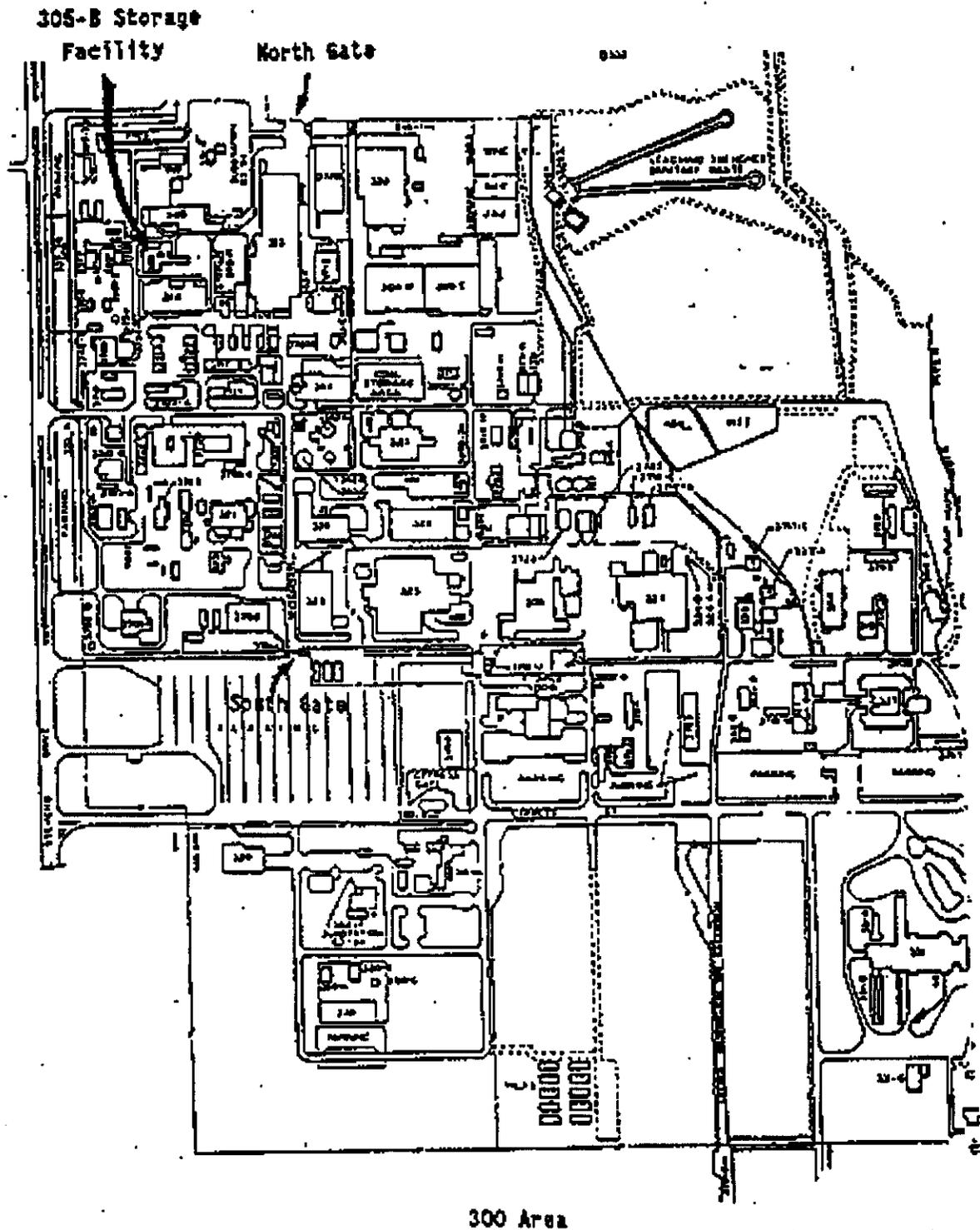
21 **6.1.1 Security Procedures and Equipment [F-1a]**

22 The following sections describe the 24-hour surveillance system, barrier, and warning signs used to
23 provide security and control access to the 305-B Storage Unit.

24 **6.1.1.1 24-Hour Surveillance System [F-1a(1)]**

25 The 305-B unit does not maintain a 24-hour surveillance system. Entrances to the building are kept
26 locked except when the building is in use to prevent unauthorized access. Normal working hours for the
27 unit is 8:00 A.M. to 4:30 P.M. Monday through Friday except holidays. The Hanford Patrol maintains
28 frequent drive-by surveillance of the 300 Area buildings, including 305-B, on a 24-hour basis to ensure
29 that no unauthorized access to the area has occurred.

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Figure 6-1. Normal Site Access - Entrance at the Southern End of Wisconsin Avenue and the North End of the 300 Area Barrier and Means to Control Entry [F-1a(2)(a), (2)(b)]

1 The entire 300 Area is surrounded by an 8-ft chain link fence topped with three strands of barbed wire.
2 There is no separate fence surrounding the 305-B unit. All waste management activities, however, are
3 conducted within the unit. The facility itself, therefore, provides a barrier completely surrounding the
4 active waste management operations.

5 Entry to the unit is controlled through the use of locked entrances. The 305-B Storage Unit is kept
6 locked at all times except when in use. Physical control of keys and records of key distributions are
7 maintained by PNNL Security. Distribution of keys to 305-B is subject to approval by the building
8 manager, and the facility operating supervisor, and a list of those personnel in possession of keys is kept
9 in the Operating Record for 305-B. Personnel in possession of keys have been instructed to admit only
10 persons having official business. 305-B facility staff must escort all untrained visitors (personnel without
11 24/40-hour hazwoper training) in the waste storage areas.

12 **6.1.1.2 Warning Signs [F-1a(3)]**

13 The 305-B Storage Unit is posted with "DANGER - UNAUTHORIZED PERSONNEL KEEP OUT" and
14 "305-B CHEMICAL WASTE STORAGE BUILDING" signs near each entrance on all sides of the unit.
15 The signs are clearly visible from the required distance of 25 ft.

16 **6.1.2 Waiver [F-1b(1), (2)]**

17 Waivers of the security procedures and equipment requirements for 305-B are not required and will not
18 be requested.

19 **6.2 INSPECTION SCHEDULE [F-2]**

20 The purpose and intent of implementing inspection procedures at 305-B are to prevent malfunctions,
21 deterioration, operator errors, and/or discharges which may cause or lead to the release of regulated
22 waste to the environment or threats to human health. A system of daily, weekly, monthly, quarterly, once
23 every four months, and annual inspections involving various PNNL departments and levels of man-
24 agement are implemented at 305-B.

25 **6.2.1 General Inspection Requirements [F-2a]**

26 The content and frequency of inspections performed at 305-B are described in this section. Also,
27 described is maintenance of inspection records.

28 **6.2.1.1 Types of Problems [F-2a(1)]**

29 Daily, weekly, monthly, quarterly, once every four months, and annual inspections are performed at
30 305-B. The types of problems addressed by each of these inspections are described below.

31 Daily Inspections. The 305-B Storage Unit is inspected daily whenever waste packaging, transfer,
32 shipping, or movement operations are being carried out. Daily inspections monitor container condition
33 and integrity, the building waste containment system, and other building areas where wastes are handled.
34 Specific inspection points include:

- 35 • Inspection of stored containers for leaks or damage
- 36 • Mislabeled or opened containers
- 37 • Improper storage (e.g., incompatible waste storage)
- 38 • Disorderliness or uncleanliness of a storage unit
- 39 • Check for accumulation of wastes in containment systems

1 Results of these daily inspections are recorded in the daily operating logbook, which is part of the
2 permanent 305-B Operating Record.

3 **Weekly Inspections.** Waste management organization personnel conduct weekly inspections of both
4 safety and operating equipment in 305-B. Safety and emergency equipment are inspected for
5 functionality and adequacy of supply. The weekly inspection is conducted by two personnel on the last
6 workday of each week using the inspection Logbook and the most current version of the Weekly
7 Inspection Checklist Form that is on file at 305-B. An example of a Weekly Inspection Checklist is
8 shown in Fig. 6-2. The Inspection Checklist and Inspection Logbook become a permanent part of the
9 305-B Operating Record.

10 Specific problems to be looked for with each of the items inspected are identified on the Inspection
11 Checklist Form. The use of this form enhances inspection effectiveness by providing a consistent and
12 detailed listing of areas of potential problems and those safeguards in place to prevent them. There is
13 space provided on the form for the inventory summary, comments, required remedial actions (if any), as
14 well as the date such actions are accomplished. The inspector is required to sign and date the inspection
15 checklist after performing the inspection. In addition, a space is provided for the dated signature of the
16 co-inspector. A copy of the completed inspection form with any assigned action items is distributed to
17 the responsible operating personnel. All corrective actions required must be completed within one week
18 of the inspection, which found them deficient, unless there are documentation and reason for further
19 delay. When corrective action has been completed, the responsible personnel date and initial the form.

20 **Monthly Inspections.** Monthly oversight inspections are conducted by the manager of the
21 Environmental Management Services Department or their designee. This monthly inspection is
22 conducted on or near the last workday of each month using the most current version of the Monthly
23 Inspection Checklist Form. An example of a Monthly Inspection Form is shown in (Fig. 6-3). Items
24 targeted for monthly inspection include, but are not limited to, equipment function and condition,
25 housekeeping, chemical inventory, weekly inspections and corresponding corrective actions, safety
26 equipment operation, spill control and cleanup supplies, and general packaging material inventory.
27 Specific problems to be looked for with each of the items inspected are identified on the Inspection
28 Checklist Form. Copies of the inspection report memorandum are provided to operations personnel and
29 maintained in the files of the waste management organization. Any corrective action noted on the
30 management inspection checklist or deterioration or malfunctions in equipment discovered by the
31 inspector are delegated to responsible individuals in the operations group. Corrective actions identified
32 in the monthly management inspection must be completed before the next inspection cycle unless there
33 are documentation and reason for further delay. Monthly management inspection reports memos and
34 corrective action response documentation is part of the 305-B Operating Record.

35 **Quarterly, Once Every Four Months, and Annual Inspections.** In addition to the several layers of
36 management inspection of 305-B, safety inspections are performed to assure the fire protection system,
37 eye wash/shower unit, and walk-in hood ventilation system are in working order. The Hanford 300 Area
38 Fire Department performs "once every four months" an inspection of fire suppressant and notification
39 systems (i.e., sprinkler system and pull boxes). This inspection includes flow tests of the sprinklers to
40 assure no blockage in the system lines as well as activation of the alarm system to assure proper
41 operation of pull boxes. On an annual basis, the Fire Department performs a full inspection of the
42 sprinkler system, heat detectors, and pull boxes. A complete flow test is performed from the furthest
43 valve to assure flow through

Weekly Inspection Form
305-B Chemical Waste Storage Unit

Inspector Name (print): _____

Inspector Signature: _____ Time/Date: _____

Co-Inspector Name (print): _____

Co-Inspector Signature: _____ Time/Date: _____

Waste Containment Locations (Y=Yes, N=No)

Earliest PCB Accumulation Date in Cell 2: _____

Earliest RMW PCB Accumulation Date: _____

Cell:	1 Oxidizer Acids	2 Poison, PCB, Class 9	3 Caustic WSDW Non-Reg.	4 Flammable, Combustible, Aerosols	5 Flammable Bulking Cylinders	6 Asbestos	7 Non-Flammable RMW	8 Flammable Drum Storage	9 Flammable RMW	10 Non-Reg. Yard	11 WSDW, Class 9 Non-Reg. Drums	12 Oxidizer Drums	13 Acid Drums	14 Alkaline Drums	15 Explosives Magazine
Container integrity good?															
Containers properly sealed?															
Containers properly labeled?															
Containers properly segregated?															
floor free of major cracks/gaps?															
sumps empty and dry?															

Minimum aisle space present?

(44" leading to building exits, 36" all other aisles per NFPA 101, UBS 3315(b)1 and WAC 173-303

Inventory below 30,000 gallon design capacity? _____

Estimated Volume = _____ gallons

Inventory below UBC Class B limits? _____

(<480 gallons 1-A, 1-B, 1-C total and/or <240 gallons 1B

daily inspections logged? _____

Figure 6-2. Example of Weekly Inspection Checklist Form. (Page 1 of 2)

1 the entire system. Fire extinguishers are also checked for proper pressure and function. Records of these
2 fire inspections and their results are kept by the Hanford Fire Department. Documentation of any
3 required corrective actions is kept in the 305-B Operating Record.

4 PNNL facilities support staff perform additional documented inspections of the two emergency eye
5 wash/shower units, and the walk-in hood air flow. The safety showers and air flow of the walk-in hood
6 are inspected quarterly. The emergency eyewash/safety showers are checked for proper operation, and
7 the walk-in hood ventilation face velocity must meet a 125-fpm minimum requirement. Records of these
8 safety equipment inspections and their results, as well as documentation of any required corrective
9 actions, are maintained by the preventive maintenance staff in PNNL's Facilities Management
10 Department and Technical Services Department.

11 **6.2.1.2 Frequency of Inspections [F-2a(2)]**

12 Inspections are conducted on a daily, weekly, monthly, quarterly, and annual basis, as described in
13 Section 6.2.1.1.

14 The frequency of inspections is based on specific regulatory requirements and on the rate of possible
15 deterioration of equipment and probability of environmental or human health incidents.

16 Areas where dangerous and mixed wastes are actively handled, including the high bay area, storage cells,
17 and flammable liquid bulking module, are considered to be areas subject to spills. These areas are given
18 daily inspections when in use, as required by WAC 173-303-320(2)(c).

19 The containment system (i.e., floors and sumps) is inspected daily when in use for accumulation of
20 spilled material. The containment system itself is inspected weekly for structural integrity, (i.e., no
21 cracks, gaps, leaks, etc. which could result in environmental release of wastes in the event of a spill).
22 This frequency is based on the need to perform timely corrective actions in the event that problems are
23 noted.

24 Aisle space between containers is inspected weekly. This frequency is based on the consideration of the
25 rate of container transfers and movement within 305-B. Weekly inspections will allow container spacing
26 problems to be identified and corrected before they become major problems.

27 Emergency and safety equipment and personal protective equipment is inspected weekly. This frequency
28 is based on consideration of the expected rate of use of this equipment. Use of emergency equipment
29 should not occur more than once during any one-week period. Weekly inspections will assure that this
30 equipment is always functional and available in adequate supply.

31 **6.2.2 Specific Process Inspection Requirements [F-2b]**

32 The following sections detail the inspections to be performed at the 305-B Storage Unit.

33 **6.2.2.1 Container Inspection [F-2b(1)]**

34 When in use, dangerous and mixed waste storage areas, as well as containers stored at 305-B are
35 inspected daily for leakage, evidence of damage or deterioration, proper and legible labeling, and proper
36 lid and bung closure. When work is being performed, the containment system is also checked on a daily
37 basis for accumulation of any wastes, which may have been spilled into them. Structural integrity of the
38 containment systems is checked on a weekly basis.

39

1 **305-B MONTHLY MANAGEMENT INSPECTION CHECKLIST**

2

Date/Time _____ Inspector (Print/Sign) _____

	Check if Working/ Present	Comments*
Check for working condition:		
Lights		
Exhaust fans (2 in highbay)		
Eye wash/showers (3)		
Fire extinguishers		
Check housekeeping:		
Inside		
Outside		
Aisles/walkway clear		
Sumps dry		
Check waste storage:		
Weekly inspection conducted/filed?		
Facility crowded?		
Container condition		
Proper segregation		
Check supply and condition of safety equipment:		
Gloves - leather and disposable		
Goggles		
Face shields		
Coverall/lab coats		
Masks and cartridges		
Check spill control and cleanup supplies:		
Spill pillows – general		
Neutralizers		
Mercury		
Solvent		
Check packaging material:		
Drums - 5 gallon		
Drums - 30 gallon		
Drums - 55 gallon		
Absorbent - oil dry		
Absorbent – vermiculite		
Labels		
Marking supplies: pens/spray paint		

*Corrective actions are required within the next inspection cycle.

3

4

Figure 6-2. Monthly Inspection Checklist

1 Daily and weekly inspections are performed and documented in accordance with Section 6.2.1.1. Spe-
2 cific inspection items are enumerated in Section 6.2.1.1 in association with the inspection description and
3 frequency. Response to problems, and documentation of corrective actions are as described in
4 Section 6.2.1.1.

5 **6.2.2.2 Tank Inspection [F-2b(2)]**

6 This section does not apply to the 305-B Storage Unit because wastes are not stored or treated in tanks.

7 **6.2.2.3 Waste Pile Inspection [F-2b(3)]**

8 This section does not apply to the 305-B Storage Unit because wastes are not placed in waste piles.

9 **6.2.2.4 Surface Impoundment Inspection [F-2b(4)]**

10 This section does not apply to the 305-B Storage Unit because wastes are not placed in surface
11 impoundments.

12 **6.2.2.5 Incinerator Inspection [F-2b(5)]**

13 This section does not apply to the 305-B Storage Unit because wastes are not incinerated.

14 **6.2.2.6 Landfill Inspection [F-2b(6)]**

15 This section does not apply to the 305-B Storage Unit because wastes are not placed in landfills.

16 **6.2.2.7 Land Treatment Facility Inspection [F-2b(7)]**

17 This section does not apply to the 305-B Storage Unit because wastes are not treated in land treatment
18 units.

19 **6.3 WAIVER OR DOCUMENTATION OF PREPAREDNESS AND PREVENTION**
20 **REQUIREMENTS [F-3]**

21 The following documents the preparedness and prevention measures taken at the 305-B Storage Unit.

22 **6.3.1 Equipment Requirements [F-3a]**

23 The following sections describe the internal and external communications and emergency equipment in
24 use at 305-B.

25 **6.3.1.1 Internal Communications [F-3a(1)]**

26 Internal communication systems are used to provide immediate emergency instruction to personnel in
27 305-B. Internal communications address general emergencies which may occur in the 300 Area as well
28 as specific emergencies which may occur in 305-B.

29 Because of the nature of activities, which occur in the 300 Area, the potential exists for emergencies
30 outside of 305-B (e.g., release of radioactive materials) which could impact operations and staff in
31 305-B. For this reason, the general emergency signals for the 300 Area are applicable to 305-B. These
32 signals are summarized in Table 6-1. Fire alarm signals are located in each building throughout the 300
33 Area. The nearest emergency siren for "area evacuation" and "take cover" is located 300 yards southeast
34 of 305-B, on top of the 326 Building, and is audible in all parts of 305-B. Because fissile materials are
35 not handled in 305-B, there is no criticality alarm for the unit.

Internal communications to provide emergency instruction in the event of an emergency in 305-B are fire alarms, public address (PA) system, and telephones. The fire alarms are to be used to provide notification for immediate evacuation of 305-B. Fire alarm pull boxes are located at all exits of the facility such that operating personnel have immediate access to one in all portions of 305-B. Four fire alarm bells are located within the 305-B and are audible at all locations within the building. The locations of the fire alarm bells are shown in Figure 6-4 and are as follows: (1) an office wing on the northeast hall; (2) an office wing next to the east entrance; (3) on the south wall of the basement; and (4) on the northeast wall of the high bay. The PA system is to be used for building-wide broadcasting of verbal emergency instructions to 305-B staff. The PA system can be accessed from any unit telephone by dialing 6-1885. The PA system speakers are located in the high bay, in the basement, and in the office wing of 305-B.

Table 6-1. Emergency Signals and Responses

Signal	Meaning	Response
Gong	Fire	Evacuate building. Move upwind. Keep clear of emergency vehicles.
Siren - steady 3-5 minute blast	Area Evacuation	Proceed promptly to north parking area. Stand by to follow instructions from emergency director.
Wavering Siren	Take Cover	Close up the 305-B Building, turn off all intake ventilation and go to the 314 Building south of the facility. Contact Laboratory Safety (337 Building) with your whereabouts. If this cannot be accomplished, stay in the 305-B Building until notified that it is safe to leave
Howler (Aa-oo-gah)	Criticality	Run immediately at least 100 yards away from the signal and take cover. Personnel inside the 305-B Building should follow the "take cover" procedure and wait for further instructions.
ALL EMERGENCY SIGNALS CAN BE HEARD BY PHONING 373-2345		

The telephone system is to be used to provide verbal emergency instructions to 305-B staff. The telephone can also be used to verbally transmit emergency data to non-305-B staff, and to request emergency services. A network of telephones covers both floors of the facility. Locations of telephones are shown in Figure 6-4. In addition to the telephone communication system at 305-B, operation personal have access to hand held radios.

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

As mentioned in Section 6.3.1.1 above, both a fire alarm system and telephone network system are in place at 305-B. Both systems can be used to summon emergency assistance. The fire alarm system summons direct response from the Hanford Fire Department's 300 Area Station. The telephone system can be used to access Hanford's Emergency Network directly at 375-2400 or by dialing the emergency number, 911. Locations of fire alarm pull boxes and telephones are given in Figure 6-4.

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

Emergency equipment available for trained 305-B personnel includes portable fire extinguishers, a fire suppression system, spill response equipment, and decontamination equipment. Seven portable 10-lb ABC fire extinguishers, and one 15-lb (or larger) Class D fire extinguisher for combustible metals, are available at various locations throughout 305-B, as shown in Figure 6-4. The 10-lb ABC extinguishers are located: (1) next to the east entrance; (2) northwest end of the basement; (3) southwest end of the high bay; (4) outside of the bulking module door; (5) north of Cell No. 4 entrance; and (6) north-west end

1 of high bay. (7) office area. A 15-lb ABC extinguisher is located outside cell 7. The 15-lb (or larger)
2 class D extinguisher is located on the exterior of the organics cell wall north of the entrance.

3 The facility is also equipped with an automatic fire suppression system consisting of galvanized steel,
4 schedule 40 per ASTM A120 pipe and 150-lb malleable iron per ANSI B16.3 fittings. All components
5 are UL-listed or FM-approved, and installation of the fire sprinkler system has been conducted in
6 accordance with NFPA 13 for ordinary hazard. Spill cleanup supplies and equipment maintained are
7 summarized in Table 6-2. Two emergency eye wash/showers are available for emergency personnel
8 decontamination. The locations of the emergency eye wash/showers are shown in Figure 6-4. If needed,
9 additional emergency equipment can be provided by the Hanford Fire Department. Emergency
10 equipment available through the Hanford Fire Department for hazardous materials response is identified
11 in Appendix 6A.

12 **6.3.1.4 Water for Fire Control [F-3a(4)]**

13 Adequate water volume and pressure are supplied by the large diameter line, which services 305-B for
14 potable use and fire protection. Three fire hydrants are located in immediate proximity to serve the 305-
15 B facility: (1) 80 ft directly north of the northwest corner of 305-B; (2) 40 ft directly south of the
16 southwest corner of 305-B; and (3) 60 ft directly east of the southeast corner of 305-B. In addition, the
17 Hanford Fire Department's 300 Area Station is located within 0.25 mile of 305-B.

18 **6.3.2 Aisle Space Requirements [F-3b]**

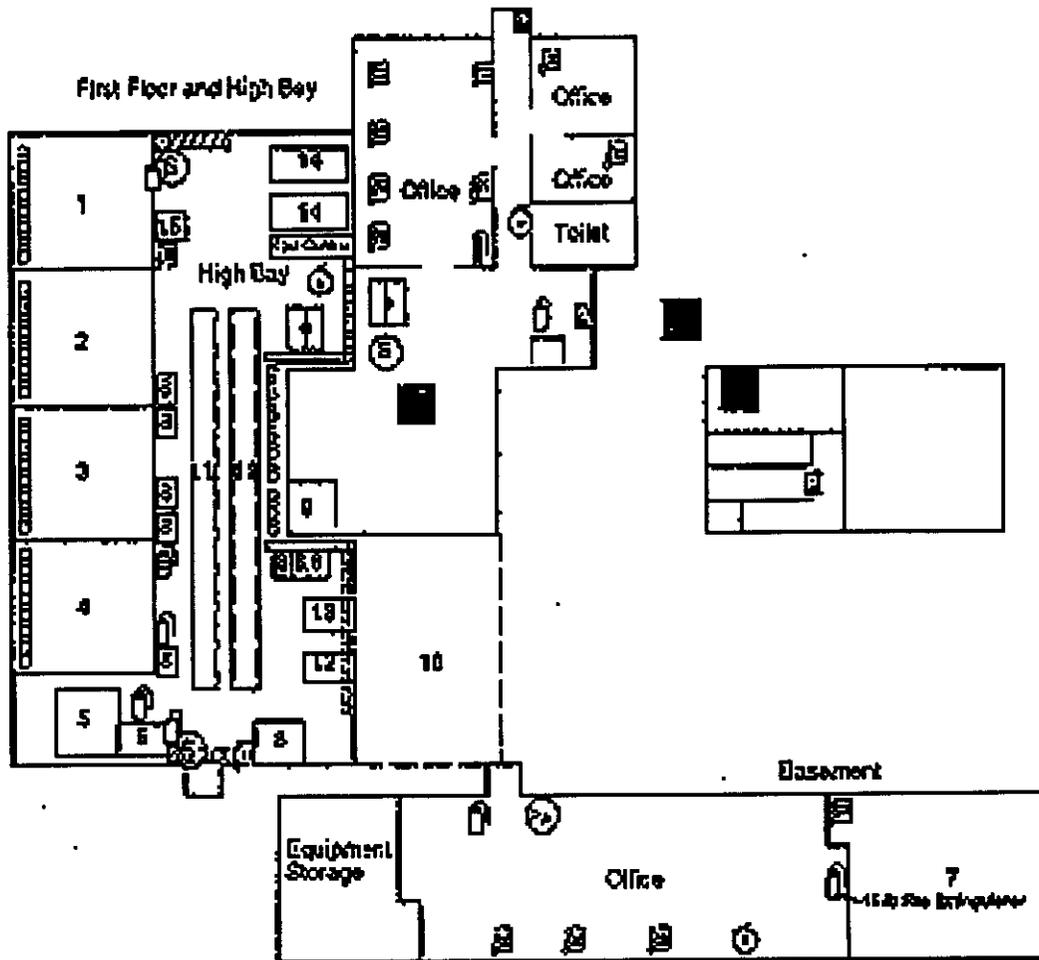
19 Containers stored in the 305-B unit are placed to provide aisle space clearance in accordance with
20 WAC 173-303-340(3) and applicable standards of the Uniform Building Code and Life Safety Code.
21 The proper maintenance of aisle space is inspected weekly and noted on the weekly inspection checklist
22 (Figure 6-2).

23 **6.4 PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT [F-4]**

24 The following sections describe preventive procedures, structures, and equipment.

25 **6.4.1 Unloading Operations [F-4a]**

26 Procedures have been developed at 305-B to prevent hazards and minimize the potential for breakage,
27 punctures, or the accidental opening of containers during waste unloading. All waste unloading is
28 performed inside the 305-B Storage Unit. The large bay door is opened and the appropriate transporting
29 vehicle (usually a pickup truck) is driven inside. As described in Section 4.1.1.3, the unloading area has
30 secondary containment. By unloading all wastes inside the fully-contained facility, spills during
31 unloading operations will be contained. Procedures for unloading and transferring wastes to storage
32 areas have been designed to minimize hazards. All wastes are inspected prior to shipment to 305-B to
33 ensure that they are in appropriate containers and that the containers are in good condition. Inspection of
34 containers prior to acceptance at 305-B minimizes the potential for spills during unloading operations.
35 The potential for spills during waste handling is minimized through the use of appropriate container
36 handling equipment. Large waste items such as drums of nonflammable RMW are lowered into the
37 basement of the facility for storage using an overhead crane or winch assembly. The containers are
38 immediately transported, via a hand lift, into the concrete lined storage vault. Forklifts may also be used
39 to unload heavy waste items. Small waste items can be unloaded by hand. Each small waste item is
40 removed from the secondary containment unit in which it was transported (i.e., plastic storage tub) and
41 placed in the appropriate storage location.



Legend

- | | |
|--|---|
| <ul style="list-style-type: none"> 1. Acids, Oxidizers 2. Poisons, Clean B's 3. Alkalines, WSDW, Organic Peroxides 4. Organics and Compressed Acetates 5. Flammable Liquid Bulking Module and compressed gases 6. Ashtray Cabinet 7. RMW Storage Cell 8. Flammable Storage 9. Small Quantity Flammable RMW 10. Outdoor Non-Regulated Drum Storage 11. WSDW/DWM/Non-Reg Drums 12. Oxidizer Drums 13. Acid Drums 14. Alkaline Drums 15. Explosives Magazine | <ul style="list-style-type: none"> Safety Shower/Eyewash Phone Fire Alarm Bell Fire Alarm Pull Box 14-lb Halon Fire Extinguisher 10-lb ABC Fire Extinguisher 15-lb or larger Class D Fire Extinguisher Removable Access to Basement Emergency Equipment Cabinet Collection Sump |
|--|---|

1

2

Figure 6-3. 305-B Storage Unit Building Plan and Location of Emergency Equipment

1

Table 6-2 . Material and Equipment for Spill Containment and Cleanup

Materials/Equipment			Notes
Diatomaceous Earth	30-gallon drum	To absorb small spills of oils, solvents, aqueous materials. Not used for acids or caustics unless first neutralized.	Stored in high bay of 305-B.
Vermiculite	55-gallon drum	To absorb small spills of oils, solvents, aqueous materials. Not used for acids or caustics unless first neutralized.	Stored in high bay of 305-B.
Absorbent Pillows or Booms	Three cartons, each containing booms or 12 pillows	To be used for diking or damming and absorption of spilled materials	Each boom or pillow can absorb slightly more than 1 L of liquid.
Acid- and base-specific and solvent absorbents or neutralizers	50-lb box of each in 305-B, and a 32-oz bottle of each in transport vehicle.	Neutralization of known chemical spills.	J.T. Baker™ brand or equivalent.
Citric Acid	30-gallon drum	Neutralization of alkaline spills	Stored in high bay of 305-B.
Sodium Bicarbonate	30-gallon drum	Neutralization of acid spills.	Stored in high bay of 305-B.

2

6.4.2 Run-Off [F-4b]

3

The 305-B Storage Unit was designed to eliminate the likelihood of off-site migration via run-off.

4

Because the facility is completely enclosed (i.e., complete roof and no open walls), run-off of

5

precipitation is not a factor. In addition, floors are bermed and sloped toward sumps in the

6

loading/unloading area and each storage cell is similarly bermed, sloped, and individually sumped to

7

eliminate the possibility of spills interacting or migrating offsite. The main high bay area and each

8

storage cell are fully contained by at least a 6-in. high dike or ramp. Each door from the waste handling

9

areas to the outside has a collection trench to intercept any potential run-off. The containment system for

10

305-B is described in more detail in Section 4.1.1.3.

11

6.4.3 Water Supplies [F-4c]

12

305-B is designed and operated to safely contain wastes and prevent any contamination of water supplies.

13

The containment system described in Section 4.1.1.3 prevents infiltration of wastes, which could

14

contaminate groundwater and prevents run-off of wastes, which could contaminate surface water. The

15

nearest water supply is the 300 Area water intake, which is located on the Columbia River 0.5 mile from

16

305-B.

17

6.4.4 Equipment and Power Failure [F-4d]

18

The 305-B Storage Unit does not have any systems, which would cause release of dangerous waste or

19

RMW during a power failure or equipment failure. Interruption of power to any of the systems utilizing

1 electrical power (HVAC system, crane, forklift) merely causes the equipment to stop operating. The unit
2 has an emergency lighting system, which operates automatically during power failure incidents.

3 For actions to be taken in the event of power failure to unit systems or equipment, see the unit
4 Contingency Plan (Section 7).

5 **6.4.5 Personnel Protection Equipment [F-4e]**

6 Protective clothing and equipment are provided to employees during normal and emergency operations.
7 During routine operations, the maximum number of employees working in the 305-B unit is less than
8 fifteen. For dry chemical handling activities, such as labpacking, the minimum protection requirement is
9 eye protection (safety glasses with side shields or chemical goggles), lab coat, and chemical resistant
10 gloves (plastic or other construction as appropriate). Protection levels for other operations, such as
11 bulking, and emergency situations are determined in consultation with a PNNL industrial hygienist, and
12 staffing levels are revised according to the availability of proper protective equipment as shown below.
13 Protective clothing and equipment available in the 305-B Storage Unit includes:

- 14 • 6 sets of chemically resistant suits, aprons, boots, and gloves
- 15 • 20 pairs of extra protective eyeglasses
- 16 • 3 SCBA
- 17 • 5 pairs of chemical goggles
- 18 • 4 face shields
- 19 • 4 full-face respirators with appropriate cartridges.

20 This protective equipment is stored in cabinets located outside of the operating area east entrance and is
21 well stocked at all times. The location of the storage cabinets is given in Figure 6-4. This equipment is
22 periodically replaced as it is used. The above inventory reflects the quantities of each type of PPE that
23 are typically present at 305-B. Minimum quantities required to be present are given in the weekly
24 inspection checklist, Figure 6-2.

25 **6.5 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, OR** 26 **INCOMPATIBLE WASTES [F-5]**

27 The following sections describe prevention of reaction of ignitable, reactive, and incompatible waste.

28 **6.5.1 Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Waste [F-5a]**

29 305-B may be used to store a variety of ignitable wastes. Precautions to prevent ignition of ignitable
30 wastes involve separation of wastes from sources of ignition and use of procedures, which minimize the
31 potential for accidental ignition. There are no routine sources of ignition or open flame in 305-B. Work
32 with ignition or heat sources, if required, is limited and controlled by PNNL management and is
33 performed in compliance with internal PNNL health and safety procedures for elimination of ignition
34 sources. These internal procedures:

- 35 • Prohibit use of open flame equipment when working with flammable liquids
- 36 • Prohibit smoking around flammable liquids [No smoking is allowed at 305-B]
- 37 • Require electrical equipment used in flammable or explosive atmospheres to comply with the
38 National Electrical Code, NFPA 70

- 1 • Require use of equipment with automatic, adjustable temperature controls and high-temperature limit
- 2 switches to prevent overheating
- 3 • Prohibit placement of flammable liquids on hot surfaces
- 4 • Require all static electricity sources to be grounded in areas where ignitable vapors may be present
- 5 • Require bonding of conductive containers when transferring flammable liquids.
- 6 • Require use of non-sparking tools in flammable waste storage areas

7 All maintenance or modifications that require work with ignition sources must receive prior approval by
8 a PNNL Safety Engineer. Smoking is not allowed in 305-B at any time and the interior and exterior of the
9 facility are clearly posted with "No Smoking" signs. Waste storage areas are not heated by any radiant
10 heat source. All tools used to open ignitable waste containers are constructed of nonsparking materials.

11 Ignitable waste storage areas are inspected annually by a PNNL fire safety engineer familiar with the
12 Uniform Fire Code. This inspection is documented in the Operating Record. There are also storage
13 restrictions at 305-B for combustible wastes as part of fire safety requirements. The storage restrictions
14 defined in the Uniform Building Code for Class B Occupancy apply to 305-B (International Conference
15 of Building Officials 1988). The weekly inspection for 305-B includes checking to see if the inventory
16 of combustibles is below these limits. These inspections are documented in the Operating Record.

17 **6.5.2 General Precautions for Handling Ignitable or Reactive Waste and Mixing of** 18 **Incompatible Waste [F-5b]**

19 As described in Section 6.5.1, ignitable wastes are managed in a manner, which protects the wastes from
20 sources of ignition or open flame. Ignitable waste containers are maintained in good condition and
21 inspected weekly to minimize the potential for releases which could result in fire. Containers of ignitable
22 waste are protected from high temperature to prevent the potential for pressurization and buildup of
23 ignitable vapors. Containers of ignitable waste are stored in flammable material storage cabinets within
24 waste storage cells, as described in Section 4.1.1.6. Limitations on sizes of containers and amounts of
25 storage in cabinets are found in Section 4.3.1.

26 Because of the wide variety of wastes, which may be accepted at 305-B, the potential exists for storage of
27 incompatible wastes. Mixing of incompatible wastes is prevented through waste segregation and storage
28 procedures. Chemical wastes stored in 305-B are separated by compatibility and hazard class and stored
29 in separate storage cells. Separate storage shelves and cabinets are used within the storage cells, as
30 described in Section 4.1.1.6, to provide further waste segregation. The following general guidance is
31 used to segregate and separate chemicals:

- 32 • Store acids on a low storage shelf or in acid storage cabinets.
- 33 • Separate acids from bases and alkaline metals such as potassium or sodium
- 34 • Separate oxidizing acids from organic acids and flammable or combustible materials
- 35 • Store bases away from acids and store solutions of inorganic hydroxides in polyethylene containers
- 36 • Store oxidizers away from flammable or combustible materials and reducing agents such as zinc,
37 alkaline metals, and formic acid
- 38 • Store peroxide-forming chemicals in airtight containers in a dark, cool, and dry place (inside of
39 cabinets)
- 40 • Store flammable materials in approved containers or cabinets

- 1 • Separate flammable materials from oxidizing acids and oxidizers and keep them away from sources
2 of ignition
- 3 • Clearly mark cabinets to identify the hazards associated with their contents.
- 4 • The potential for waste ignition or reaction at 305-B is also minimized through storage restrictions on
5 hazardous material quantities. The storage restrictions defined in the Uniform Building Code for
6 Class B Occupancy apply to 305-B (International Conference of Building Officials 1988). The
7 weekly inspection of 305-B includes checking to see if waste inventories are below these limits.
8 These inspections are documented in the Operating Record.

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8.0 PERSONNEL TRAINING [H]

The information contained in this chapter outlines the Personnel Training Program for PNNL personnel associated with the operation of the 305-B Storage Unit. The program is instituted in accordance with WAC 173-303-330. A copy of this training plan is kept at 305-B.

8.1 OUTLINE OF TRAINING PROGRAM [H-1]

The training program for personnel at 305-B is instituted to meet the requirements of WAC 173-303-330. PNNL combines classroom instruction and on-the-job training to teach all personnel to perform their duties (specific to each job classification) in a way that ensures the facility's compliance with WAC 173-303, teaches personnel dangerous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed, and ensures that personnel are able to respond effectively to emergencies. The training requirements for 305-B operating personnel are depicted graphically in Figure 8.1. PNNL personnel not assigned to the 305-B facility may, on an occasional basis, assist with specific operations at this TSD unit. Proper training for the job will be given to the personnel in these situations before the beginning of any unsupervised work. This training shall be documented by the training coordinator and kept on file for future reference.

8.1.1 Job Titles and Job Descriptions [H-1a]

The Unit Operating Supervisor is responsible for the daily operation of 305-B in compliance with regulations administered under RCRA, the State of Washington Dangerous Waste Regulations (WAC 173-303), and PNNL waste operating procedures.

The Unit Operating Supervisor is ultimately responsible for assessing 305-B compliance, conducting inspections and overseeing any corrective actions which may result from them, ensuring waste handling and storing procedures are followed, and serving as BED to implement proper emergency procedures when necessary. In addition to the responsibilities mentioned above, it is the role of the Unit Operating Supervisor to direct new employees so that successful completion of introductory and on-the-job training will be accomplished in the first six months of employment.

The RMW Waste Management staff is responsible for the mixed waste operation of 305-B. The staff members must review all mixed waste disposal requests and ensure their accuracy and reliability. In addition, the RMW Waste Management staff will dispatch a pickup team and oversee mixed waste pickup and transportation to the 305-B Storage Unit. When adequate volumes of mixed waste have accumulated to warrant disposal of the waste, the RMW Waste Management staff is responsible for readying the waste for shipment. These duties include packaging, labeling, manifesting, and recordkeeping.

The Waste Management Engineers are responsible for evaluating unit compliance, managing the PNNL PCB waste stream, managing the waste designation database, and overseeing waste designations. Waste Management Engineers also perform waste management operations such as pickup and lab packing of small containers. They also oversee offsite shipping of wastes and ensure compliance with DOT regulations.

STAFF POSITION¹

TRAINING COURSE NAME	OS	E	TS	C
Building Emergency/Contingency Plan	A ²	A	A	A
General Radiation Safety	B	B	B	N
Radiation Safety for Females ³	I	I	I	I
Respiratory Protection	N	A	A	N
TSD Operator (24 hour w/8-hour refresher)	I/A	I/A	I/A	I/A
SCBA Training	N	A	A	N
Fire Extinguisher Use	A	A	A	A
Worker Right-To-Know	I	I	I	I
Vehicle Accident Prevention	T	T	T	T
Crane, Hoist and Rigging Safety	N	N	T	N
Safe Forklift Operation	N	N	T	N
Hazardous Waste Shipment Certification	T	T	T	N
Radioactive Mixed Waste Shipment Certification	T ⁴	T ⁴	T ⁴	N
Annual review of facility operating procedures	A	A	A	A
Advanced Hazardous Waste Training	A	A	A	N
Hazardous Waste Operations Supervisor	I	N	N	N
Waste Designation Training	I	I ⁵	I ⁵	N

¹Staff Position Key: OS Unit Operations Supervisor
 E Waste Management Engineers
 TS Waste Management Technicians and Scientist/Engineering Associates
 C Waste Management Clerks

²Requirements Key: A Annually; B Biennially; T Triennially; I Initially upon assignment to the unit; N Not Required.

³Required for female staff only. This information is given in the various radiation safety classes and is not a separate stand-alone class.

⁴ Required for Radioactive Mixed Waste Management staff (TS or E) only. Successful completion of this course meets the requirements of the Hazardous Waste Shipment Certification course

⁵Required for any TS that has the assigned duty of making waste designations.

1
 2

Figure 8-1. 305-B Training Requirements

1 Waste Management Technical Specialists, Technicians, and clerks are responsible for the physical
2 operations at 305-B. The persons in these positions are responsible for packaging, labeling, and
3 preparing wastes for shipment to disposal facilities and will assist in any sampling activities and/or waste
4 pickups. One or more of these staff members will also serve as alternate BEDs and zone wardens for
5 305-B in the event of an off-normal event or an emergency. As zone warden, the primary responsibility
6 is to account for the safe evacuation of plant personnel and report this to the BED. They are also
7 responsible for performing minor maintenance and upkeep of the 305-B building.

8
9 Waste Management Clerks are responsible for recordkeeping and database maintenance at the 305-B
10 Storage Unit. It is the role of the Waste Management Clerk to enter data and update the databases as
11 required. Verification of waste inventories is also the clerk's responsibility; other roles include reporting,
12 preparation of labels, manifests and associated paperwork, and unit upkeep.

13
14 The operations supervisor and all engineer positions require, at a minimum, a college science or
15 engineering degree. The technical specialist positions require, at a minimum, a high school diploma or
16 equivalent, with one year of college science/chemistry or an equivalent year of job specific experience.
17 The technician positions require, at a minimum, a high school diploma or equivalent, with college level
18 science/chemistry or equivalent job experience. The clerk position requires, at a minimum, a high school
19 diploma or equivalent. For all positions, requisite skills, and qualifications required are: (1) previous
20 experience performing similar tasks, as detailed in the job description, and/or (2) specific specialized
21 course work intended to train and qualify the individual for tasks similar or equal to those detailed in the
22 specific job description.

23
24 A current list of the personnel filling the above-mentioned positions can be found in Appendix 8A. The
25 personnel list will be updated as the names of responsible personnel change.

26 27 **8.1.2 Training Content, Frequency, and Techniques [H-1b]**

28
29 A number of training courses are required of 305-B personnel on periodic basis. A brief description of
30 required courses is given in this chapter (Figure 8-1). Equivalent training may be taken in place of the
31 training identified in Figure 8-1 with approval from the 305-B Unit operating Supervisor or the
32 Environmental Management Services Department Manager. Documentation of the training substitution
33 will be placed in the operating record (within 7 days after the training was received), accompanied by a
34 narrative explanation, and the date of the training. The documentation shall be made available to
35 Ecology or EPA during inspections for assessment. If Ecology or EPA determines that the training
36 substitution was not equivalent to the original, the original training will be taken or an acceptable
37 substitution will be found.

38
39 New employees at 305-B must successfully complete the training program within 6 months after their
40 employment at or assignment to the unit. At a minimum, the training familiarizes personnel with
41 emergency equipment and procedures, unit operations, and Occupational Safety and Health
42 Administration (OSHA) regulations.

43 44 **8.1.3 Training Coordinator [H-1c]**

45
46 Training at PNNL is provided by a number of specialists in their fields, including a Training Coordinator
47 from the waste management organization who is responsible for coordinating dangerous waste training.
48 The position of Training Coordinator is filled by facility staff members having "hands-on" experience
49 with handling chemical wastes. PNNL also has a unit, which tracks and monitors training for PNNL

1 employees. This coordination includes a system for "flagging" affected employees when additional
2 training and/or follow-up is warranted.
3

4 **8.1.4 Relevance of Training to Job Position [H-1d]**

5

6 Titles and job descriptions of personnel involved in operating 305-B are set forth in Section 8.1.1. All
7 training is relevant to the positions in which the unit personnel are employed; for normal operating
8 conditions the training includes:
9

- 10 • **Advanced Hazardous Waste Management □ Annual:** This training covers internal PNNL
11 hazardous and mixed waste procedures and issues, and regulatory requirements applicable to
12 PNNL operations for 90-day areas and TSD operations.
13
- 14 • **Worker Right-to-Know □ Initial:** This course familiarizes the employee with their rights under the
15 right-to-know statutes. Information on material safety data sheets and their availability and on
16 standard industrial hygiene terms is also covered.
17
- 18 • **Vehicle Accident Prevention □ Initial and triennial refresher:** This course is intended to
19 familiarize employees with safe driving rules and with the requirements for operation of
20 government-owned and PNNL-owned vehicles.
21
- 22 • **General Radiation Safety □ Biennial:** This course gives staff members information on the basic
23 characteristics of radiation, natural and manmade sources, biological effects and risks of
24 radiation exposure, ALARA, contamination control, and warnings and alarms. This course
25 requirement can be met by taking any of the radiation safety courses such as Radiation Worker II,
26 Radiation Worker I or General Employee Radiation Training.
27
- 28 • **NCRP Report 39 □ Initial:** For female radiation workers only. The briefing informs the female
29 radiation worker of the potential hazards of radiation to women of reproductive age. This
30 information is provided in the various radiation safety classes including Radiation Worker I/II
31 and General Employee Radiation Training and is not a separate stand-alone class.
32
- 33 • **305-B Safe Operating Procedures □ Annual or whenever procedure content is revised, whichever**
34 **is more frequent: reading and studying the written procedures fulfills this requirement.**
35
- 36 • **Hazardous Waste Shipment Certification □ Triennial:** This course provides training to those who
37 supervise and prepare hazardous waste shipments and who certify that these shipments have been
38 properly prepared in compliance with applicable laws and regulations. This training ensures that
39 these persons understand their responsibilities and liabilities in the shipment of hazardous waste
40 and that they have a basic understanding of which regulations are applicable and how they must
41 achieve compliance.
42
- 43 • **Radioactive Mixed Waste Shipment Certification □ Triennial:** This training ensures that these
44 persons understand their responsibilities in the shipment of hazardous waste, and radioactive
45 material/waste and that staff understand which regulations are applicable and how they must
46 achieve compliance.
47
- 48 • **Crane Hoist and Rigging Safety □ Triennial:** This course provides instruction in the safe
49 operation of cranes and in proper rigging techniques.

- 1 • Safe Forklift Operation □ Triennial: This course provides instruction in the safe operation of
2 forklifts.
- 3
- 4 • Hazardous Waste Operations Supervisor □ This training course gives hazardous waste operation
5 instruction from a manager's standpoint.
- 6
- 7 • Waste Designation Training □ This course gives instruction on proper designation of waste in
8 accordance with WAC 173-303.
- 9

10 Training is tracked and documented by PNNL and by the unit training coordinator. Training records and
11 class documentation are held on file in the waste management operations office in 305-B as part of the
12 Operating Record. The waste organization manager is responsible for ensuring the necessary training is
13 provided to the 305-B staff.

14 **8.1.5 Training for Emergency Response [H-1e]**

15
16
17 Training is adequate to ensure that personnel are able to respond effectively to emergencies and are
18 familiar with emergency procedures, emergency equipment, and emergency systems. Emergency
19 response training includes, but is not limited to:

- 20
- 21 • Using, inspecting, repairing, and replacing unit emergency and monitoring equipment
- 22
- 23 • Activating and responding to communications and alarm systems
- 24
- 25 • Response to fires and explosions
- 26
- 27 • Shutdown of operations.
- 28

29 Procedures for Using, Inspecting, Repairing, and Replacing Unit Emergency and Monitoring Equipment.
30 Personnel operating 305-B are adequately trained to ensure prompt and effective response to emergency
31 situations that may arise during operation of the unit. The following required safety courses outline
32 procedures for using, inspecting, repairing, and replacing unit emergency and monitoring equipment.

- 33
- 34 • Building Emergency Preparedness (contingency plan): conducted annually or when changes are
35 made, whichever is more frequent, to familiarize the employee with the written contingency plan
36 and specific responsibilities of emergency procedures.
- 37
- 38 • Respiratory Protection (SAF-RP-001): conducted annually, the course familiarizes the operating
39 staff with the proper use of air purifying respirators and their limitations. It also makes the staff
40 aware of potential respiratory hazards, how to recognize them, and what actions to take.
- 41
- 42 • Treatment, Storage, or Disposal (TSD) Facility Operator Safety (SAF-WM-007): consists of
43 24-hour initial training and an 8-hour annual refresher. This course provides extensive
44 instruction on the use of field survey instruments such as combustible gas indicators, oxygen
45 meters, detector tube systems, photo and flame ionization instruments, organic vapor analyzer
46 (OVA) meters, and atmospheric sampling instruments. Other topics covered include heat-
47 induced illnesses, OSHA's Emergency Response Standards, lists of personal protective
48 equipment, hazardous materials classification systems, confined space work practices, liquid
49 storage tanks, contamination control, toxicology, medical monitoring, and many others.

- 1
2 • SCBA: conducted annually, this course instructs the employee of the advantages and limitations
3 of the SCBA equipment. Key items covered in the course content of this will include equipment
4 inspection, modes of operation, donning procedures, recognition and response to malfunctions,
5 maintenance and repair, and practical demonstrations.
6
7 • Fire Extinguisher Use: conducted annually, this 30-minute course consists of a videocassette,
8 lecture, and reading materials. Its intent is to familiarize all personnel with proper discharging,
9 inspecting, and maintenance procedures for fire extinguishers to be used during an emergency.

10
11 Key Parameters for Automatic Waste Feed Cut-Off Systems. This section is not applicable because there
12 are no automatic waste feed systems at 305-B.

13
14 Communications or Alarm Systems. Personnel operating 305-B are properly trained in both handling
15 communication devices and alarm systems and recognizing alarm sirens as to their meaning. A Hand-
16 Held Radio Operator training course (outlined above) is required to be a part of all 305-B employee
17 training. In addition, the Contingency Plan, also required reading for all the operating staff at 305-B,
18 details communication and alarm systems, as well as proper response to each system during an
19 emergency.

20
21 Response to Fires. Personnel at 305-B are adequately trained to respond to fires at the unit. All staff is
22 trained annually in implementation of the contingency plan, which outlines each person's immediate and
23 sequential actions in case of a fire emergency. In addition, all staff receives training for proper handling,
24 maintenance, and discharge of on-site fire extinguishers, and proper activation of alarm and fire
25 suppressant systems.

26
27 Response to Groundwater Contamination Incidents. This section is not applicable because groundwater
28 monitoring is not required at 305-B.

29
30 Shutdown of Operations. Procedures for shutdown of operations of 305-B because of an emergency
31 situation are outlined in the contingency plan. As mentioned previously, all staff is trained annually in
32 implementation of the contingency plan. The person responsible for the decision to shut down is the
33 BED or alternate.

34 35 **8.2 IMPLEMENTATION OF TRAINING PROGRAM [H-2]**

36
37 The training program is currently being implemented. All employees will receive training within six
38 months of their date of hire or their transfer to a new position at the unit. Personnel will not work in
39 unsupervised positions until they successfully complete the training course. Records of each individual's
40 formal training are maintained at the 305-B unit; backup files are kept at the office of the Laboratory
41 Training Coordinator. Training records of current employees will be kept until closure of the unit.
42 Records of former employees are kept for at least three years from the date the employee last worked at
43 the unit.

44
45 The training outline is on file in the Laboratory Training Coordination office and at 305-B and is
46 available for review by all waste handling and management personnel, emergency response personnel,
47 and all regulatory agencies. Provisions are made for updating and reviewing courses, as necessary, to
48 ensure compliance with WAC 173-303.
49