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DOE/RL 90-01
Revision 1

305-B Storage Facility

Dangerous Waste Permit Application

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United States
Department of Energy
Richland, Washington

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STATE ENVIRONMENTAL POLICY ACT (SEPA)

CHECKLIST

FOR THE

305-B STORAGE UNIT

PART B DANGEROUS WASTE PERMIT APPLICATION

REVISION 1

APRIL 1992

WASHINGTON ADMINISTRATIVE CODE
ENVIRONMENTAL CHECKLIST FORMS
(WAC 197-11-960)

A. BACKGROUND

1. Name of proposed project, if applicable:

Grant of a final (Part B) hazardous waste facility permit to the 305-B dangerous waste storage unit located at the Hanford Site, Washington.

2. Name of applicants:

U.S. Department of Energy, Richland Field Office (DOE-RL), owner and operator; and Pacific Northwest Laboratory (PNL), co-operator.

3. Address and phone number of applicants and contact persons:

Owner/Operator: U.S. Department of Energy
Richland Field Office
P.O. Box 550
Richland, WA 99352

Contact: R.D. Izatt, Program Manager
Office of Environmental Assurance, Permits, and Policy
(509) 376-5441

Co-Operator: Pacific Northwest Laboratory
P.O. Box 999
Richland, WA 99352

Contact: T.D. Chikalla, Director
Facilities and Operations
(509) 376-2239

4. Date checklist prepared:

April 3, 1992

5. Agency requesting the checklist:

State of Washington
Department of Ecology
Mail Stop PV-11
Olympia, WA 98504-8711

6. Proposed timing or schedule (including phasing, if applicable):

The proposed project involves granting of a permit to an existing hazardous waste management facility under a consent order between DOE-RL and the Washington State Department of Ecology (Ecology). The permit is scheduled to be issued in November 1992, with time allotted for Ecology and public comment.

7. Do you have any plans for future additions, expansions, or further activity related to or connected with this proposal? If yes, explain.

The only activity related to this proposal is that activity relative to the continued operation of the facility, in compliance with interim status up to the date of granting of a Part B permit. No addition or expansion is contemplated at this time; if such addition or expansion becomes necessary, a new or revised checklist will be prepared if necessary.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

A notice of hazardous waste activity (Part A) was submitted for this unit on May 19, 1988. A compliance notebook describing the programs at the unit to assure compliance with interim status requirements (40 CFR Part 265) is currently in effect. A Part B permit application describing unit operations and evaluating environmental considerations at the site as required by WAC 173-303-806 has been submitted to Ecology and comments are being resolved.

9. Do you know whether applications are pending for government approvals of other proposals directly affecting property covered by your proposal?

No

10. List any government approvals or permits that will be needed for your proposal, if known.

Ecology is the lead agency for granting of the Part B permit being applied for in this process. Application for the permit is required under the consent order between DOE-RL, Ecology, and U.S. EPA. Until the permit is granted, the unit will continue to operate under interim status.

11. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.

The project involves grant of final permit status (Part B) and continued use of a dangerous waste storage facility located within the 305-B building, located in the 300 Area of the Hanford Site. The 305-B unit is a one-story frame and masonry building with basement constructed in the early 1950s, with an attached two-story-high metal and concrete building constructed in January 1978, referred to in this document as the "high bay." The Hanford Site comprises approximately 560 square miles.

The facility has been specially modified to provide safe storage of many types of dangerous wastes. It has been used for dangerous waste storage since March 1989 under a grant of interim status from Ecology. Wastes from PNL-operated research facilities are brought to the facility for consolidation either through lab packing, bulking, or simple accumulation of "truckload quantities" in preparation for offsite recycling, treatment or disposal. No treatment or disposal of waste is performed at the facility.

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In addition, PNL laboratory chemicals which are no longer needed or wanted by the original purchaser are shipped to 305-B. The facility then attempts to find alternative users within PNL for these materials via the PNL Waste Minimization Program. This avoids the necessity and expense of offsite recycling, treatment or disposal.

Grant of a Part B permit and continued operation of this facility will continue the beneficial activities of the project, including:

* Encouragement of waste reduction, reuse and recycling;
* Promotion of safer handling of dangerous wastes through use of specially trained personnel;
* Reduce risk of environmental release of dangerous waste constituents through use of specialized facilities and equipment;
* Provide significant cost savings to the Federal Government through preparation of proper, timely and economical shipments to licensed offsite recycling, treatment or disposal facilities.

12. Give the location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The facility is located in Building 305-B, in the northwest section of the 300 Area of the Hanford Site. Building geographic coordinates are 46°22'18" latitude and 119°16'42" longitude. Detailed maps are provided in the Part B permit application for the facility provided to Ecology.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site: flat, rolling, hilly, steep slopes, mountainous, other.

The 300 Area is generally flat, as is the immediate 305-B area.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slope on the site is approximately less than one percent.

c. What general types of soils are found on the site? (for example, clay, sandy gravel, peat, muck?) If you know the classification of agricultural soils, specify them and note any prime farmland.

The soil around the site consists of sand and sandy gravel. Much of the surrounding area has been paved with asphalt or concrete. No farming is permitted on the Hanford Site.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No unstable soils conditions are known to exist.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate the source of the fill.

No filling or grading is proposed in connection with this project.

f. Could erosion occur as a result of clearing, construction, or use?

The project will not result in clearing or construction of the area. Use of the existing facility is not expected to contribute to erosion.

g. Approximately what percentage of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

The project does not propose to cover any new areas with impervious surfaces. As currently built and operating, the 305-B unit covers about 85% of the adjacent area with either asphalt, concrete, or buildings.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if there are any?

No earth impacts are anticipated in connection with this project.

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2. Air

a. **What types of emissions to the air would result from the proposal (i.e. dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities, if known.**

No construction activities are proposed as part of this project.

When operational, the unit receives vehicle traffic at the rate of 1-5 vehicles per day. Vehicles may be autos, pickups or heavy duty vehicles up to and including semitrucks with trailers. Vehicles received are operated by unit staff, by generators of waste, or by licensed dangerous waste transporters transporting combined shipments to offsite dangerous waste management facilities.

In addition, the unit uses a local exhaust system for "bulking," i.e. pouring the liquid contents of small containers (five gallons or less) into larger ones (usually 30- or 55-gallon drums). This is done in the flammable liquid bulking module (module) mentioned in the Part B permit application. Local exhaust is provided in the module to prevent accumulation of flammable vapors during bulking activities and to prevent overexposure to workers in the module. During the bulking of volatile organics inside the module, vapors originating from bulking activities are routed outdoors through the module exhaust system. Vapor emissions from the module generally do not exceed two hours per week and are greatly diluted due to the 3300 CFM air movement of the exhaust fan. Vapors may consist of any volatile organic chemical, but are generally F003-F005 listed solvent wastes.

Another, smaller ventilation system is used in the storage areas themselves for occasional bulking of solids or nonflammable liquids not requiring use of the module. Again, vapors are greatly diluted due to the high capacity of this system (1550 CFM) and are exhausted outdoors.

b. **Are there any off-site sources of emissions or odors that may affect your proposal? If so, generally describe.**

No

c. **Proposed measures to reduce or control emissions or other impacts to the air, if any?**

None proposed in connection with this project.

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3. Water

a. Surface

1) Is there any surface water body in or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes. The Columbia River flows past the east boundary of the 300 Area. The 305-B unit is located approximately 2,600 feet (one-half mile) from the river, which is a "shoreline of state-wide significance" per the Shoreline Management Act, but is not located within the wetland area, i.e. within 200 ft of the high-water mark.

2) Will the project require any work over, in, or adjacent to (within 200 feet of) the described waters? If yes, please describe and attach available plans.

No

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of the fill.

None

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No; see Section 2.3.2 of Part B permit application for floodplain determination details.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No

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b. Ground

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No

2) Describe waste materials that will be discharged into the ground from septic waste tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals ...; agricultural; etc.) Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No water or wastes will be discharged to the ground. The unit is served by the 300 Area Sanitary Sewer for sanitary sewage. No water is discharged to the process sewer and all such drains have been blocked. The unit is equipped with secondary containment systems to prevent the release of stored materials to soil or groundwater.

c. Water Run-Off (including storm water)

1) Describe the source of run-off (including storm water) and methods of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other wastes? If so, describe.

This project will not increase or decrease the amount of stormwater or other runoff from the 305-B unit or the 300 Area in general. Runoff from the 300 Area generally is absorbed or evaporates from paved areas. During heavy rains some surface runoff may reach the Columbia River. The 305-B unit has control mechanisms (dikes, berms, etc.) to prevent contact of outdoor runoff water with wastes stored inside.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No; the unit uses engineered structures to prevent entry of wastes stored within into internal or external drainage systems or soil.

d. Proposed measures to reduce or control surface, ground, and run-off water impacts, if any:

None beyond those already taken in the construction and operation of the unit.

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4. Plants

a. Check the types of vegetation found onsite. (List: Deciduous tree, evergreen tree, shrubs, grass, pasture, crop or grain, wet soil plants, water plants, other types of vegetation)

No vegetation exists in the immediate area of the 305-B unit.

b. What kind and amount of vegetation will be removed or altered?

None

c. List threatened or endangered species known to be on or near the site.

None known

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

None

5. Animals

a. Identify any birds and animals which have been observed on or near the site or are known to be on or near the site:

Birds: hawk, heron, eagle, songbirds, other
Mammals: deer, bear, elk, beaver, other
Fish: bass, salmon, trout, herring, shellfish, other

Birds commonly seen in the 300 Area include sparrows and other small birds as well as seagulls, crows, and pigeons. Mammals are generally limited to rabbits and squirrels. Fish are found in the Columbia River 1/2 mile east of the 305-B unit.

b. List any threatened or endangered species known to be on or near the site.

None known on the 300 Area.

c. Is the site part of a migration route? If so, explain.

Yes. The 300 Area lies within a migration route for some birds. The region bounding the Columbia River (1/2 mile east of the 305-B unit) is used as a resting place for Pacific Flyway waterfowl and shore birds during the autumn migration.

d. Proposed measures to preserve or enhance wildlife, if any:

None

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6. Energy and Natural Resources

a. **What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**

Electricity: Heating, cooling, lighting, and ventilation of inhabited spaces. Fans are used for artificial ventilation of work areas (see 2a of this checklist). Crane for moving drums of RMW between floors. Recharge of battery powered forklift.

Oil: Fuel and lubricants for vehicles operated by unit staff. Lubricants for equipment such as forklifts, drum dollies, and storage cabinet doors.

b. **Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

No

c. **What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:**

None (not applicable to existing and unmodified unit)

7. Environmental Health

a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.**

This proposal is to grant fully permitted status to an existing unit. Operation under Part B permit standards as shown in the application document is expected to reduce the risk of environmental health hazards as described above.

Any operation dealing with the handling and storage of dangerous waste materials entails some risk. In order to reduce the risk to acceptable levels, the 305-B unit uses detailed operating procedures, engineered structures, personnel protective equipment, training, and contingency plans. These are detailed in the Part B permit application.

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1) Describe special emergency services that might be required.

Hanford Patrol (police), Hanford Fire Department, medical personnel (through Hanford Environmental Health Foundation) and ambulance service (through Hanford Fire Department) are available at all times to assist in any emergency situation at the unit. A spill response team is also available on site. Mutual aid agreements and Memoranda of Understanding are in place between DOE-RL and many community agencies to provide backup services. Notification of all of these services is available through the PNL Single Point Contact at 375-2400 at any time.

2) Proposed measures to reduce or control environmental health hazards, if any:

The risk reduction measures utilized at the unit are detailed in the Part B permit application.

b. Noise

1) What type of noise exists in the area which may affect your project (for example: traffic, equipment, operation, etc.)?

No ambient 300 Area noise affects the operation of the 305-B unit.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, etc.)? Indicate what hours noise would come from the site.

The only noises created by the unit are the operation of vehicles delivering and picking up waste materials, operating the roll-up doors to receive these vehicles, and operation of the building HVAC and area ventilation systems. Vehicle traffic is generally less than five per day. Operation of the area ventilation systems is also sporadic depending on level of unit activity, averaging two hours per week. Normal operating hours are generally 7:00 AM to 4:00 PM. The only noise outside those hours would come from the HVAC system operation.

3) Proposed measures to reduce or control noise impacts, if any:

None

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8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

The 305-B unit is currently used to store dangerous wastes under a grant of interim status from U.S. EPA and Ecology. The 300 Area in general is used for numerous activities of DOE-RL and its contractors, Westinghouse Hanford Company and PNL. PNL activities at the 300 Area are research oriented.

b. Has the site been used for agriculture? If so, describe.

No portion of the Hanford Site has been used for production of food crops since the U.S. Government acquired it in 1943.

c. Describe any structures on the site.

The 305-B unit building is described fully in the Part B permit application submitted to Ecology. It is a concrete and steel building dating from the early 1950s and expanded and modified in 1981. Numerous other buildings surround it, of varying construction and vintages.

d. Will any structures be demolished? If so, what?

No structures will be demolished under this project.

e. What is the current zoning classification of the site?

The 300 Area is not part of any local governmental jurisdiction and is not zoned.

f. What is the current comprehensive plan designation of the site?

The 300 Area is not part of any local governmental jurisdiction and is not shown on current comprehensive plans.

g. If applicable, what is the current master shoreline program designation of the site?

Not applicable

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No part of the 300 Area has been classified as "environmentally sensitive."

i. Approximately how many people would reside or work in the completed project?

No one resides at the unit. Eight full-time workers are employed at the unit. This would not change under the proposal.

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j. **Approximately how many people would the completed project displace?**

None

k. **Proposed measures to avoid or reduce displacement impacts, if any:**

None

l. **Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:**

The project has been reviewed and approved by DOE-RL, owner and operator of the unit and the site. The project is fully compatible with other 300 Area operations, which have been active on since 1943.

9. **Housing**

a. **Approximately how many units would be provided, if any? Indicate whether high-, middle-, or low-income housing.**

None

b. **Approximately how many units, if any, would be eliminated? Indicate whether high-, middle-, or low-income housing.**

None

c. **Proposed measures to reduce or control housing impacts, if any:**

Not applicable

10. **Aesthetics**

a. **What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**

No structures are proposed to be constructed or undergo exterior modification as a result of this project.

b. **What views in the immediate vicinity would be altered or obstructed?**

None

c. **Proposed measures to reduce or control aesthetic impacts, if any:**

None

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11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

c. What existing off-site sources of light or glare may affect your proposal?

None

d. Proposed measures to reduce or control light and glare impacts, if any:

None

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

None in the 300 Area; fishing and boating are found on the Columbia River, 1/2 mile to the east of the 305-B unit.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any?

None

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None

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b. **Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.**

None

c. **Proposed measures to reduce or control impacts, if any:**

None

14. Transportation

a. **Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.**

The 300 Area, in general, is accessed from Stevens Drive or George Washington Way, which are maintained by the Federal Government but are publicly accessible. Access to the 300 Area is controlled and all streets within the area are DOE owned and operated. Site layout and access routes are shown on the maps included in the Part B permit application.

b. **Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?**

No; the site is not publicly accessible. Nearest transit stop is located at Stevens Drive and Saint Street, which is approximately five miles south of the Cypress Street gate to the 300 Area.

c. **How many parking spaces would the completed project have? How many would the project eliminate?**

None

d. **Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).**

None

e. **Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

No

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f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Approximately five vehicle trips per day occur at the unit by vehicles using the unit for delivery or pickup of dangerous wastes. Peak volumes, if any, would be variable depending on waste generation and other factors external to the unit (such as transporter or disposal site availability).

g. Proposed measures to reduce or control transportation impacts, if any:

None

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No

b. Proposed measures to reduce or control direct impacts on public services, if any:

None

16. Utilities

a. List utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other:

Electricity, natural gas, water, refuse service, telephone, and sanitary sewer are all available at the 305-B unit.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None

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SIGNATURES

The above answers are true and complete to the best of our knowledge. We understand that the lead agency is relying on them to make its decision.

R. D. Izatt, Program Manager
Office of Environmental Assurance,
Permits and Policy
U.S. Department of Energy
Richland Field Office
Owner/Operator

4/3/92
Date

T. D. Chikalla, Director
Facilities and Operations
Pacific Northwest Laboratory
Co-operator

3-19-92
Date

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THE 305-B STORAGE UNIT
DANGEROUS WASTE PERMIT APPLICATION

FOREWORD

The Hanford Site is operated by the U.S. Department of Energy-Richland Field Office (RL). The 305-B Storage Unit receives and stores dangerous and radioactive mixed waste (RMW) from various Hanford waste-generating units until the waste can be transported on- or off-site for reuse, recycling, treatment, storage, and/or disposal. Storage of these wastes is regulated under the Resource Conservation and Recovery Act of 1976 (RCRA) and the Washington State Hazardous Waste Management Act of 1976 for nonradioactive dangerous wastes; and by these acts (as to the nonradioactive hazardous constituents) and the Atomic Energy Act of 1954, as amended, (for radioactive constituents) for RMW.

The single dangerous waste permit identification number issued to the Hanford Site by the U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology) is U.S. Environmental Protection Agency/State Identification Number WA 7890008967. This identification number encompasses a number of waste management units at the Hanford Site. Pacific Northwest Laboratory (PNL) is the Research and Development contractor to RL and serves as co-operator of the 305-B Storage Unit, the waste management unit addressed in this permit application.

The 305-B Storage Unit Permit Application consists of both a Part A and a Part B permit application. The Part A application for the 305-B Storage Unit was originally submitted on May 19, 1988, and revised on December 20, 1990 to incorporate TCLP waste codes and make other changes.

The Part B application consists of 15 chapters addressing the organization and content of the Part B Checklist prepared by Ecology (Ecology 1987).

The Part B application consists of 15 chapters addressing the organization and content of the Part B checklist prepared by Ecology (Ecology 1987). For ease of reference, the checklist section numbers, in brackets, follow chapter headings and subheadings.

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DOCUMENT CONTENT

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ACRONYMS AND INITIALISMS

AA	Atomic Absorption
AED	Area Emergency Director
ALE	Arid Lands Ecology
AMSL	Above Mean Sea Level
ANSI	American National Standards Institute
ASTM	American Society for Testing Materials
BED	Building Emergency Director
CFR	Code of Federal Regulations
COE	Corps of Engineers
COLIWASA	Composite Liquid Waste Sampler
DOE	Department of Energy
DOE-RL	Department of Energy-Richland Field Office
DOT	Department of Transportation
DW	Dangerous Waste
EACT	Emergency Action Coordinating Team
ECC	Emergency Control Center
EHW	Extremely Hazardous Waste
EMC	Emergency Management Center
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FM	Factory Mutual
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectroscopy
HEHF	Hanford Environmental Health Foundation
HEPA	High Efficiency Particulate Air Filter
HVAC	Heating, Ventilation, and Air Conditioning
ICP	Inductively Coupled Plasma Spectroscopy
IDLH	Immediately Dangerous to Life or Health
LDR	Land Disposal Restricted
MOU	Memorandum of Understanding
MSDS	Material Safety Data Sheet
NCRP	National Council on Radiation Protection and Measurements
NFPA	National Fire Protection Association
ORM	Other Regulated Material
OSHA	Occupational Safety and Health Administration
OVA	Organic Vapor Analyzer
PCB	Polychlorinated Biphenyls

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ACRONYMS AND INITIALISMS (Cont'd)

PNL	Pacific Northwest Laboratory
RCW	Revised Code of Washington
RCRA	Resource Conservation and Recovery Act
RMW	Radioactive Mixed Waste
RTL	Research Technology Laboratory
SCBA	Self-Contained Breathing Apparatus
TCLP	Toxicity Characteristic Leaching Procedure
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, or Disposal
UL	Underwriter's Laboratory
USGS	United States Geological Survey
UST	U.S. Testing
WAC	Washington Administrative Code
WHC	Westinghouse Hanford Company
WM&EC	Waste Management and Environmental Compliance
WPPSS	Washington Public Power Supply System

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ABBREVIATIONS

°C	degrees Celsius
Ecology	Washington State Department of Ecology
°F	degrees Fahrenheit
fpm	feet per minute
ft	feet
g	gram
gal	gallon
in	inch
kg	kilogram
L	liter
lb	pound
lbs	pounds
yr	year
305-B	305-B Storage Unit

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PART A

The Part A permit application Form 3, included in this permit application was submitted to the Washington State Department of Ecology in December, 1990. This Part A application is comprised of three pages of Form 1, 22 pages of Form 3, two photographs, and one figure.

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FORM 1

State of Washington Department of Ecology

WASHINGTON STATE

DANGEROUS WASTE PERMIT GENERAL INFORMATION

(Read "Form 1 Instructions" before starting)

I. EPA/STATE I.D. NUMBER

WA 7 8 9 0 0 0 8 9 6 7

II. NAME OF FACILITY

US DEPARTMENT OF ENERGY-HANFORD SITE

III. FACILITY CONTACT

A. NAME & TITLE (last, first, & title) | B. PHONE (area code & no.)

LAWRENCE, MICHAEL J., MANAGER | 509 376 7395

IV. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

P.O. BOX 550

B. CITY OR TOWN | C. STATE | D. ZIP CODE

RICHLAND | WA | 99352

V. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

HANFORD SITE

B. COUNTY NAME

BENTON

C. CITY OR TOWN | D. STATE | E. ZIP CODE | F. COUNTY CODE (if known)

RICHLAND | WA | 99352 | 005

VI. SIC CODES (4-digit, in order of priority)

A. FIRST: 9711 (specify) NATIONAL SECURITY

B. SECOND: 8922 (specify) NUCLEAR NONCOMMERCIAL DEVELOPMENT AND EDUCATION

C. THIRD: 9611 (specify) ADMINISTRATION AND GENERAL ECONOMICS PROGRAM

D. FOURTH: 4911 (specify) STEAM-ELECTRIC GENERATION

VII. OPERATOR INFORMATION

A. NAME (DOE-RL)

DEPARTMENT OF ENERGY-RICHLAND OPERATIONS
PACIFIC NORTHWEST LABORATORY

B. Is the name listed in Item VII-A also the owner? [X] YES [ ] NO **

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)

F (specify)

D. PHONE (area code & no.): 509 376 7395

E. STREET OR P.O. BOX

P.O. BOX 550/P.O. BOX 999

509 375 2201

F. CITY OR TOWN | G. STATE | H. ZIP CODE | VIII. INDIAN LAND

RICHLAND | WA | 99352 | Is the facility located on Indian lands? [ ] YES [X] NO

**DOE-RL: Owner/Co-Operator; PNL: Co-Operator for certain units on the Hanford Site.

COMPLETE BACK PAGE

ECY 020-61

EQA -570

9311297003334

IX. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids undergound. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

X. NATURE OF BUSINESS *(provide a brief description)*

- o NATIONAL DEFENSE NUCLEAR MATERIAL PRODUCTION
- o ENERGY RESEARCH AND TECHNOLOGY DEVELOPMENT
- o DEFENSE NUCLEAR WASTE MANAGEMENT
- o BYPRODUCT STEAM, SOLD FOR ELECTRIC POWER GENERATION
- o AND SIC 15: BUILDING - GENERAL CONTRACTORS AND OPERATIVE BUILDERS

XI. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
SEE ATTACHMENT		

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WA7890008967

Form 1

DANGEROUS WASTE PERMIT GENERAL INFORMATION

XI. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Michael J. Lawrence

5-19-88

Michael J. Lawrence, Manager
Department of Energy
Richland Operations Office

Date

William R. Wiley

5/17/88

William R. Wiley, Director
Pacific Northwest Laboratory

Date

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Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch)

FORM 3

DANGEROUS WASTE PERMIT APPLICATION

I. EPA/STATE I.D. NUMBER: W I A 7 1 8 9 0 1 3 0 8 9 5

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.

A. FIRST APPLICATION (*place an "X" below and provide the appropriate date*)

☐ 1. EXISTING FACILITY (*See instructions for definition of "existing" facility. Complete item below.*)

FOR EXISTING FACILITIES, PROVIDE THE DATE (*mo., day, & yr.*) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (*use the boxes to the left*): MO | DAY | YR

☐ 2. NEW FACILITY (*Complete item below.*)

FOR NEW FACILITIES, PROVIDE THE DATE (*mo., day, & yr.*) OPERATION BEGAN OR IS EXPECTED TO BEGIN: MO | DAY | YR

B. REVISED APPLICATION (*place an "X" below and complete Section I above*)

☒ 1. FACILITY HAS AN INTERIM STATUS PERMIT

☐ 2. FACILITY HAS A FINAL PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (*including its design capacity*) in the space provided on the (*Section III-C*).

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.
1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D80	GALLONS OR LITERS
LANDFILL	D81	ACRE-FEET (*the volume that would cover one acre to a depth of one foot*) OR HECTARE-METER
LAND APPLICATION	D82	ACRES OR HECTARES
OCEAN DISPOSAL	D83	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D84	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Section III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING SECTION III (*shown in line numbers X-1 and X-2 below*): *A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.*

LINE NUMBER	A. PROCESS CODE (*from list above*)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (*specify*)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (*enter code*)	FOR OFFICIAL USE ONLY
X-1	S02	600	G	
X-2	T03	20	E	
1	S01	30,000	G	
2				
3				
4				

LINE NUMBER	A. PROCESS CODE (*from list above*)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (*specify*)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (*enter code*)	FOR OFFICIAL USE ONLY
5				
6				
7				
8				
9				
10				

CONTINUE ON REVERSE

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Continued from the front.

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

S01

The 305-B Storage Facility is a waste assembly area that services Research and Development operations as a 300 Area satellite storage area. Waste are brought into the facility for storage, repackaging, and/or waste consolidation into mostly 55 gallon drums. The storage design capacity is 30,000 gallons

RMW is stored as received in storage cells in the basement of the facility. Other wastes are stored in segregated cells in the high bay area

IV. DESCRIPTION OF DANGEROUS WASTES

A. DANGEROUS WASTE NUMBER — Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describes the characteristics and/or the toxic contaminants of those dangerous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non—listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non—listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non—listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER — Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

1. Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K054	900	P	T03 D80	
X-2	D000	200	P	T03 D80	
X-3	D001	100	P	T03 D80	
X-4	D002			T03 D80	included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

WA7890008357

D. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter codes)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D001	20,000	K	S01	
2	D002	5,000	K	S01	
3	D003	500	K	S01	
4	D004	200	K	S01	
5	D005	200	K	S01	
6	D006	200	K	S01	
7	D007	10,000	K	S01	
8	D008	50,000	K	S01	
9	D009	400	K	S01	
10	D010	50	K	S01	
11	D011	200	K	S01	
12	D012	220	K	S01	
13	D013	220	K	S01	
14	D014	220	K	S01	
15	D015	220	K	S01	
16	D016	220	K	S01	
17	D017	220	K	S01	
18	D018	2,000	K	S01	
19	D019	2,000	K	S01	
20	D020	220	K	S01	
21	D021	220	K	S01	
22	D022	2,000	K	S01	
23	D023	2,000	K	S01	
24	D024	2,000	K	S01	
	D025	2,000	K	S01	
25	D026	2,000	K	S01	

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(enter "A", "B", "C" and "D" to identify attached sheets)

Continued from page 2.
NOTE. Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

W	A	7	8	9	0	0	0	3	3	5	7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D027	220	K	S01	
2	D028	220	K	S01	
3	D029	220	K	S01	
4	D030	220	K	S01	
5	D031	220	K	S01	
6	D032	220	K	S01	
7	D033	220	K	S01	
8	D034	220	K	S01	
9	D035	5,000	K	S01	
10	D036	220	K	S01	
11	D037	2,000	K	S01	
12	D038	2,000	K	S01	
13	D039	2,000	K	S01	
14	D040	2,000	K	S01	
15	D041	220	K	S01	
16	D042	220	K	S01	
17	D043	2,000	K	S01	
18	F001	2,000	K	S01	
19	F002	2,000	K	S01	
20	F003	5,000	K	S01	
21	F004	1,000	K	S01	
22	F005	5,000	K	S01	
23	F027	200	K	S01	
24	P001	200	K	S01	
25	P002	200	K	S01	
26	P003	200	K	S01	

(enter "A", "B", "C" and "D" to identify processes used)

Continued from page 2.
NOTE. Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

A 7 8 9 0 0 0 3 9 5 5

DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter codes)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	P004	200	K	S01	
2	P005	200	K	S01	
3	P006	200	K	S01	
4	P007	200	K	S01	
5	P008	200	K	S01	
6	P009	200	K	S01	
7	P010	200	K	S01	
8	P011	200	K	S01	
9	P012	200	K	S01	
10	P013	200	K	S01	
11	P014	200	K	S01	
12	P015	200	K	S01	
13	P016	200	K	S01	
14	P017	200	K	S01	
15	P018	200	K	S01	
16	P019	200	K	S01	
17	P020	200	K	S01	
18	P021	200	K	S01	
19	P022	200	K	S01	
20	P023	200	K	S01	
21	P024	200	K	S01	
22	P025	200	K	S01	
23	P026	200	K	S01	
24	P027	200	K	S01	
	P028	200	K	S01	
25	P029	200	K	S01	

Continued from page 2.
NOTE. Photocopy this page before completing if you have more than 26 wastes to list

I.D. NUMBER (enter from page 1)

W A 7 8 9 0 0 0 3 9 6 7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	P030	200	K	S01	
2	P031	200	K	S01	
3	P032	200	K	S01	
4	P033	200	K	S01	
5	P034	200	K	S01	
6	P035	200	K	S01	
7	P036	200	K	S01	
8	P037	200	K	S01	
9	P038	200	K	S01	
10	P039	200	K	S01	
11	P040	200	K	S01	
12	P041	200	K	S01	
13	P042	200	K	S01	
14	P043	200	K	S01	
15	P044	200	K	S01	
16	P045	200	K	S01	
17	P046	200	K	S01	
18	P047	200	K	S01	
19	P048	200	K	S01	
20	P049	200	K	S01	
21	P050	200	K	S01	
22	P051	200	K	S01	
23	P052	200	K	S01	
24	P053	200	K	S01	
25	P054	200	K	S01	
26	P055	200	K	S01	

Continued from page 2.

NOTE. Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

WA7890008393

D. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	P056	200	K	S01	
2	P057	200	K	S01	
3	P058	200	K	S01	
4	P059	200	K	S01	
5	P060	200	K	S01	
6	P061	200	K	S01	
7	P062	200	K	S01	
8	P063	200	K	S01	
9	P064	200	K	S01	
10	P065	200	K	S01	
11	P066	200	K	S01	
12	P067	200	K	S01	
13	P068	200	K	S01	
14	P069	200	K	S01	
15	P070	200	K	S01	
16	P071	200	K	S01	
17	P072	200	K	S01	
18	P073	200	K	S01	
19	P074	200	K	S01	
20	P075	200	K	S01	
21	P076	200	K	S01	
22	P077	200	K	S01	
23	P078	200	K	S01	
24	P079	200	K	S01	
	P080	200	K	S01	
25	P081	200	K	S01	

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(enter "A", "B", "C" and "D" to identify processes codes)

Continued from page 2.

NOTE. Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

W A 7 8 9 0 0 0 8 9 5 7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter codes)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	P 0 8 2	200	K	S 0 1	
2	P 0 8 3	200	K	S 0 1	
3	P 0 8 4	200	K	S 0 1	
4	P 0 8 5	200	K	S 0 1	
5	P 0 8 6	200	K	S 0 1	
6	P 0 8 7	200	K	S 0 1	
7	P 0 8 8	200	K	S 0 1	
8	P 0 8 9	200	K	S 0 1	
9	P 0 9 0	200	K	S 0 1	
10	P 0 9 1	200	K	S 0 1	
11	P 0 9 2	200	K	S 0 1	
12	P 0 9 3	200	K	S 0 1	
13	P 0 9 4	200	K	S 0 1	
14	P 0 9 5	200	K	S 0 1	
15	P 0 9 6	200	K	S 0 1	
16	P 0 9 7	200	K	S 0 1	
17	P 0 9 8	200	K	S 0 1	
18	P 0 9 9	200	K	S 0 1	
19	P 1 0 0	200	K	S 0 1	
20	P 1 0 1	200	K	S 0 1	
21	P 1 0 2	200	K	S 0 1	
22	P 1 0 3	200	K	S 0 1	
23	P 1 0 4	200	K	S 0 1	
24	P 1 0 5	200	K	S 0 1	
25	P 1 0 6	200	K	S 0 1	
	P 1 0 7	200	K	S 0 1	

(enter "A", "B", "C" and behind the "J" to identify processes codes)

Continued from page 2.
NOTE. Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

W A 7 8 9 0 0 0 3 3 5 7

DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter codes)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	P108	200	K	S01	
2	P109	200	K	S01	
3	P110	200	K	S01	
4	P111	200	K	S01	
5	P112	200	K	S01	
6	P113	200	K	S01	
7	P114	200	K	S01	
8	P115	200	K	S01	
9	P116	200	K	S01	
10	P117	200	K	S01	
11	P118	200	K	S01	
	P119	200	K	S01	
13	P120	200	K	S01	
14	P121	200	K	S01	
15	P122	200	K	S01	
16	P123	200	K	S01	
17	U001	200	K	S01	
18	U002	200	K	S01	
19	U003	200	K	S01	
20	U004	200	K	S01	
21	U005	200	K	S01	
22	U006	200	K	S01	
23	U007	200	K	S01	
24	U008	200	K	S01	
	U009	200	K	S01	
25	U010	200	K	S01	

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(enter "A", "B", "C" and "D" for dummy processes codes)

Continued from page 2

NOTE. Photocopy this page before completing if you have more than 26 wastes to list

I.D. NUMBER (enter from page 1)

WA7890008957

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	U011	200	K	S01	
2	U012	200	K	S01	
3	U013	200	K	S01	
4	U014	200	K	S01	
5	U015	200	K	S01	
6	U016	200	K	S01	
7	U017	200	K	S01	
8	U018	200	K	S01	
9	U019	200	K	S01	
10	U020	200	K	S01	
11	U021	200	K	S01	
12	U022	200	K	S01	
13	U023	200	K	S01	
14	U024	200	K	S01	
15	U025	200	K	S01	
16	U026	200	K	S01	
17	U027	200	K	S01	
18	U028	200	K	S01	
19	U029	200	K	S01	
20	U030	200	K	S01	
21	U031	200	K	S01	
22	U032	200	K	S01	
23	U033	200	K	S01	
24	U034	200	K	S01	
25	U035	200	K	S01	
26	U036	200	K	S01	

(enter "A", "B", "C" etc. before the "3" to identify additional pages)

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

1.	A	7	8	9	0	0	0	8	3	5	7

DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter codes)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U037	200	K	S01	
2	U038	200	K	S01	
3	U039	200	K	S01	
4	U040	200	K	S01	
5	U041	200	K	S01	
6	U042	200	K	S01	
7	U043	200	K	S01	
8	U044	200	K	S01	
9	U045	200	K	S01	
10	U046	200	K	S01	
11	U047	200	K	S01	
12	U048	200	K	S01	
13	U049	200	K	S01	
14	U050	200	K	S01	
15	U051	200	K	S01	
16	U052	200	K	S01	
17	U053	200	K	S01	
18	U054	200	K	S01	
19	U055	200	K	S01	
20	U056	200	K	S01	
21	U057	200	K	S01	
22	U058	200	K	S01	
23	U059	200	K	S01	
24	U060	200	K	S01	
	U061	200	K	S01	
25	U062	200	K	S01	

7 0 3 4 4 7

2 3 1 2 9

(enter "A" "B" "C" etc. before the "3" to identify process codes)

Continued from page 2.

NOTE. Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

WA7890003987

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U063	200	K	S01	
2	U064	200	K	S01	
3	U065	200	K	S01	
4	U066	200	K	S01	
5	U067	200	K	S01	
6	U068	200	K	S01	
7	U069	200	K	S01	
8	U070	200	K	S01	
9	U071	200	K	S01	
10	U072	200	K	S01	
11	U073	200	K	S01	
12	U074	200	K	S01	
13	U075	200	K	S01	
14	U076	200	K	S01	
15	U077	200	K	S01	
16	U078	200	K	S01	
17	U079	200	K	S01	
18	U080	200	K	S01	
19	U081	200	K	S01	
20	U082	200	K	S01	
21	U083	200	K	S01	
22	U084	200	K	S01	
23	U085	200	K	S01	
24	U086	200	K	S01	
25	U087	200	K	S01	
26	U088	200	K	S01	

(enter "A", "B", "C" etc. before the "3" to number photocopied pages)

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NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

W A 7 8 9 0 0 0 8 9 6 7

DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U089	200	K	S01	
2	U090	200	K	S01	
3	U091	200	K	S01	
4	U092	200	K	S01	
5	U093	200	K	S01	
6	U094	200	K	S01	
7	U095	200	K	S01	
8	U096	200	K	S01	
9	U097	200	K	S01	
10	U098	200	K	S01	
11	U099	200	K	S01	
	U100	200	K	S01	
13	U101	200	K	S01	
14	U102	200	K	S01	
15	U103	200	K	S01	
16	U104	200	K	S01	
17	U105	200	K	S01	
18	U106	200	K	S01	
19	U107	200	K	S01	
20	U108	200	K	S01	
21	U109	200	K	S01	
22	U110	200	K	S01	
23	U111	200	K	S01	
24	U112	200	K	S01	
	U113	200	K	S01	
25	U114	200	K	S01	

9 1 3 0 7 9 2 1 3 3

ECY 030-31 Form 3

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NOTE. Photocopy this page before completing if you have more than 26 wastes to list

I.D. NUMBER (enter from page 1)

W A 7 8 9 0 0 0 3 3 5 7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter codes)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	U 1 1 5	200	K	S 0 1	
2	U 1 1 6	200	K	S 0 1	
3	U 1 1 7	200	K	S 0 1	
4	U 1 1 8	200	K	S 0 1	
5	U 1 1 9	200	K	S 0 1	
6	U 1 2 0	200	K	S 0 1	
7	U 1 2 1	200	K	S 0 1	
8	U 1 2 2	200	K	S 0 1	
9	U 1 2 3	200	K	S 0 1	
10	U 1 2 4	200	K	S 0 1	
11	U 1 2 5	200	K	S 0 1	
12	U 1 2 6	200	K	S 0 1	
13	U 1 2 7	200	K	S 0 1	
14	U 1 2 8	200	K	S 0 1	
15	U 1 2 9	200	K	S 0 1	
16	U 1 3 0	200	K	S 0 1	
17	U 1 3 1	200	K	S 0 1	
18	U 1 3 2	200	K	S 0 1	
19	U 1 3 3	200	K	S 0 1	
20	U 1 3 4	200	K	S 0 1	
21	U 1 3 5	200	K	S 0 1	
22	U 1 3 6	200	K	S 0 1	
23	U 1 3 7	200	K	S 0 1	
24	U 1 3 8	200	K	S 0 1	
25	U 1 3 9	200	K	S 0 1	
	U 1 4 0	200	K	S 0 1	

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(enter "A", "B", "C" and "D" to identify additional codes)

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NOTE: Photocopy this page before completing if you have more than 26 wastes to list

I.D. NUMBER (enter from page 1)

WA7890008967

DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U141	200	K	S01	
2	U142	200	K	S01	
3	U143	200	K	S01	
4	U144	200	K	S01	
5	U145	200	K	S01	
6	U146	200	K	S01	
7	U147	200	K	S01	
8	U148	200	K	S01	
9	U149	200	K	S01	
10	U150	200	K	S01	
11	U151	200	K	S01	
	U152	200	K	S01	
13	U153	200	K	S01	
14	U154	200	K	S01	
15	U155	200	K	S01	
16	U156	200	K	S01	
17	U157	200	K	S01	
18	U158	200	K	S01	
19	U159	200	K	S01	
20	U160	200	K	S01	
21	U161	200	K	S01	
22	U162	200	K	S01	
23	U163	200	K	S01	
24	U164	200	K	S01	
	U165	200	K	S01	
	U166	200	K	S01	

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NOTE. Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

4	A	7	8	9	0	0	0	3	9	7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter codes)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U167	200	K	S01	
2	U168	200	K	S01	
3	U169	200	K	S01	
4	U170	200	K	S01	
5	U171	200	K	S01	
6	U172	200	K	S01	
7	U173	200	K	S01	
8	U174	200	K	S01	
9	U175	200	K	S01	
10	U176	200	K	S01	
11	U177	200	K	S01	
12	U178	200	K	S01	
13	U179	200	K	S01	
14	U180	200	K	S01	
15	U181	200	K	S01	
16	U182	200	K	S01	
17	U183	200	K	S01	
18	U184	200	K	S01	
19	U185	200	K	S01	
20	U186	200	K	S01	
21	U187	200	K	S01	
22	U188	200	K	S01	
23	U189	200	K	S01	
24	U190	200	K	S01	
25	U191	200	K	S01	
26	U192	200	K	S01	

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NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

W A 7 8 9 0 0 1 3 3 5 7

DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter codes)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	U193	200	K	S01	
2	U194	200	K	S01	
3	U195	200	K	S01	
4	U196	200	K	S01	
5	U197	200	K	S01	
6	U198	200	K	S01	
7	U199	200	K	S01	
8	U200	200	K	S01	
9	U201	200	K	S01	
10	U202	200	K	S01	
11	U203	200	K	S01	
	U204	200	K	S01	
13	U205	200	K	S01	
14	U206	200	K	S01	
15	U207	200	K	S01	
16	U208	200	K	S01	
17	U209	200	K	S01	
18	U210	200	K	S01	
19	U211	200	K	S01	
20	U212	200	K	S01	
21	U213	200	K	S01	
22	U214	200	K	S01	
23	U215	200	K	S01	
24	U216	200	K	S01	
	U217	200	K	S01	
26	U218	200	K	S01	

EPA Form 3510-3 (12-80) SECT 030-31 Form 3

(enter "A" "B" "C" and "D" to identify continuation pages)

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NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

WA7890008EET

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter codes)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U219	200	K	S01	
2	U220	200	K	S01	
3	U221	200	K	S01	
4	U222	200	K	S01	
5	U223	200	K	S01	
6	U224	200	K	S01	
7	U225	200	K	S01	
8	U226	200	K	S01	
9	U227	200	K	S01	
10	U228	200	K	S01	
11	U229	200	K	S01	
12	U230	200	K	S01	
13	U231	200	K	S01	
14	U232	200	K	S01	
15	U233	200	K	S01	
16	U234	200	K	S01	
17	U235	200	K	S01	
18	U236	200	K	S01	
19	U237	200	K	S01	
20	U238	200	K	S01	
21	U239	200	K	S01	
22	U240	200	K	S01	
23	U241	200	K	S01	
24	U242	200	K	S01	
25	U243	200	K	S01	
26	U244	200	K	S01	

(enter "A", "B", "C", or leave the "D" to denote processing codes)

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (enter from page 1)

1 | 7 | 8 | 9 | 0 | 0 | 0 | 3 | 3 | 5 | 1

D. DESCRIPTION OF DANGEROUS WASTES (continued)

NO.	A. DANGEROUS WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U 2 4 5	200	K	S 0 1	
2	U 2 4 6	200	K	S 0 1	
3	U 2 4 7	200	K	S 0 1	
4	U 2 4 8	200	K	S 0 1	
5	U 2 4 9	200	K	S 0 1	
6	U 3 2 8	200	K	S 0 1	
7	U 3 5 3	200	K	S 0 1	
8	U 3 5 9	200	K	S 0 1	
9	W 0 0 1	5,000	K	S 0 1	
10	W C 0 1	1,000	K	S 0 1	
11	W C 0 2	1, 000	K	S 0 1	
12	W P 0 1	5,000	K	S 0 1	
13	W P 0 2	1,000	K	S 0 1	
14	W P 0 3	500	K	S 0 1	
15	W T 0 1	30,000	K	S 0 1	
16	W T 0 2	20,000	K	S 0 1	
17					
18					
19					
20					
21					
22					
23					
24					
25					

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IV. DESCRIPTION OF DANGEROUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

The wastes to be stored at the 305-B Storage Facility consists of listed wastes, wastes from nonspecific sources, characteristic wastes, and state-only (special) wastes.

6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS See attached.

All existing facilities must include photographs (aerial or ground—level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION This information is provided on the attached drawings and photos

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
46 22 18	119 16 42

VIII. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

[ ] B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME (print or type)	SIGNATURE	DATE SIGNED
John D. Wagoner Manager, Richland Operations United States Department of Energy	Edward D. Goldberg	12/20/90

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. SEE PAGE 4B.

NAME (print or type)	SIGNATURE	DATE SIGNED
SEE ATTACHMENT		

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Edward D. Goldberg

Owner/Operator
John D. Wagoner, Manager
U.S. Department of Energy
Richland Operations Office

12-20-90
Date

Co-Operator
William R. Wiley, Director
Pacific Northwest Laboratory

12-6-90
Date

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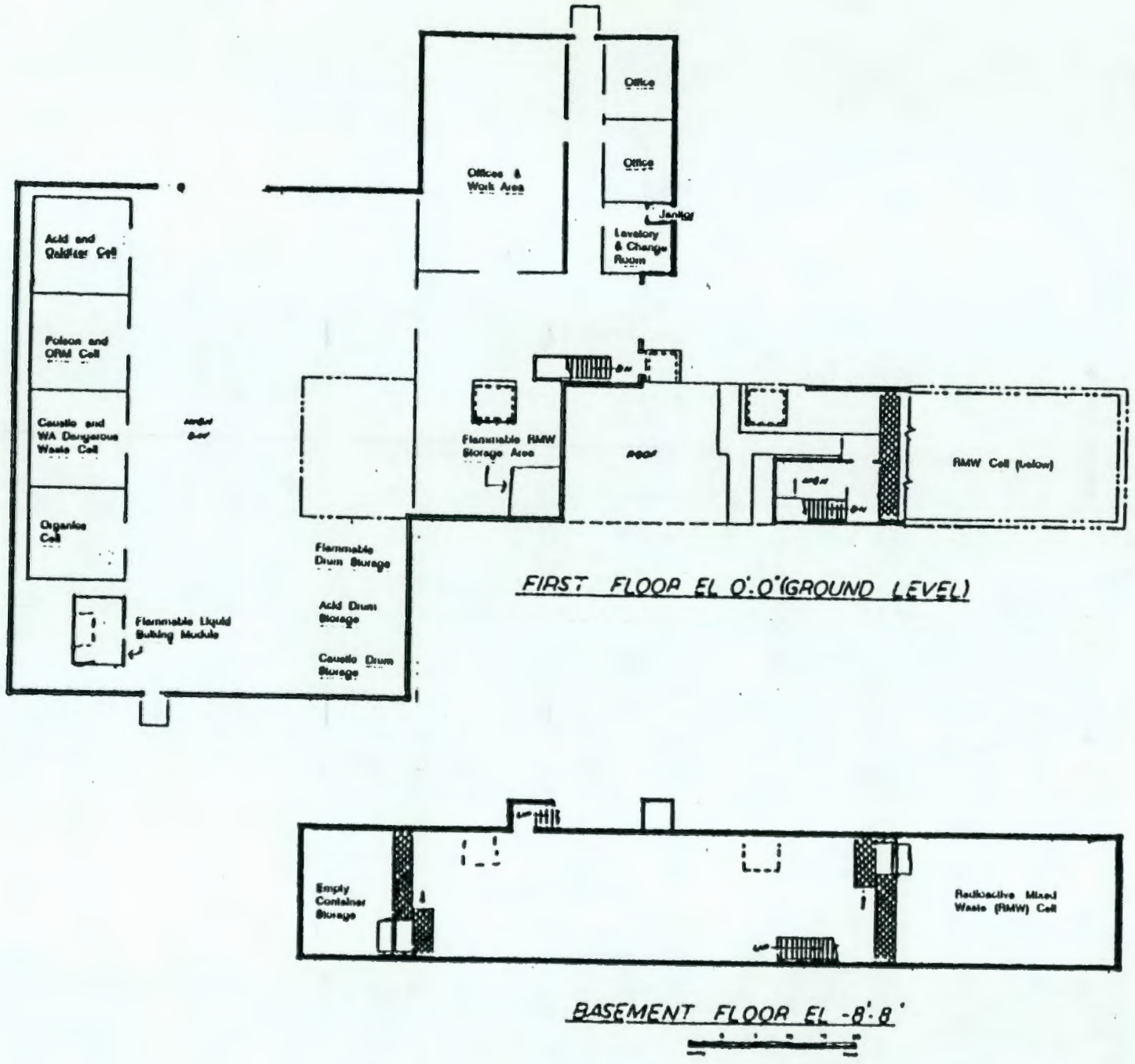
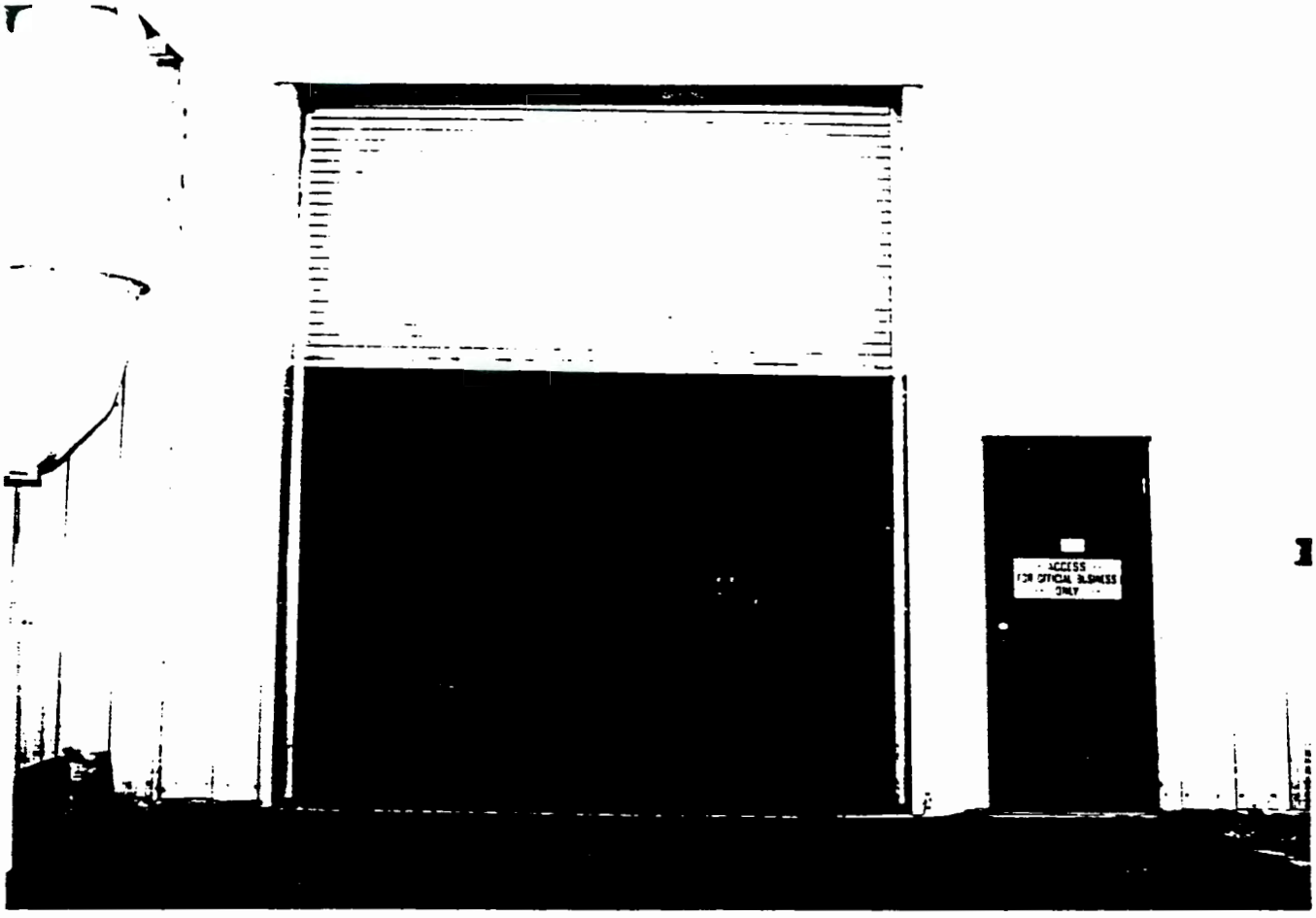
V. FACILITY DRAWING (see page 4)

305-B STORAGE UNIT 09/25/90 Rev. 1



305-B Storage Facility



View Looking South
Longitude 119°16'42"
Latitude 46°22'18"

88A907-1CN
Photo Taken 1988

931297033 9

305-B Storage Facility

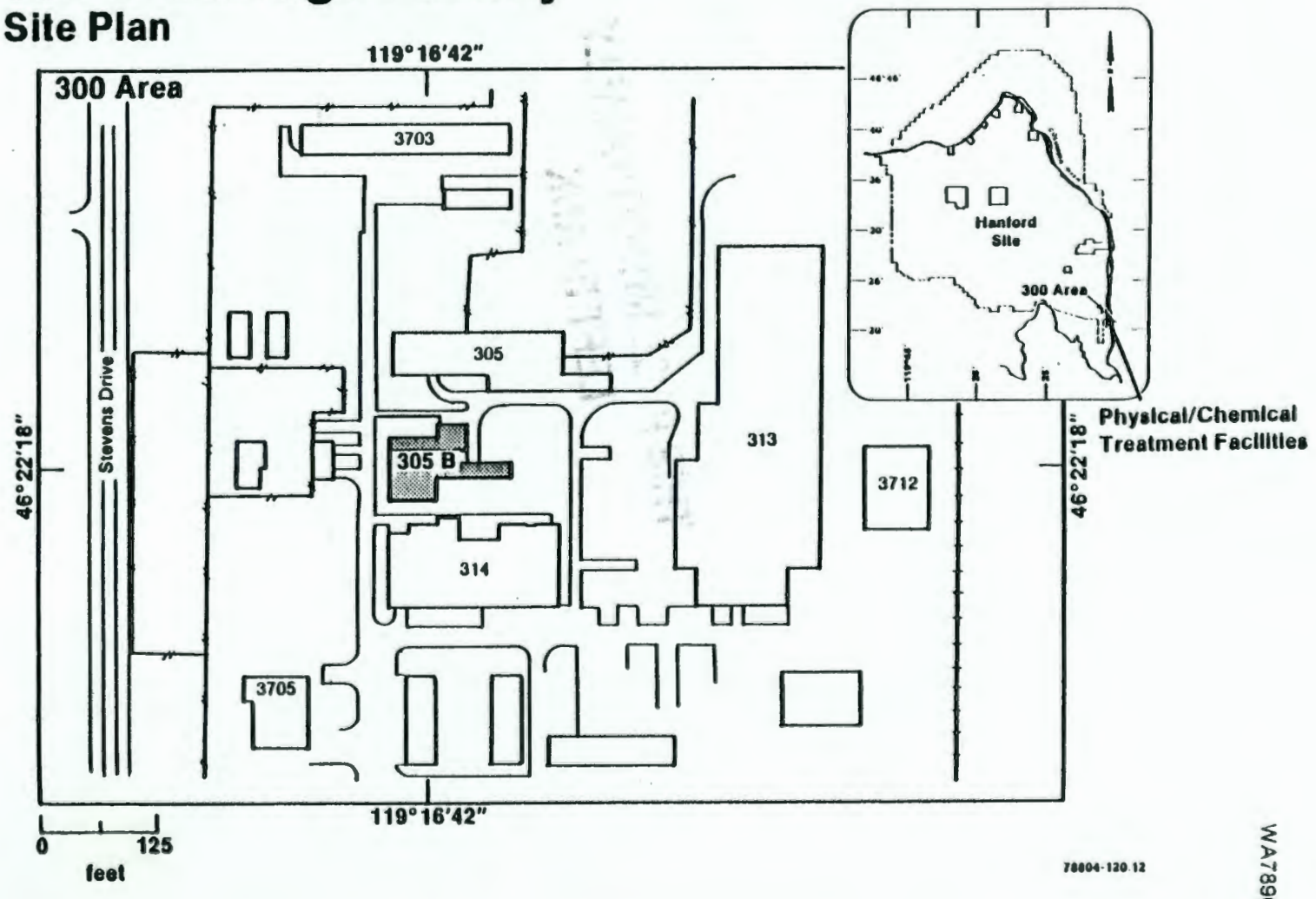
9312937030360

View Looking West
Longitude 119° 16' 42"
Latitude 46° 22' 18"

88A907-8CN
Photo Taken 1988

305-B Storage Facility

Site Plan



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PART B

This Part B permit application for the 305-B Storage Unit is comprised of 15 chapters and six appendices.

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CONTENTS

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9312937035

1.0 INTRODUCTION

This chapter briefly describes the permitting approach for the 305-B Storage Unit (305-B) and provides an overview of the contents of the 305-B Part B Permit Application.

1.1 305-B STORAGE UNIT PERMITTING APPROACH

The 305-B Storage Unit began operating under interim status in March 1989. This unit, classified as container storage, will be permitted under Washington State Department of Ecology (Ecology) Dangerous Waste Regulations, Washington Administrative Code (WAC) 173-303-806 and references therein (Ecology 1989).

The 305-B unit is used to receive, store, and prepare shipments of dangerous waste and radioactive mixed waste (RMW) generated by Hanford Site programs. These wastes are primarily generated in support of research and development activities. Wastes are characterized in accordance with the guidelines in Chapter 3 to designate the wastes under the Dangerous Waste Regulations. They are then transported to 305-B by truck or light utility vehicle. Upon receipt at 305-B, unit personnel place wastes into proper storage areas depending on waste type and quantity. When a sufficient quantity of waste has been accumulated to allow for off-site treatment or disposal, wastes are manifested and inspected for shipment. They are then offered for transport to a permitted off-site treatment/disposal facility.

1.2 305-B STORAGE UNIT PART B PERMIT APPLICATION CONTENTS

The 305-B Part B Permit Application consists of 15 chapters:

- Introduction (Chapter 1.0)
- Facility Description and General Provisions (Chapter 2.0)
- Waste Characteristics (Chapter 3.0)
- Process Information (Chapter 4.0)
- Groundwater Monitoring (Chapter 5.0)
- Procedures to Prevent Hazards (Chapter 6.0)
- Contingency Plan (Chapter 7.0)
- Personnel Training (Chapter 8.0)
- Exposure Information Report (Chapter 9.0)
- Waste Minimization Plan (Chapter 10.0)
- Closure/Post-Closure Requirements (Chapter 11.0)
- Reporting and Recordkeeping (Chapter 12.0)
- Other Relevant Laws (Chapter 13.0)
- Certification (Chapter 14.0)
- References (Chapter 15.0).

A brief description of each chapter is provided in the following sections.

1.2.1 Facility Description and General Provisions (Chapter 2.0)

This chapter provides a general description of 305-B. A brief description and history of the Hanford Site also is provided.

1.2.2 Waste Characteristics (Chapter 3.0)

This chapter discusses waste types received at 305-B from various Hanford Site generating units. A waste analysis plan is included which provides the methodology for determining waste types.

1.2.3 Process Information (Chapter 4.0)

This chapter covers the detailed operation of the unit. Additional information is given concerning container descriptions and primary and secondary containment systems.

1.2.4 Groundwater Monitoring (Chapter 5.0)

This chapter explains that 305-B is not operated as a dangerous waste surface impoundment, waste pile, land treatment unit, or landfill. Therefore, groundwater monitoring is not required.

1.2.5 Procedures to Prevent Hazards (Chapter 6.0)

This chapter discusses hazard prevention and emergency preparedness equipment, structures, and procedures.

1.2.6 Contingency Plan (Chapter 7.0)

This chapter provides information on contingency planning that 305-B has in place which will lessen the potential impact on public health and the environment, in the event of a facility emergency.

1.2.7 Personnel Training (Chapter 8.0)

This chapter outlines the training program used for 305-B employees whose primary duties are identified as being associated with dangerous waste and RMW management.

1.2.8 Exposure Information Report (Chapter 9.0)

This chapter explains that 305-B will not store, treat, or dispose of dangerous waste in a surface impoundment or a landfill. Therefore, exposure information is not required.

1.2.9 Waste Minimization Plan (Chapter 10.0)

This chapter discusses the program to minimize the volume or quantity and toxicity of waste generated at 305-B. The regulatory basis for, and objectives of the waste minimization program are discussed. Waste generating units are described and specific procedures for minimizing waste are discussed.

1.2.10 Closure/Post-Closure Requirements (Chapter 11.0)

This chapter describes how the unit will be decontaminated and closed. A closure schedule is provided. The unit is to be clean closed; therefore, no post-closure plan is included.

1.2.11 Reporting and Recordkeeping (Chapter 12.0)

This chapter summarizes commitments for reporting and recordkeeping made in other Part B permit application chapters.

1.2.12 Other Relevant Laws (Chapter 13.0)

This chapter discusses federal and state laws that govern the operation of 305-B, other than the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, and the State of Washington Hazardous Waste Management Act of 1976, as amended.

1.2.13 Certification (Chapter 14.0)

This chapter contains the required certification signed by officials of Pacific Northwest Laboratory (PNL) and the Department of Energy, Field Office, Richland (RL) indicating that the information provided is true, accurate, and complete.

1.2.14 References (Chapter 15.0)

References used throughout this Part B permit application are listed in this chapter.

1.3 ACRONYMS, INITIALISMS AND ABBREVIATIONS

Acronyms, initialisms and abbreviations used throughout this Part B permit application are located at the beginning of the document between the Foreword and the Part A permit application.

1.4 DEFINITIONS

Definitions specific to this permit application are provided in this section. These definitions supplement those provided in WAC 173-303-040.

1.4.1 Facility

Dependent on context, the term "facility," as used in this permit application, could refer to:

- A facility as defined in WAC 173-303-040
- Building nomenclature commonly used at the Hanford Facility. In this context, the term "facility" remains as part of the title for various waste management units (e.g., 616 Nonradioactive Dangerous Waste Storage Facility, Grout Treatment Facility).

1.4.2 Generating Unit

Term inferred to have the same meaning as "generator" as defined in WAC 173-303-040.

1.4.3 Hanford Facility

A single RCRA facility identified by the EPA/State Identification Number WA7890008967, which consists of over 60 waste management units included in the *Hanford Site Dangerous Waste Part A Permit Application* (DOE-RL 1988). Also, the contiguous portion of the Hanford Site which contains these waste management units and, for the purposes of RCRA, is owned and operated by the U.S. Department of Energy (excluding land north of the Columbia River, state-owned lands, and lands owned by the Bonneville Power Administration).

1.4.4 Hanford Site

The approximately 1,450 square kilometers (560 square miles) in southeastern Washington State owned by the United States Government and commonly known as the Hanford Reservation.

1.4.5 Offsite Shipments

Shipments not considered to be onsite shipments.

1.4.6 Onsite Shipments

Shipments (1) from waste generating units to waste management units operated by DOE-RL, or (2) between waste management units operated by DOE-RL.

1.4.7 Waste Management Unit

Term inferred to have the same meaning as "dangerous waste management unit" as defined in WAC 173-303-040. Also inferred to have the same meaning as "treatment, storage, and/or disposal (TSD) unit."

1.5 PERMIT MODIFICATIONS

This section identifies how changes to the 305-B unit Part B permit (i.e., this document) are to be handled.

1.5.1 Minor Modifications

Certain revisions to this document may be made after issuance of the unit Part B permit without issuance of a draft permit and public notice. These types of modifications are called "minor modifications" per WAC 173-303-830. These modifications are further subdivided as follows:

1.5.1.1 Modifications Without Ecology's Prior Approval. Certain modifications may be made without Ecology's prior approval. After revision, however, the revised page(s) must be incorporated in all outstanding controlled copies of the document (including those distributed to EPA and Ecology). Revisions meeting this criterion are as follows:

- Correction of typographical errors
- Changes to the list of facility emergency coordinators
- Changes to the list of emergency equipment
- Inclusion of new or updated maps
- Alteration of items in the contingency plan necessitated by changes to the sitewide emergency plan and/or PNL-MA-11
- Change of contractor that co-operates the 305-B facility with DOE-RL
- Any other minor modifications allowed by WAC 173-303-830 and not named in Section 1.5.1.2, below.

1.5.1.2 Modifications With Ecology's Prior Approval. Certain modifications may be processed as "minor modifications" per WAC 173-303-840, but require prior submittal for Ecology's approval. If Ecology does not respond within 60 days from their receipt of the proposed modification, the modification will take effect as a minor modification. At the end of the 60-day period, the revised page(s) must be incorporated in all outstanding controlled copies of the document (including those distributed to EPA and Ecology). Revisions meeting this criterion are as follows:

- Addition and/or deletion of dangerous waste codes for waste to be stored
- Changes in the annual quantities of regulated waste to be handled
- Changes to the 305-B unit and associated revised drawings
- Revision of forms included in this permit application.

1.5.2 Other Modifications

Modifications not allowed to take place as "minor modifications" per WAC 173-303-830 must follow the modification procedures specified in WAC 173-303-830.

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CONTENTS

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FIGURES

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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 (Fig. 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.

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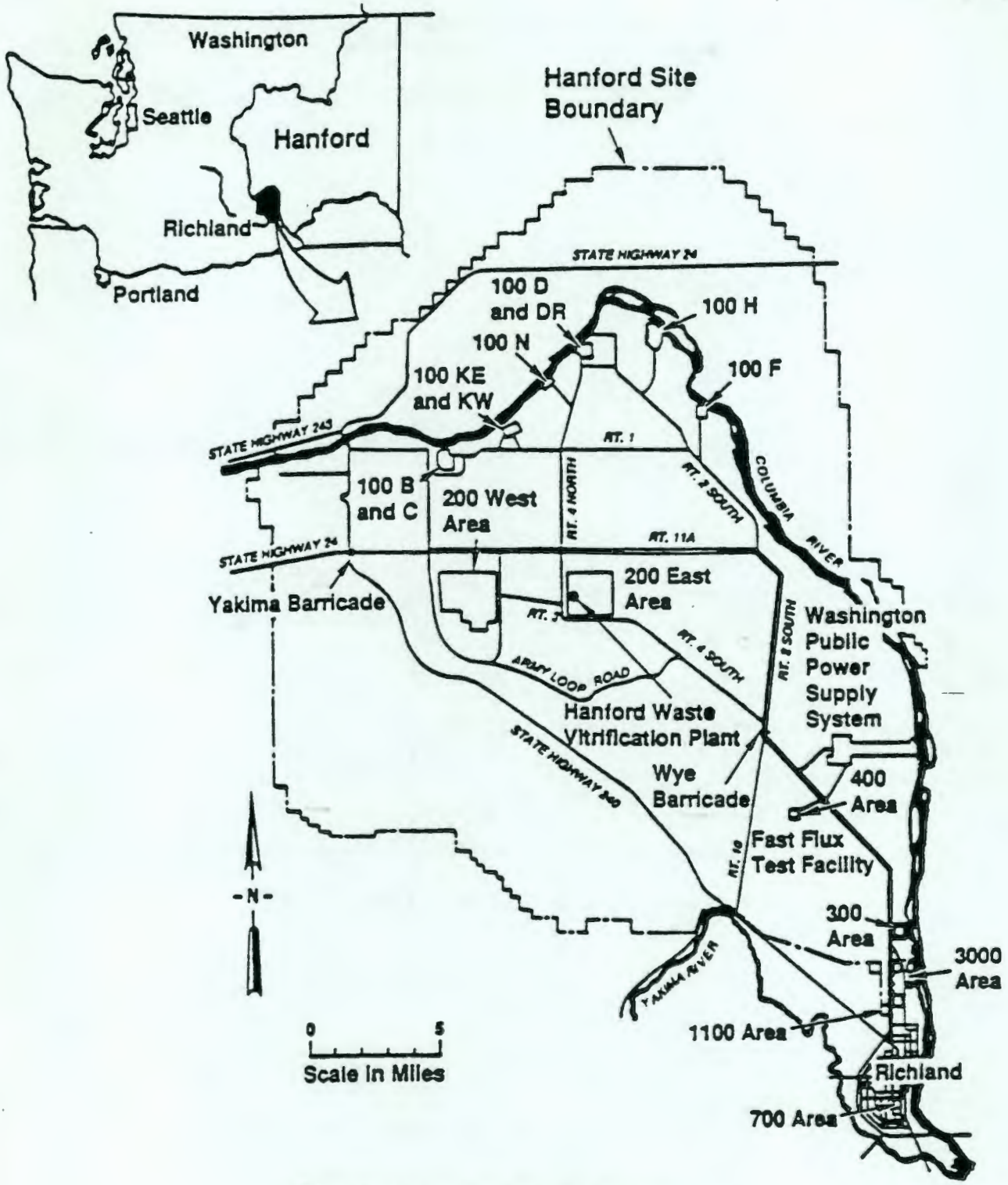

Figure 2-1. Hanford Site Location.

2.1.2 The 305-B Storage Unit

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

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

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

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

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

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

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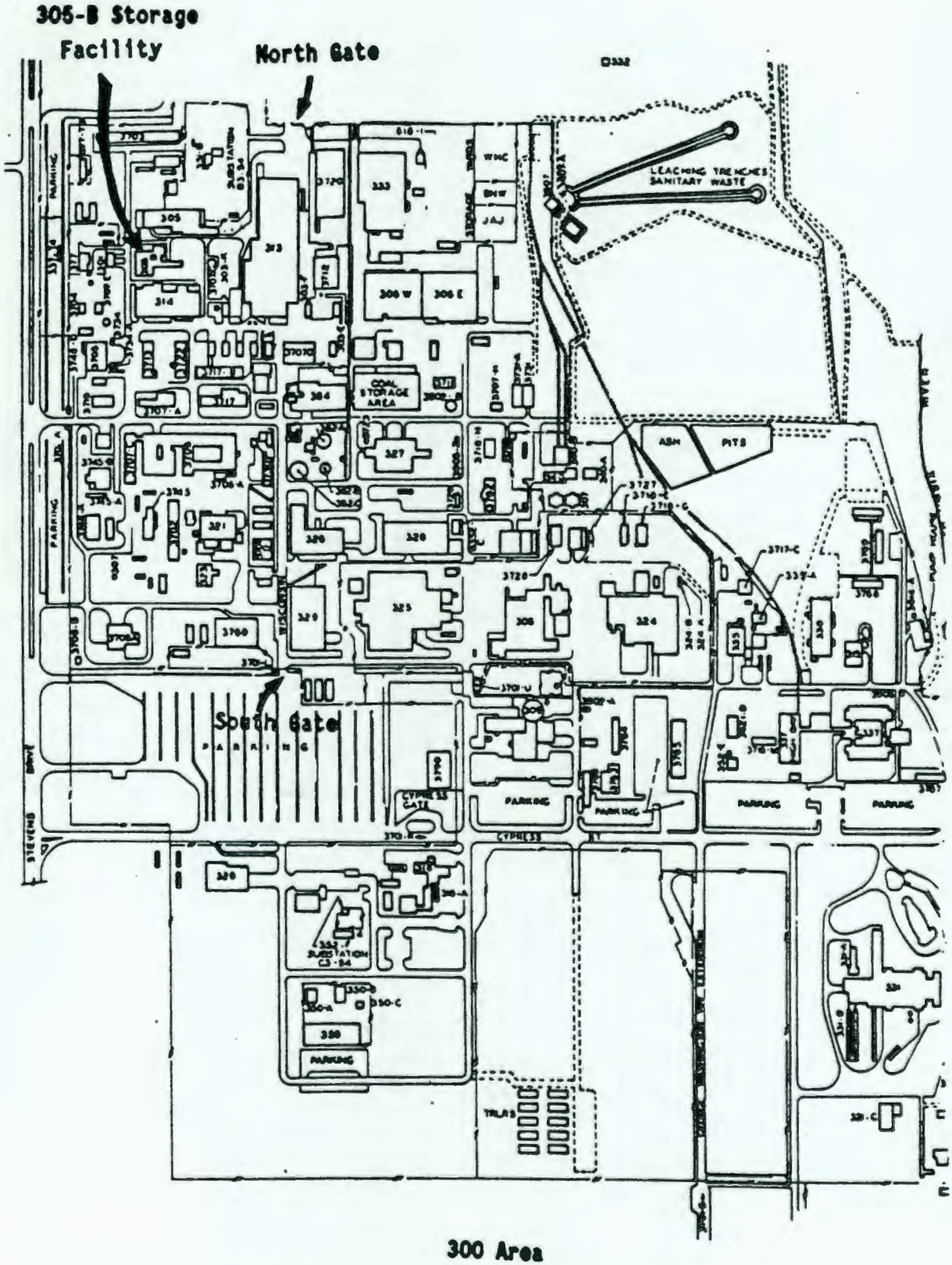

Figure 2-2. Location of 305-B Storage Unit.

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

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

2.2 TOPOGRAPHIC MAP [B-2]

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

2.2.1 General Requirements [B-2a]

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

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

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

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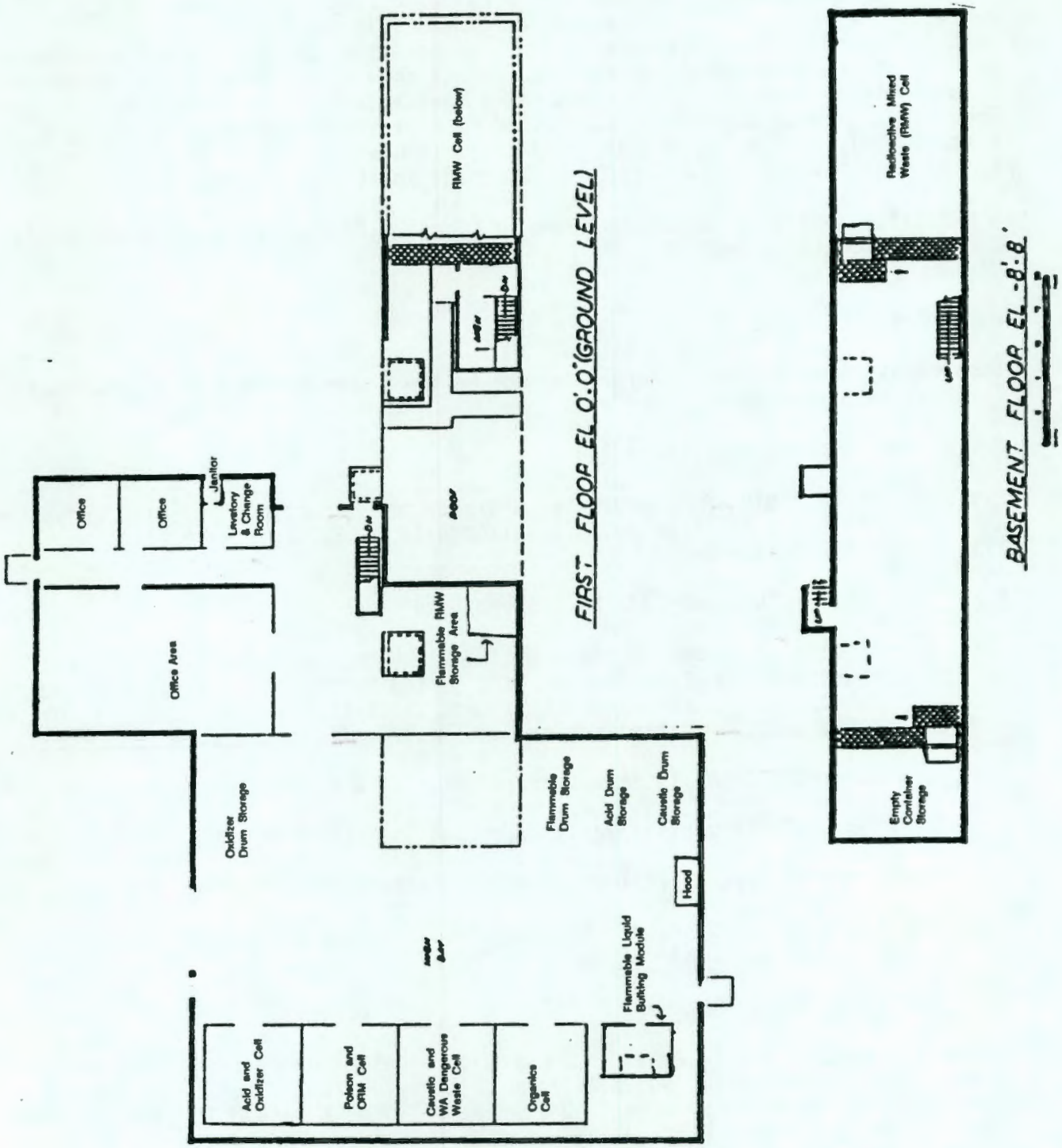

Figure 2-3. 305-B Storage Unit Floor Plan.

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

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

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

2.3 LOCATION INFORMATION [B-3]

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

2.3.1 Seismic Consideration [B-3a]

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

2.3.2 Floodplain Standard [B-3b]

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

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

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

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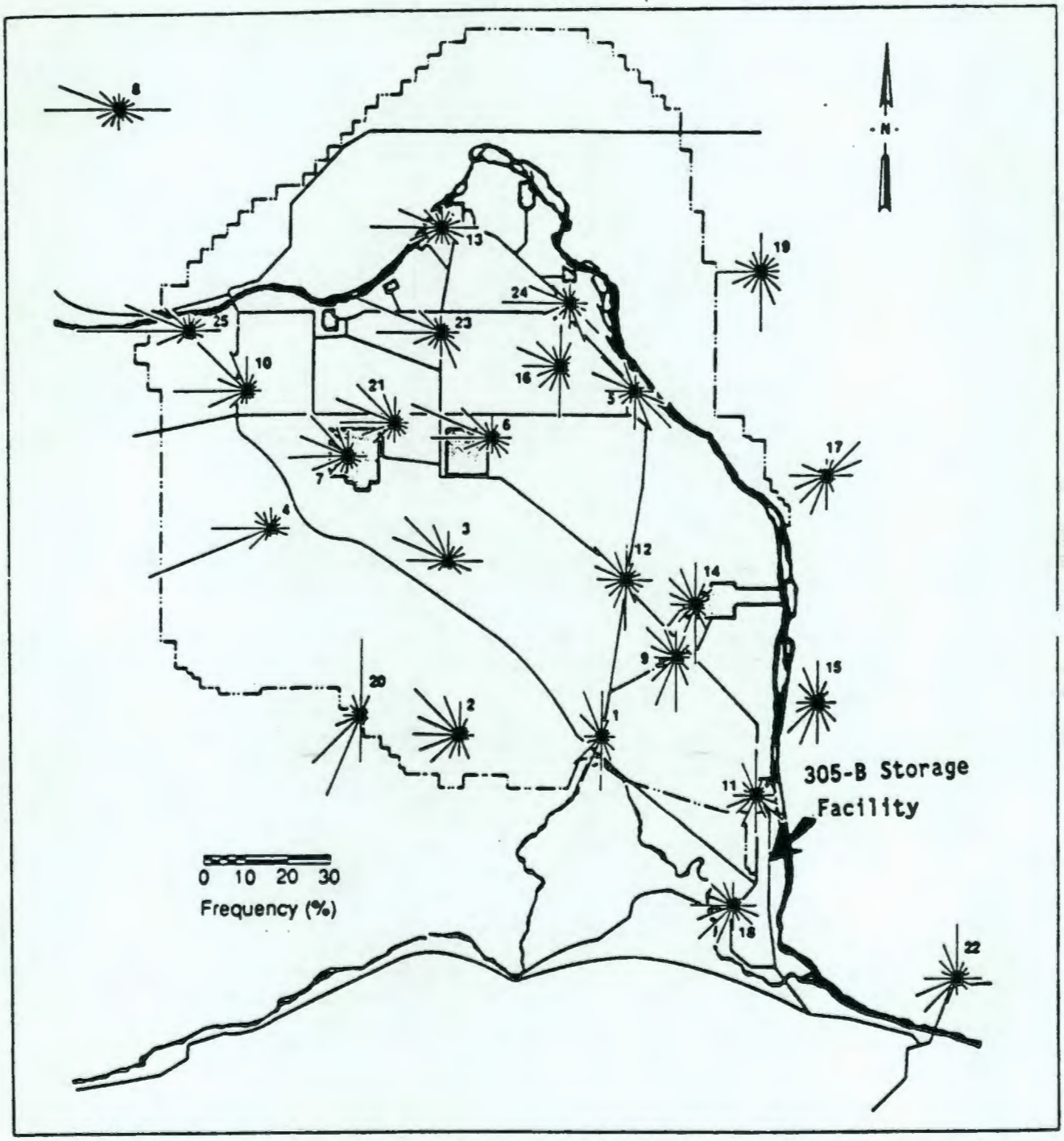

Figure 2-4. Wind Roses for the Hanford Site.

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

2.3.2.1 Demonstration of Compliance [B-3b(1)]. Because the location of the 305-B Storage Unit is not within the boundary of the 100-year floodplain, no demonstration of compliance is required.

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

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

2.3.2.2 Plan for Future Compliance With Floodplain Standard [B-3B(2)]. Because the location of the 305-B Storage Unit is not within the boundary of the 100-year floodplain, no demonstration of compliance is required.

2.3.3 Shoreline Standard [B-3c]

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

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

2.3.4 Sole Source Aquifer Criteria [B-3d]

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

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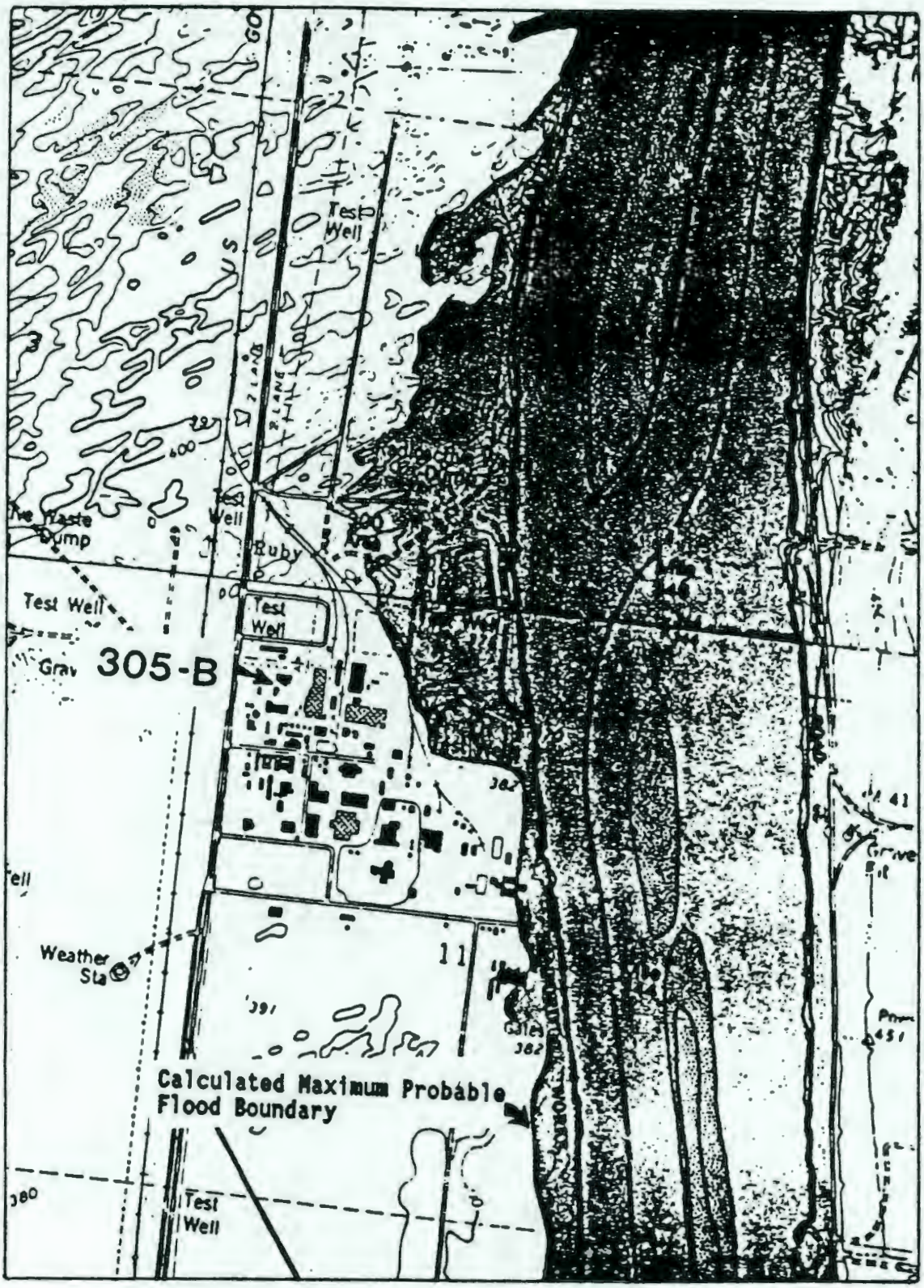

Figure 2-5. Corps of Engineers Calculated Floodplain.

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 and buses used to transport employees to various operation sites within the Hanford boundary. 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:

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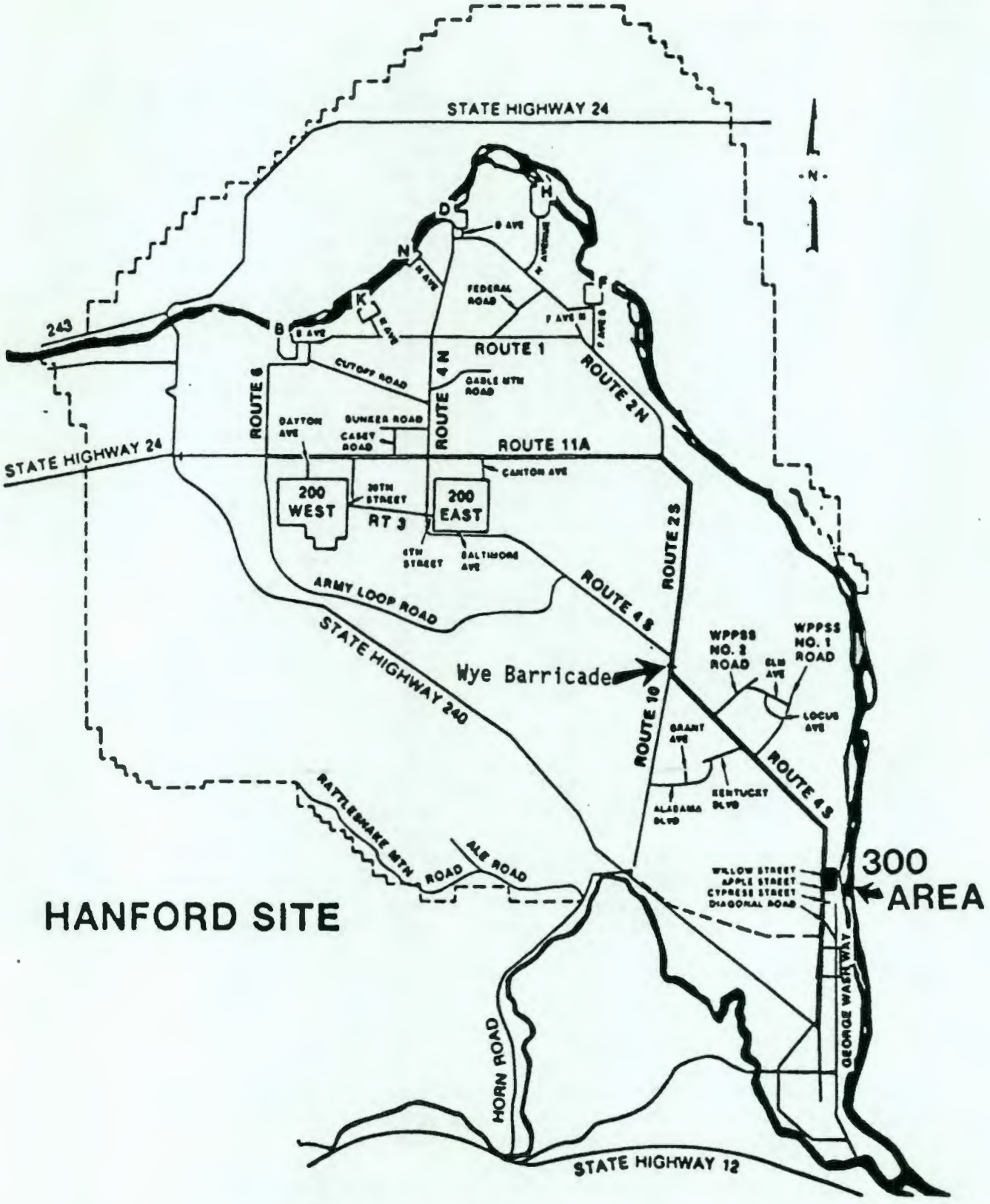

Figure 2-6. Hanford Site Primary and Secondary Roads.

- 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
- Use of processes that do not treat, detoxify, recycle, reclaim, and recover waste material to the extent economically feasible
- Endangerment to the health of employees or the public near the facility.

The measures taken to prevent each of the above negative effects from occurring are described in the following sections.

2.5.1 Measures to Prevent Degradation of Groundwater Quality

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

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

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

2.5.3 Measures to Prevent Degradation of Surface Water Quality

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

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

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

2.5.5 Measures to Prevent Excessive Noise

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

2.5.6 Measures to Prevent Negative Aesthetic Impacts

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

2.5.7 Measures to Prevent Unstable Hillsides or Soils

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

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

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

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

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

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

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

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

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

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

2.6 BUFFER MONITORING ZONES [B-6]

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

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

Ignitable and reactive wastes are stored in 305-B in compliance with the requirements of the 1988 Uniform Fire Code, Article 79, Division II (International Conference of Building Officials 1988). Quantity limits for storage are established to comply with requirements for Class B occupancy. Structures surrounding 305-B are laboratory and office buildings which are occupied during normal working hours. The nearest adjacent facility is the 314 Building, which is approximately 30 ft south of 305-B. The closest 300 Area boundary is the western boundary, which is approximately 250 ft west of 305-B.

2.6.2 Reactive Waste Buffer Zone [B-6b]

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

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

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- Explosives: 1 lb
- Organic Peroxide, unclassified, detonatable: 1 lb
- Pyrophoric: 4 lbs
- Unstable (reactive), Class 4: 1 lb

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

2.6.3 Travel Time [B-6c]

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

2.6.4 Dangerous Waste Monitoring Zone [B-6d]

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

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

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

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

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

2.7.1 Notification [B-7a]

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

2.7.2 Mitigation and Control [B-7b]

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

2.7.2.1 Cleanup of Released Wastes or Substances [B-7b(1)]. Actions taken to clean up all released dangerous wastes or hazardous substances and criteria used to determine the extent of removal are described in Sections 7.4.4 and 7.4.6.

2.7.2.2 Management of Contaminated Soil, Waters, or Other Materials [B-7b(2)]. Actions taken to demonstrate that all soil, waters, or other materials contaminated by a spill or discharge are treated, stored, or disposed of in accordance with WAC 173-303 are included in Sections 7.4.6, 7.4.7, 7.4.8, and 7.4.9. A description of identification of hazardous and dangerous materials is presented in Section 7.4.2.

2.7.2.3 Restoration of Impacted Area [B-7b(3)]. Due to the location of 305-B in the 300 Area, spills or discharges occurring on property which is not owned by the U.S. Government are unlikely. Therefore, a description of the actions to be taken to restore the impacted area and to replenish resources is not required.

2.8 MANIFEST SYSTEM [B-8]

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

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

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

2.8.1 Procedures for Receiving Shipments [B-8a]

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

The waste is then inspected at the generating unit by the Waste Management Section to verify the information contained on the request form, such as number, sizes, and types of containers, location of waste, etc., and to check for

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Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039 Expires 9-30-91

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

9. Designated Facility Name and Site Address | 10. US EPA ID Number | G. State Facility's ID | H. Facility's Phone

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
GENERATOR a.					
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above | K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this 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

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

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

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete

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Figure 2-7. Sample Uniform Hazardous Waste Manifest Form.

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Battelle
Pacific Northwest Laboratories

CHEMICAL DISPOSAL/RECYCLE REQUEST

Received/Approved ____________
Request No. ____________
Picked Up/Labeled ____________
Entered ____________
Copied ____________

Send Completed Form to:

- 300 Area Nonradioactive Materials: TA VanderHoogt 376-0272, P8-45
- 3000 Area Nonradioactive Materials: ME Carlson 375-2950, P7-68
- Radioactive Mixed Waste KB Selby 376-7233, P8-45

☐ 1830 ☐ 1831 | Org. Code: | Work Package No.:

Level 3 Manager Signature/Date:

Technical Contact/Phone No. (if other than Requester)

☐ < 90 Day Accumulation ☐ Satellite Accumulation | Accumulation Date for < 90 Day Waste (< 30 days for PCB's)

Requested by (printed or typed name): | Telephone No. | Requester Signature/Date (Certifies Accuracy of Information)

Location of Waste: | Requester MSIN: | ☐ Non Radioactive Material; ☐ Radioactive Material (Include Curies Quantities Below)

SHADED AREA FOR WM&EC USE ONLY | **Complete ALL Applicable Information: Detailed Instructions on Reverse, Continuation Sheets Available**

Container ID WM &EC No.	Container Quant.	Container Size	Material Quantity (in Kg only)	Container Type	Material Description or Trade Name (a)	Chemical Component (use proper chemical name include Isotopes and curies for RMW) (b)	Wt.% (c)	Physical State S/L/G (d)	Hazards (e)	Status (f)	WM & EC Codes

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

9 3 1 2 2 7 1 3 3 3

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 Area 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:

(a) 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.

(b) Provide all known chemical components; use proper accepted names (e.g., ethyl alcohol is acceptable; abbreviations or formulas are not).

(c) 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.

(d) Please indicate physical state of material: S=solid, L=liquid, G=gas.

(e) 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)		

(f) 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 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.

Figure 2-9. Example Chemical Disposal/Recycle Request Form (Reverse).

proper containerization of waste. If discrepancies are noted during the inspection, the waste will not be picked up by the Waste Management Section. Typical discrepancies include waste not as described on request form or lack of supporting data to verify waste characteristics. In such cases, deficiencies will be explained to the generating unit responsible person, who will then be responsible for correcting them.

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

2.8.2 Response to Significant Discrepancies [B-8b]

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

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

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

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

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

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

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

2.8.3.1 Nonacceptance of Undamaged Shipment [B-8c(1)]. As described in Section 2.8.1, all wastes are inspected by staff from the waste management organization prior to shipment and are also transported to 305-B by waste management organization staff. This procedure is designed to prevent receipt of nonacceptable wastes. Waste management organization staff will refuse to accept or transport wastes which are nonacceptable at 305-B.

2.8.3.2 Activation of Contingency Plan for Damaged Shipment [B-8c(2)]. As described in Section 2.8.1, all wastes are inspected by staff from the waste management organization prior to shipment and are also primarily transported to 305-B by waste management organization staff. Damaged containers will not be accepted from the generator and will not be transported. The only opportunity for receipt of damaged containers, therefore, would be if containers were damaged during transportation. If a shipment of waste is damaged during transportation and arrives in a condition as to present a hazard to public health or to the environment, the facility contingency plan will be implemented as described in Chapter 7.0.

2.8.4 Unmanifested Waste

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

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

CONTENTS

TABLES

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3.0 WASTE CHARACTERISTICS [C]

305-B receives a wide variety of dangerous waste and limited quantities of RMW. This variety results from the nature of the activities generating the wastes, namely research and development. This chapter describes the characteristics of the wastes received at 305-B, and presents the waste analysis plan used to characterize these wastes to ensure proper management.

3.1 CHEMICAL, BIOLOGICAL, AND PHYSICAL ANALYSIS [C-1]

The dangerous waste and RMW stored at 305-B can be categorized as originating from five basic sources:

- Waste from nonspecific sources
- Discarded commercial chemical products
- Waste from research activities using radioactive isotopes
- Waste from chemicals synthesized or created in research laboratories
- Discarded commercial products exhibiting dangerous waste characteristics and/or criteria.

Each of these waste categories is discussed below, including waste descriptions, hazard characteristics, and bases for hazard designations. This information includes that which must be known to treat, store, or dispose of the wastes, as required under WAC 173-303-806(4)(a)(ii).

Wastes from Nonspecific Sources. Wastes from nonspecific sources consist of those listed wastes identified in WAC 173-303-9904. The Part A permit application for 305-B identifies the following wastes from this category with their estimated annual management quantities:

- F001 - Spent halogenated degreasing solvents and sludges (2,000 kg/yr)
- F002 - Spent halogenated solvents and still bottoms (2,000 kg/yr)
- F003 - Spent nonhalogenated solvents and still bottoms (5,000 kg/yr)
- F004 - Spent nonhalogenated solvents and still bottoms (1,000 kg/yr)
- F005 - Spent nonhalogenated solvents and still bottoms (5,000 kg/yr)
- F027 - Discarded polychlorinated phenol formulations (200 kg/yr).

These halogenated and nonhalogenated solvents are in the form of spent solvents; no still bottoms are generated. Degreasing solvents (F001), as well as spent halogenated solvents (F002), are used primarily in research although some commercial applications do exist (e.g., printing, duplicating). Spent non-halogenated solvents (F003, F004, and F005) also come primarily from research laboratories, although a significant amount of methyl ethyl ketone (F005) is generated through maintenance applications such as the Craft Services paint shop (350 Building). Manufacturing activities are not performed at Hanford;

therefore, dangerous wastes from specific sources (WAC 173-303-9904 "K" Wastes) are not generated.

Wastes in this category (F Wastes) are generally received at 305-B in 1-gal and 5-gal flammable liquid safety cans ("flash cans"). Methyl ethyl ketone, which is received in 55-gal drums, is an exception.

Wastes in this category are designated on the basis of the generator's knowledge (i.e., information from container labels or material safety data sheets), or by sampling. Sampling is performed if the generating unit does not have information to document the composition and characteristics of the waste. The waste generator is responsible for specifying the characteristics of the waste on the basis of knowledge of the chemical products used (i.e., information supplied by the manufacturer) and the process generating the waste. These listed wastes are all designated as dangerous waste (DW) unless the generator determines through process knowledge (i.e., knowledge of materials used and concentrations used) that wastes F001 or F002 contain greater than 1% halogenated hydrocarbons. Wastes with greater than 1% halogenated hydrocarbons are designated as extremely hazardous waste (EHW). Wastes F001 through F005 are also designated as land disposal restricted (LDR) wastes under 40 CFR 268.30 (solvent wastes). Waste F027 is designated as an LDR waste under 40 CFR 268.31 (dioxin-containing waste).

Discarded Chemical Products. Discarded chemical products consist of those products listed in WAC 173-303-081. The Part A permit application for 305-B identifies all of the discarded chemical products listed in WAC 173-303-9903 (P001 through P123 and U001 through U359) and specifies an estimated maximum annual management quantity, based on prior experience, of 200 kg/yr for each of these wastes. Only a few of these wastes are typically generated at any one time. The Part A permit application listed all of these wastes, however, because the wide variety of research activities conducted at Hanford presents the potential to generate any of these wastes.

These wastes (P Wastes and U Wastes) are typically received at 305-B in the manufacturer's original container. Approximately 70% of these wastes are in partially full, opened containers and the remaining 30% are in sealed, unopened containers. These containers typically consist of glass and polyethylene jars or bottles and metal cans having a volume equal to or less than 4 L.

Wastes in this category are designated on the basis of the generator's knowledge. As these wastes are usually in original containers, information on the container label is verified by generator knowledge (i.e., knowledge that material is in its original container) and is used to identify contents. Wastes in "as procured" containers (i.e., original container with intact label) are not sampled. These listed wastes contain those designated as DW as well as those designated as EHW. These wastes are also subject to LDR regulations under 40 CFR 268, including disposal prohibitions and treatment standards.

Wastes from Research Activities Using Radioactive Isotopes. Dangerous wastes from research activities using radioactive isotopes are RMW. These wastes are generated in laboratories performing chemical and physical research, and consist primarily of radiologically contaminated chemicals or lead stacked in sealed 55-gal drums. These wastes are designated on the basis of the generator's knowledge or on the basis of sampling and analysis. The generator's knowledge is

used if the generator has kept accurate records of the identities and concentrations of constituents present in the waste. For example, many generating units keep log sheets for accumulation containers in satellite areas to keep a record of waste constituents. If information available from the generator is inadequate for waste designation, the wastes are sampled (as described in Section 3.2) and the results of the analysis are used for designation. These wastes include those designated as dangerous waste mixtures under WAC 173-303-084 and also those designated as characteristic dangerous wastes under WAC 173-303-090. The Part A permit application for 305-B includes all categories of toxic, persistent, and carcinogenic waste mixtures (i.e., both DW and EHW). While not all of these wastes are currently generated or have been generated, the wide variety of research activities conducted at Hanford presents the potential that these wastes could be generated and require subsequent management at 305-B. Similarly, the Part A permit application includes the characteristic dangerous waste categories D001 through D043 (i.e., ignitable, corrosive, reactive, and TCLP toxic due to metals or organics content).

Flammables (i.e., flash point less than 100° Fahrenheit) will not be stored in the below-grade RMW cell; however, ignitables (D001 due to oxidizer content) will be stored in this cell. Flammable RMW is not stored below grade due to Fire Code restrictions. These wastes are stored above the RMW cell in a flammable storage locker. The flammable RMW locker is equipped with secondary containment to provide greater than 100% secondary containment volume.

The wastes in this category could include those designated as either DW or EHW. These wastes could also be federal LDR wastes regulated under 40 CFR 268 as well as state LDR wastes regulated under WAC 173-303-140 (e.g., leachable inorganic wastes).

Waste from Chemicals Synthesized or Created in Research Laboratories. Wastes from chemicals synthesized or created in research laboratories typically consist of organics in quantities of 100 g or less, received in small containers.

These wastes are designated on the basis of the generator's knowledge or on the basis of sampling and analysis. The generator's knowledge is used if the generating unit has kept accurate records of the identities and concentrations of constituents present in the waste (e.g., log sheets for accumulation containers). If information available from the generating unit is inadequate for waste designation, the wastes are sampled (as described in Section 3.2) and the results of the analysis are used for designation. These wastes include those designated as dangerous waste mixtures under WAC 173-303-084 and also those designated as characteristic dangerous wastes under WAC 173-303-090. The Part A permit application for 305-B includes all categories of toxic, persistent, and carcinogenic waste mixtures (i.e., both DW and EHW). While not all of these wastes are currently generated or have been generated, the wide variety of research activities conducted at Hanford presents the potential that these wastes could be generated and require subsequent management at 305-B.

The wastes in this category could include those designated as either DW or EHW. These wastes could also be federal LDR wastes regulated under 40 CFR 268 as well as state LDR wastes regulated under WAC 173-303-140 (e.g., organic/carbonaceous wastes).

9312297 7140

Discarded Commercial Products Exhibiting Dangerous Waste Characteristics and/or Criteria. Many discarded chemical products handled in 305-B are not listed in WAC 173-303-9903 and are still considered dangerous waste since they exhibit at least one dangerous waste characteristic and/or criterion (WAC 173-303-090 and WAC 173-303-084). These wastes are included with those listed in the Part A permit application under waste codes D001 through D043, WT01, WT02, WP01, WP02, WP03, WC01, and WC02. These wastes are typically received at 305-B in the manufacturer's original container. Approximately 70% of the wastes are in partially full, opened containers; the remaining 30% are in sealed, unopened containers for which no local recycle/reuse options can be identified. These containers typically consist of glass and polyethylene jars or bottles and metal cans having a maximum volume of 4 L.

Wastes in this category are designated based on the generator's knowledge. As these wastes are usually in their original containers, information on the container label is verified by the generator's knowledge and is used to identify the contents. These wastes contain those designated as DW as well as those designated as EHW. These wastes could also be federal LDR wastes regulated under 40 CFR 268 as well as state LDR wastes regulated under WAC 173-303-140 (e.g., organic/carbonaceous wastes, leachable inorganic wastes).

3.1.1 Containerized Wastes [C-1a]

The container storage areas at 305-B meet the containment system requirements of WAC 173-303-630(7)(c). Testing or documentation that the dangerous wastes stored at 305-B do not contain free liquids is not required.

3.1.2 Waste in Tank Systems [C-1b]

This section does not apply to the 305-B Storage Unit because wastes are not stored in tanks.

3.1.3 Waste in Piles [C-1c]

This section does not apply to the 305-B Storage Unit because wastes are not stored in piles.

3.1.4 Landfilled Wastes [C-1d]

This section does not apply to the 305-B Storage Unit because wastes are not placed in landfills.

3.1.5 Wastes Incinerated and Wastes Used in Performance Tests [C-1e]

This section does not apply to the 305-B Storage Unit because wastes are not incinerated.

3.1.6 Wastes to be Land Treated [C-1f]

This section does not apply to the 305-B Storage Unit because wastes do not undergo land treatment.

3.2 WASTE ANALYSIS PLAN [C-2]

This section describes the procedures used to obtain the information necessary to manage wastes in accordance with the requirements of WAC 173-303 (Ecology 1989). This section is intended to correlate with the Waste Analysis Plan submitted in the Hanford Facility Permit Application (DOE/RL-91-28). If that plan is modified, this plan will be modified to reflect those changes.

Most of the information necessary to manage wastes at 305-B is obtained from generating units without the need to perform detailed chemical, physical, and biological analysis. This approach is used for the following reasons:

- All wastes stored at 305-B are generated on the Hanford Site and/or by PNL research programs; effective administrative control can be maintained over individual waste generating units (i.e., the same organization generates the wastes and operates the storage unit)

- Most of the wastes stored at 305-B are discarded chemical products for which knowledge of waste characteristics is available without further analysis

- Many of the wastes stored at 305-B result from research activities which are carefully controlled and documented; this documentation includes information on chemical constituents.

Information provided by waste generating units is verified before wastes are accepted for transport to 305-B (e.g., wastes are inspected to verify that they are as described in the disposal request). Generating units are not required to sample wastes unless they have inadequate documentation of waste characteristics. Verification sampling of wastes to be shipped offsite from 305-B is required by the disposal contractor and is performed by the contractor.

Because of the importance of administrative controls for the purposes of waste analysis, procedures for management of wastes from the time of generation through storage at 305-B are described below. These procedures demonstrate how sufficient knowledge is obtained from generating units to properly manage dangerous and mixed wastes at 305-B. In the event that such knowledge is not available, sampling and analysis is required by 305-B procedures prior to shipment to the storage unit. Detailed information related to sampling and analysis is presented in Sections 3.2.1 through 3.2.6.

Volumetric Description of Wastes. A wide range of waste volumes is collected from research and support activities. The largest unit container collected is a 55-gal drum, which in some circumstances may require overpacking into an 85-gal salvage drum, while the smallest is a trace amount in a small vial.

Large volume containers (greater than 4 L) commonly contain chemicals such as those listed in WAC 173-303-9903 and -9904 and in 40 CFR 261.33, or commercial products which exhibit one or more of the dangerous waste characteristics or criteria. Greater than 99% of the containers generally contain chemicals for which information is easily accessible to determine dangerous designation. This information is generally obtained from the container label, for those wastes in

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original containers, or from the material safety data sheet (MSDS) for the product.

Notification for Storing of Waste. The waste analysis process begins when the waste management organization is notified of the presence of a chemical or mixed waste. This notification is accomplished by the generating unit completing and transmitting a Chemical Disposal/Recycle Request Form (Fig. 2-8). The form describes the volume and chemical composition of waste in each waste container for disposal. Hazard and compatibility information are obtained for each item on the disposal request form to ensure the safety of the waste management organization staff who collect and transport the waste and to ensure safe and appropriate storage in 305-B.

The compatibility and hazard designation are determined using references listed in WAC 173-303-070 and those in Table 3-1. The priority of hazard designation for those substances with multiple hazards or for mixtures is the same used by the DOT in 49 CFR 173.2 (DOT 1988) as shown below:

1) Radioactive material
2) Poison A
3) Flammable gas
4) Nonflammable gas
5) Flammable liquid
6) Oxidizer
7) Flammable solid
8) Corrosive material (liquid)
9) Poison B
10) Corrosive material (solid)
11) Irritating materials
12) Combustible liquid (exceeding 110 gal)
13) Other Regulated Material (ORM)-B
14) ORM-A
15) Combustible liquid (less than 110 gal)
16) ORM-E.

Reference sources used for determining waste designations and compatibility must meet four distinct needs of the dangerous waste manager and sample collector. They must enable each to:

- Identify those wastes which are designated dangerous in accordance with WAC 173-303 and whether those wastes are DW or EHW
- Determine whether the waste is restricted from land disposal under 40 CFR 268 or WAC 173-303-140 and, as appropriate, complies with treatment standards under 40 CFR 268 or WAC 173-303-140
- Identify and verify specific morphological characteristics of waste in solid or solution form
- Outline how to safely handle, transport, analyze, store, and dispose of the waste product or sample.

Table 3-1. Typical Reference Materials.

1. Condensed Chemical Dictionary, 11th Ed., Hawley, 1987.
2. The Merck Index, 11th Edition, 1989.
3. Registry of Toxic Effects of Chemical Substances, U.S. Department of Health, Education, and Welfare. National Institute for Occupational Safety and Health.
4. The Sigma-Aldrich Library of Chemical Safety Data, 2nd Edition, R. E. Lenga, Ed., 1988.
5. NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, 1985.
6. Handbook of Toxic and Hazardous Chemicals and Carcinogens, Second Edition, Marshall Sittig, Noyes Publications, Park Ridge, New Jersey, 1985.
7. A Method for Determining the Compatibility of Hazardous Wastes, EPA-600/2-80-076, U.S. Environmental Protection Agency, Cincinnati, Ohio, 1980.
8. CRC Handbook of Chemistry and Physics.

9312297 0114

Physical Analysis. Visual validation as a physical analysis procedure is strongly relied upon to confirm the nature of a waste collected or sampled, and to determine the accuracy of the disposal request information received from the generating unit. It is impractical for the waste management organization to chemically analyze each container or vial of waste accepted for storage in 305-B since the amount can exceed 10,000 per year. A more realistic approach to reducing risks to safety and the environment, and one implemented at 305-B, includes trained and experienced personnel performing a visual inspection of the waste and direct inquiry of the generating unit's personnel. The waste is inspected to verify that it matches the description on the disposal request. If the waste is a discarded product, the contents of the container are inspected to verify that they match the description of the product. For other wastes, e.g., spent solvents, waste descriptions are compared with the products in use at the generating unit. Generating unit personnel are queried concerning the source of the waste and the materials used in the process generating the waste. This information is compared to the description of the waste on the disposal request. If, after visual inspection of the waste and interrogation of the generating unit personnel, any doubt remains as to the true identity of the waste, the waste is sampled and analyzed by the generating unit as described in Sections 3.2.1 through 3.2.6.

Waste Collection at the Generating Unit. When satisfactory information has been obtained from the Request for Disposal/Recycle Form, waste management organization staff visit the generating unit site and make a final inspection of the waste containers to determine whether the disposal request form and contents label information match completely. If the information on the disposal request

matches with the container labeling and visual inspection, the wastes are approved for storage. If discrepancies are found, the generating unit is required to resubmit the disposal request with accurate information. Unknown or unidentified materials are sampled by generating unit staff for identification of constituents and remain at the generating unit until the composition has been determined. Generating units must arrange for sampling and analysis of all unknown materials, as described in Sections 3.2.1 through 3.2.6.

Labeling and Marking. After inspection of the waste at the generating unit, the approved wastes are assigned a unique computer identification number and hazard classification. The waste containers are then marked and labeled in compliance with WAC 173-303-190 (DOT marking and labeling), and Washington "Hazardous Waste" markings. Wastes meeting Washington dangerous waste criteria under WAC 173-303-084 or 173-303-090 are marked "Toxic" (for wastes designated WT01 or WT02), "Persistent" (for wastes designated WP01, WP02, or WP03), and/or "Carcinogenic" (for wastes designated WC01 or WC02) in accordance with WAC 173-303-630(3). In addition, each waste container is labeled with a list of constituents and/or an appropriate hazard description. The containers are also labeled indicating compatibility group and cell location, and with a unique computer-generated identification number created by the tracking system described below. This computerized information helps the waste handlers ensure safe handling, storage, retrieval and transportation of dangerous waste.

Transportation. The labeled containers are transported to 305-B by PNL staff. Staff responsible for transporting wastes are trained in applicable DOT requirements and emergency response. Wastes are transported using a truck or light utility vehicle. For transport on roads accessible to the public, the vehicles are placarded in compliance with DOT regulations and manifested in compliance with WAC 173-303-180, as applicable.

Waste Handling, Storage, and Tracking at 305-B. Wastes received at 305-B are put into 13 separate hazard classifications based on building and fire code restrictions for that type of facility:

1) Nonflammable RMW
2) Oxidizers
3) Acids, (organic and inorganic)
4) Poison
5) Caustics
6) Halogenated Hydrocarbons
7) Non-Regulated
8) Miscellaneous (ORM categories)
9) Washington State only waste (e.g., sodium chloride, sodium bicarbonate)
10) Flammable and combustible liquids
11) Flammable and combustible RMW
12) TSCA wastes (PCB and asbestos) waste
13) Special Case wastes (organic peroxides, explosives, etc.)

Each hazard class has designated and clearly identified locations within 305-B. Containers of dangerous waste (10 gal or less) are stored in a specific storage cabinet or shelf designed for that hazard class. The cabinets are located inside the appropriate storage cell (i.e., acid storage cabinet in acid cell). DOT-approved containers (greater than 10 gal capacity) are segregated by hazard class on the main high bay floor in 305-B.

Only sealed containers of nonflammable RMW are received in the below-grade RMW storage area located in the basement of 305-B. Containers of flammable RMW are stored above grade in an area adjacent to the high bay area. Small containers (five gallons or less capacity) are stored in a flammable storage cabinet. Larger containers, if intact, are stored in individual secondary containment devices, such as drip pans or pallets with secondary containment, adjacent to the cabinet. All chemical storage is in accordance with fire protection requirements of the 1988 Uniform Fire Code (International Conference of Building Officials 1988).

Recordkeeping and Inventory Control. A computer tracking system, CHEMHAZ/HAZTRAK, has been developed to ensure that complete records of current inventory, packaging, and shipping data are maintained. Records of the initial waste disposal request form, waste analysis results if required, waste designation, and shipping manifest are maintained. These records are filed, cross-referenced, and transcribed into the computer data base management system. As wastes are received for redistribution or disposal, the containers are labeled with the information described in the Labeling and Marking section above, including a unique computer identification number. This number is also written on the disposal request form. The label information is then entered into the computerized data base, along with the storage location within 305-B.

The endpoint of the process for most wastes is proper packaging and transport of the waste to an approved recycler or treatment/disposal facility. Some commercial chemical products, however, are redistributed to other Hanford Site contractors, as described in Section 10.4. Final computer verification of the history and ultimate disposal of each waste container is entered when the material is shipped from the 305-B unit.

Current waste quantities in inventory are checked weekly and reported to the unit operator, and monthly to the waste management organization manager as a part of the month-ending operation report. The inventory is checked by hazard class and provides a measure of current inventory versus established limits.

If it is determined that 305-B inventory is approaching the limit for a given hazard classification, additional waste of that hazard class is not accepted into 305-B until the inventory has been reduced. In this instance, the generating unit may be required to store the waste at the generator facility until shipment to an offsite facility can be arranged (<90 days).

Unknown Wastes and Waste Constituent Verification. Containers with unknown waste compositions are not accepted at 305-B. In the event that 305-B staff are required to respond to a critical need of a generating unit in the future and pick up an unknown waste, it will be sampled and analyzed as described in Sections 3.2.1 through 3.2.6.

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If, for any reason, 305-B personnel believe that more stringent analysis of non-reagent grade chemical wastes is needed (i.e., flash cans and mixtures), they will request that the generating unit have the wastes analyzed by an approved analytical laboratory. Reasons for this request may be questionable appearance of the waste, periodic confirmation of waste composition, or historically unreliable information from a particular generating unit. There is no established frequency for this sampling and analysis; it is conducted on an as-needed basis. This analysis must be performed in accordance with EPA SW-846 procedures (EPA 1986). Analytical laboratories in the area with these capabilities include IT Analytical Services (ITAS), Hanford Environmental Health Foundation (HEHF), PNL, and Battelle Northwest private laboratories. The generating unit must also provide the laboratory analysis confirming the waste composition when the waste management organization picks up the waste. This analysis will become part of the 305-B Operating Record.

3.2.1 Parameters and Rationale [C-2a]

Waste testing parameters and the rationale for these parameters are summarized in Table 3-2. Testing parameters for each type of unknown waste were selected to obtain data sufficient to properly designate the waste under WAC 173-303-070 and to properly manage the wastes. If limited information on the source of the waste is available, all of the parameters may not be required. For example, if waste oil is known to be from an area where no PCB is present, testing for PCB may not be required.

3.2.2 Test Methods [C-2b]

Waste testing methods and references to these methods are as specified in WAC 173-303-110(3) or approved by Ecology in accordance with WAC 173-303-110(5). These methods are summarized in Table 3-2. All methods are specified in Chemical Testing Methods, WDOE 83-13 (Ecology 1983) and/or Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA SW-846 (EPA 1986).

3.2.3 Sampling Methods [C-2c]

Representative sampling may be requested by unit staff to ensure proper waste identification. Sampling may be performed by unit personnel or the generating unit producing the waste.

In all instances, sampling methods will conform to the representative sample methods referenced in WAC 173-303-110(2), i.e. ASTM standards for solids and SW-846 for liquids. The specific sampling methods and equipment used will vary with the chemical and physical nature of the waste material and the sampling circumstances.

Representative samples of liquid wastes (vertical "core sections") will be obtained using a composite liquid waste sampler (COLIWASA) or tubing, as appropriate. The sampler will be long enough to reach the bottom of the container in order to provide a representative sample of all phases of the containerized liquid waste. If a liquid waste has more than one phase, each phase will be separated for individual testing and designation.

Table 3-2. Summary of Test Parameters, Rationales, and Methods.

Waste Type	Parameter	Rationale	Test Method
Spent halogenated solvent mixtures	Halogenated hydrocarbon content	Persistent dangerous waste per WAC 173-303-084(6)	WDOE persistence testing
	Flash point	Ignitable waste per WAC 173-303-090(5); Flammable waste storage limits	Pensky-Martens closed cup Setaflash closed cup
	Halogenated organic compounds	Land disposal restrictions for solvent and California List wastes	TCLP leachate Volatile organic compounds by GC/MS[1] Semivolatile organic compounds by GC/MS
	PCB content	Land disposal restrictions for California List wastes	TCLP leachate PCBs by GC[2]
Spent nonhalogenated solvent mixtures	Flash point	Ignitable waste per WAC 173-303-090(5); Flammable waste storage limits per UFC	Pensky-Martens closed cup Setaflash closed cup
	PCB content	Land disposal restrictions for California List wastes	TCLP Leachate PCBs by GC
Waste oils	Flash point	Ignitable waste per WAC 173-303-090(5); Flammable waste storage limits; Flammable waste oil subject to requirements under WAC 173-303-515 when burned for energy recovery	Pensky-Martens closed cup Setaflash closed cup

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Table 3-2. (Cont'd).

Waste Type	Parameter	Rationale	Test Method
Waste oils (continued)	PCB content	PCB contaminated wastes with less than 50 ppm PCB may be listed under WAC 173-303-9904; Waste oil with greater than 2 ppm PCB subject to requirements under WAC 173-303-515 when burned for energy recovery	PCBs by GC
	EP toxicity	EP toxic characteristic waste per WAC 173-303-090(8); Waste oil with elevated levels of As, Cd, Cr, Pb subject to requirements under WAC 173-303-515 when burned for energy recovery	EP metals by AA[3]
	Halogenated hydrocarbon content	Persistent dangerous waste per WAC 173-303-084(6); Waste oil with elevated halogens subject to WAC 173-303-510 or -515 when burned for energy recovery	WDOE persistence testing
Aqueous waste	Corrosivity	Corrosive characteristic waste per WAC 173-303-090(6), Land disposal restrictions for California List wastes	pH measurement; steel corrosion rate
	Reactivity	Reactive characteristic waste per WAC 173-303-090(7)	Sulfide - iodometric Cyanide - colorometric
	Toxicity Characteristic	Characteristic waste per WAC 173-303-090(8), Land disposal restrictions for California List wastes	TCLP Leachate EP metals by AA Pesticides by GC

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Table 3-2. (Cont'd).

Waste Type	Parameter	Rationale	Test Method
Aqueous Waste (continued)	Toxicity	Toxic waste mixtures per WAC 173-303-084(5)	Metals by ICP Volatile organic compounds by GC/MS Semivolatile organic compounds by GC/MS Toxicity tests
Organic waste	Flash point	Ignitable waste per WAC 173-303-090(5); Flammable waste storage limits	Pensky-Martens closed cup Setaflash closed cup
	Toxicity	Toxic waste mixtures per WAC 173-303-084(5)	Volatile organic compounds by GC/MS Semivolatile organic compounds by GC/MS Toxicity tests
	Halogenated hydrocarbon content	Persistent dangerous waste per WAC 173-303-084(6)	WDOE persistence testing
	Polycyclic aromatic hydrocarbon content	Persistent dangerous waste per WAC 173-303-084(6)	WDOE persistence testing

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Table 3-2. (Cont'd).

Waste Type	Parameter	Rationale	Test Method
Organic waste (continued)	PCB content	PCB contaminated wastes with less than 50 ppm PCB may be listed under WAC 173-303-9904	PCBs by GC
	Halogenated organic compounds	Land disposal restrictions for solvent and California List wastes	TCLP leachate Volatile organic compounds by GC/MS Semivolatile organic compounds by GC/MS
	Free liquids	Land disposal restrictions for liquid wastes	Paint filter test
Unknown solid waste	Corrosivity	Corrosive characteristic waste per WAC 173-303-090(6)	pH measurement
	Reactivity	Reactive characteristic waste per WAC 173-303-090(7)	Impact apparatus
	TCLP toxicity	TCLP toxic characteristic waste per WAC 173-303-090(8)	TCLP leachate EP metals by AA Pesticides by GC
	Toxicity	Toxic waste mixtures per WAC 173-303-084(5)	Metals by ICP Volatile organic compounds by GC/MS Semivolatile organic compounds by GC/MS Toxicity tests

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Table 3-2. (Cont'd).

Waste Type	Parameter	Rationale	Test Method
Unknown Solid Waste (continued)	PCB content	PCB contaminated wastes with less than 50 ppm PCB may be listed under WAC 173-303-9904	PCBs by GC
	Halogenated organic compounds	Land disposal restrictions for solvent and California List wastes	TCLP leachate Volatile organic compounds by GC/MS Semivolatile organic compounds by GC/MS
	Free liquids	Land disposal restrictions for liquid wastes	Paint filter test

Notes:

[1]GC/MS - Gas Chromatography/Mass Spectroscopy

[2]GC - Gas Chromatography

[3]AA - Atomic Absorption

[4]ICP - Inductively Coupled Plasma Emission Spectroscopy

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Other waste types which may require sampling are sludges, powders, and granules. Nonviscous sludges will be sampled using a COLIWASA. Highly viscous sludges and cohesive solids will be sampled using a trier, as specified in SW-846 (EPA 1986). Dry powders and granules will be sampled using a thief, also as specified in SW-846 (EPA 1986).

Samplers will be constructed of material compatible with the wastes. In general, aqueous liquids will be sampled using polyethylene samplers, organic liquids using glass samplers, and solids using polyethylene samplers. Disposable samplers will be used whenever possible to eliminate the potential for cross-contamination. If nondisposable sampling equipment is used, it will be decontaminated between samples using the guidelines in the unit sampling procedures.

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

3.2.4 Frequency of Analyses [C-2d]

Dangerous waste types listed in Table 3-2 are sampled as needed on an individual container or batch basis before they are collected from the point of generation or prior to shipment offsite. After the dangerous constituents have been characterized, these waste streams will not be analyzed again until process or raw material changes occur.

3.2.5 Additional Requirements for Waste Generated Offsite [C-2e]

All wastes stored at 305-B are generated on the Hanford Site and/or by PNL research programs; in fact, most of the wastes stored in the unit are generated within the 300 Area. Additional requirements for wastes generated outside the 300 Area include proper manifesting (if appropriate) to 305-B and proper packaging for transport over public roadways. Although wastes generated outside of the 300 Area may be considered to be generated offsite since they are transported to 305-B on roads accessible to the public, they are under the same administrative controls as wastes which are generated onsite (i.e., in the 300 Area). There are no additional requirements, therefore, for wastes generated offsite.

3.2.6 Additional Requirements for Ignitable, Reactive, or Incompatible Wastes [C-2f]

As described in Section 2.1, wastes stored at 305-B are divided into DOT hazard classes and stored in separate locations to ensure compatibility. The testing parameters identified in Table 3-2 are sufficient to properly identify the hazard class of unknown wastes and assure proper separation of incompatible wastes. The parameters in Table 3-2 are also appropriate to identify ignitable wastes to ensure that these wastes are stored in appropriate locations. The test parameters will also allow identification of those ignitable wastes which are also flammable wastes (i.e., flash point less than 100°F or 38°C).

Identification of flammable wastes is necessary since there are restrictions on the amount of flammable liquids that can be stored in 305-B.

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CONTENTS

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FIGURES

TABLES

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4.0 PROCESS INFORMATION [D]

4.1 CONTAINERS [D-1]

The following sections describe the types of containers stored at the 305-B Storage Unit.

4.1.1 Containers With Free Liquids [D-1a]

Containers with free liquids are discussed below.

4.1.1.1 Description of Containers [D-1a(1)]. Most wastes stored at the 305-B Storage Unit are received in their original, as-procured containers. Containers of hazardous materials entering 305-B are inspected before being accepted for storage. Generating units are responsible for placing the materials in adequate containers. Repackaged materials must be placed in containers that are new and compatible with the materials to be stored.

Containers in poor condition or inadequate for storage are not accepted at the unit. If transport is by unit personnel, such containers are not accepted for transport. See Section 6.4.1 for inspection prior to transport performed by unit personnel. "Container in poor condition or inadequate for storage" means a container which is not intact, undamaged which is securely sealed to prevent leakage during storage, transport and ultimate offsite disposal. Examples of acceptable packagings include laboratory reagent bottles, DOT containers, spray cans, sealed ampules, paint cans, leaking containers which have been overpacked, etc. Unit operations personnel have the authority to determine whether a container is in poor condition or inadequate for storage, using the criteria of WAC 173-303-190 and professional judgement whether the packaging may leak during handling, storage and/or disposal.

As with all wastes, repackaged containers of dangerous waste are marked and/or labeled to describe the contents of the container and the major hazards of the waste, as required under WAC 173-303. Containers are also marked with a unique identifying number assigned by the unit's computerized waste tracking system.

All flammable liquid wastes are stored in compatible DOT-specified shipping containers and/or in Underwriter's Laboratory (UL)-listed and Factory Mutual (FM)-approved flammable storage cabinets. Solid chemicals are stored on shelving in specifically designated areas based on the DOT hazard classification.

All containers utilized for offsite transport of dangerous wastes at the unit are selected according to the container selection criteria found in WAC 173-303-190(1).

4.1.1.2 Container Management Practices [D-1a(2)]. Management practices and procedures for containers of dangerous waste are in place at the 305-B Storage Unit to assure the safe receipt, handling, preparation for transport, and transportation of wastes. These practices and procedures are summarized below.

Inspection of Containers. A system of daily, weekly, monthly, and yearly inspections is in place to ensure container integrity, check for proper storage

location, prevent capacity overrun, etc. These inspection procedures are detailed in Section 6.2.

Container Handling. All unit staff are instructed in proper container handling safeguards as part of their training (see Section 8.1.2 for further details). For example, employees are instructed to open all high-vapor-pressure liquids in the flammable liquid bulking module to avoid buildup of vapors in the unit. Containers are always kept closed except when adding or removing waste, in accordance with WAC 173-303-630(5)(a).

Containers are not opened, handled or stored in a manner which would cause the container to leak or rupture. Small containers (five gallons or less capacity) are stored on ventilated shelving or in approved flammable liquid storage lockers (if appropriate). Containers over five gallons capacity are stored on the floor of the appropriate storage cell, in cabinets, or stored in the appropriate containment area on the high bay floor under Section 4.3.2. Unnecessary handling not required for redistribution or preparation for transport and disposal by either labpacking or bulking (see below) is minimized. Drums are moved manually, by crane or chain hoist, or with an electric forklift. For manual movement, hand trucks specifically designed for drum handling are used. Crane and chain hoist operations are performed using a choker chain or drum hoist. When using the forklift, a drum hoist is used or the drums are carried on pallets. Drums are never carried on the forks or "speared" by slipping the forks under the chime.

When waste handling operations are conducted, a minimum of two persons are present in the unit.

Lab Packing. One of the major functions of the 305-B Storage Unit is the preparation of lab packs for offsite recycling, treatment and/or disposal of small quantity lab wastes generated by DOE-RL/PNL activities.

Lab packs are prepared in compliance with WAC 173-303-161, 49 CFR 173.12, other applicable regulations, and permit conditions of the planned receiving facility (recycler, treatment facility, or disposal facility). Permit conditions affecting preparation of lab packs might include types of absorbent materials to be used (e.g., no vermiculite).

Lab packs are prepared in the storage cell containing the hazard class(es) to be placed in the lab pack. The elephant trunk ventilator system is used to minimize respirable dusts from the absorbent material being used (usually diatomaceous earth). Lab packs may also be prepared in the flammable liquid bulking module if appropriate; for instance, if compatible materials from more than one storage cell are being combined in a single lab pack drum. Lab packs may be prepared in the high bay storage area if storage of the completed lab pack is permitted there per Section 4.3.2.

Partial and completed lab packs are closed, labeled, and the contents list documented. Labpacks are stored in the cell from which the containers inside were drawn, or in the high bay if appropriate.

Unit personnel wear appropriate protective clothing while handling containers being placed in lab packs. At a minimum this includes coveralls, safety glasses or other protective eyewear, and chemical resistant gloves. More stringent

requirements, including use of respiratory protection, may be imposed if appropriate.

Bulking. In order to promote greater recycling or treatment of wastes and reduce land disposal, some liquid wastes are "bulked" into larger containers, typically 30- or 55-gallon closed head drums. Bulking operations for chemicals which are respiratory or flammability hazards are performed in the "flammable liquid bulking module" located in the southwest corner of the unit. Bulking of nonvolatile, low hazard wastes such as saline solutions or ethylene glycol may be done within the containment areas of the appropriate storage cell or high bay.

Wastes to be bulked are fully characterized under the 305-B unit waste analysis plan in Section 3.2. Compatibility is determined using the information from generating unit designation information, process knowledge, laboratory analyses, and/or the compatibility determinations described in Section 6.5.2.

Containers are transported by hand or forklift to the flammable liquid bulking module area. The receiving drum (typically 30- or 55-gallon capacity) is placed in the module and the ventilation system is activated. A large chemically-resistant funnel (either metal or plastic, depending on material to be introduced) is used to pour the material into the drum. The contents of the smaller containers are then poured, one at a time, into the larger drum. The receiving drum is monitored by unit personnel to make sure no incompatibility is observed (e.g., fuming, bubbling, or heat generation). If such incompatibility is observed, no further material is added and the worker leaves the area, closing the module and leaving the ventilation on. The unit supervisor is notified to evaluate implementation of the contingency plan.

Glass containers which have been emptied (as defined by WAC 173-303-160(2)) as a result of bulking activities are crushed onsite by an electric glass crusher which mounts on a 55-gallon drum. If an emptied glass container held acutely hazardous waste, as defined by WAC 173-303-040(2), the container is rinsed at least three times with an appropriate cleaner or solvent prior to being destroyed. The rinsates are managed as dangerous waste. Crushed glass is managed as solid waste in accordance with WAC 173-303-160(3).

Once bulking is complete, the bulk container is closed, labeled, and the contents list documented. Containers of bulked waste are stored in the cell from which the containers inside were drawn, or in the high bay if appropriate.

Unit personnel wear appropriate protective clothing while bulking containerized liquid wastes. At a minimum this includes coveralls, disposable splash-resistant apron, eye protection, and chemical resistant gloves. More stringent requirements, including use of respiratory protection, may be imposed if appropriate.

4.1.1.3 Secondary Containment System Design and Operation [D-1a(3)]. Several design features have been engineered into the construction of the 305-B Storage Unit as added safeguards for containment of dangerous waste spills or leaks. Design drawings for 305-B are included in Appendix 4A. The following subsections comment briefly on each of the design features.

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4.1.1.4 Requirement for Base or Liner to Contain Liquids [D-1a(4)]. The base of the facility consists of a 6-in. reinforced, poured concrete slab with no cracks or gaps. The concrete was mixed in accordance with ASTM 094, Section 5.3, Alternate 2, and all exposed surfaces were finished with a smooth trowelled surface. Expansion joint material is Sonneborn "Sonoflex F™" polyethylene filler. The bonding compound used at the expansion joints was Sonneborn "Sonobond™" two-part epoxy. All edges and corners were sealed with a continuous bead of polysulfide sealant.

A chemically resistant sealant paint was applied in February 1989 to the storage cells and high bay floor, and in October 1990 to drum storage areas noted in Sections 4.1.1.6.6, 4.1.1.6.7, and 4.1.1.6.8. Specific areas of 1989 application are shown on Plate 4-1 and painting methods (surface preparation and application of coatings) are described on Plate 4-2 of Appendix 4A of this permit application. The surface coating is Coronado #101-1 (101 Series) Polyamide Epoxy Coating. Estimated service life of the coating material is 14 years per manufacturer's literature. Performance specifications and a compatibility chart are provided in Appendix 4B.

The condition of the floor coating is inspected weekly per Section 6.2.1.1, and repairs are made as needed. Immediate repairs are indicated whenever the coating is observed to have been chipped, bubbled up, scraped, or otherwise damaged in a manner which would significantly impact the ability of the coating to contain spilled materials. Minor nicks and small chips resulting from normal operations will be repaired on a periodic basis. Repairs are performed in accordance with procedures provided by the manufacturer in Appendix 4B.

4.1.1.5 Containment System Drainage [D-1a(5)]. The concrete floors in each high bay storage cell are canted toward individual secondary containment trenches within those cells. These trenches are isolated from each other in order to prevent interaction, reactions, or offsite migration of spilled materials. This provides protection even during simultaneous spills.

The floors in the high bay area are also canted toward a separate sump system which is sealed with epoxy and blocked to prevent drainage. Drums stored in this area are also stored on pallets to prevent contact with spilled material in the event of a release. Segregated storage areas for incompatible materials have been set up in the high bay storage area to prevent commingling of spilled wastes during a catastrophic (multi-drum) spill incident. Each area has its own containment trench separated from other trenches with concrete and epoxy.

The flammable liquids bulking module, along with its purpose of providing a ventilated area for bulking of compatible hydrocarbon wastes, is used as an independent storage cell. Secondary containment is provided by the walls of the module, which have been sealed at the floor joint by use of grout coated with epoxy paint.

For protection of the basement RMW storage area, curbing/diking is provided to prevent migration. Drums are stored on pallets to prevent container contact with spilled materials and drip pans are provided to segregate RMW by dangerous waste characteristic as described in Section 4.1.1.6.11. This area has no drainage.

Flammable RMW is stored within its own secondary containment devices. Small containers of flammable RMW are stored in a storage cabinet as noted in Section 4.3.1. Larger containers are stored in individual secondary containment devices (i.e., drip pans) to prevent runoff or mingling of spilled contents as described in Section 4.1.1.6.10.

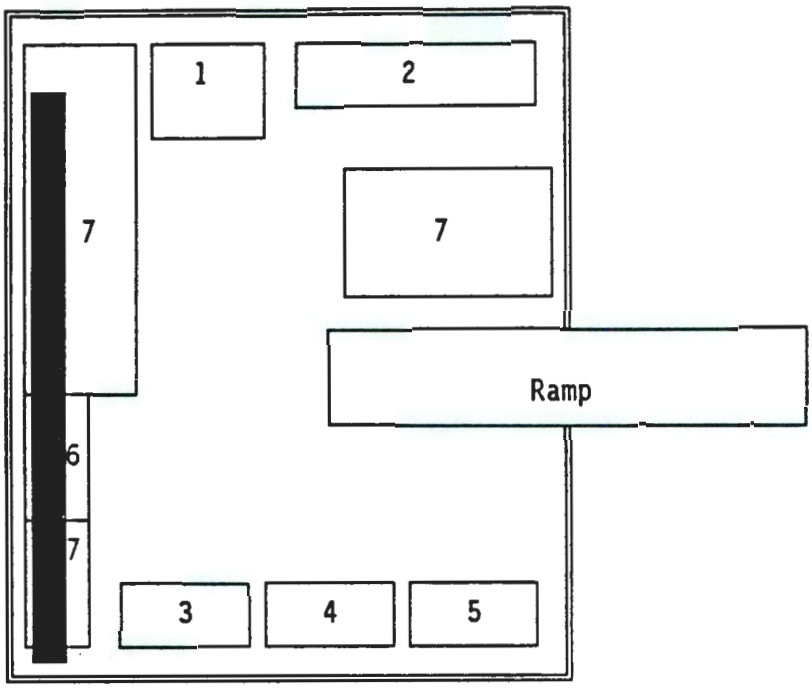
4.1.1.6 Containment System Capacity [D-1a(6)]. Secondary containment is provided for all dangerous wastes stored at the 305-B unit. All floors in the high bay area are sloped toward sumps which have no drains and are covered with grating to prevent safety hazards. In addition, all floors in the high bay area are coated with an epoxy based coating as described in Section 4.1.1.4. Inspection of the containment system to maintain integrity is described in Section 6.2. Individual secondary containment systems are configured as follows:

4.1.1.6.1 Acids and Oxidizers Cell. The acids and oxidizers cell is located at the northwest corner of the 305-B unit high bay floor. The cell is constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump at the west end of the cell. Five cabinets, open shelving, and a large-container storage area are provided within the cell to store containers of recyclable materials and dangerous wastes. The secondary containment volume of the individual sump for this cell is 67 gallons, and the total containment volume of the cell is 774 gallons. Storage capacity of the cell is limited by the UBC to not more than 55 gallons of liquid (inorganic or noncombustible organic) acids, 6000 cubic feet of oxidizing gases, 50 gallons of oxidizing liquids, 1000 lbs of ammonium nitrate and ammonium nitrate mixtures, and 500 lbs of solid oxidizers. A diagram of the cell is provided in Figure 4-1.

4.1.1.6.2 Poisons and ORM Cell. The poisons and ORM cell is located just south of the acids and oxidizers cell along the west wall of the high bay. This cell is also constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump along its west end. One storage cabinet and several sets of open shelving are positioned in the cell to allow storage of various sizes of containers. The northeast corner of the cell is sectioned off with a 6" spill retention berm to allow PCB storage for disposal complying with 40 CFR 761.65(b). The secondary containment volume of the individual sump for this cell is 117 gallons, and the total containment volume of the cell is 782 gallons. Due to space limitations, no more than 800 gallons of liquid poisons and/or ORMs will be stored at one time. There is no UBC restriction on storage of poisons or ORMs at the 305-B unit. A diagram of this cell is provided in Figure 4-2.

4.1.1.6.3 Caustics, Washington-Only Wastes, and Non-Regulated Waste Cell. The caustics, Washington-only waste, and non-regulated waste cell is located adjacent to the poisons and ORM cell on the west wall of the high bay area. This cell is also constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump along its west end. Two storage cabinets and two sets of open shelving are positioned in the cell to allow storage of various sizes of containers. The secondary containment volume of the individual sump for this cell is 137 gallons, and total containment volume of the cell is 764 gallons. Due to space limitations, no more than 800 gallons of liquids will be stored at one time in this cell, no more than 55 gallons of which may be caustics due to UBC restrictions. A diagram of this cell is provided in Figure 4-3.

9 3 1 2 9 7 0 4 2 2



Scale: 1/4"=1' prox.

LEGEND

1 Liquid oxidizers & organic peroxides (Large Cabinet)
2 Solid oxidizers & acids (Large Shelf)
3 Inorganic acids (Small Cabinet)
4 Organic acids (Small Cabinet)
5 New acids stored for redistribution (Small Cabinet)
6 Inorganic acids (Small Cabinet)
7 Drum & carboy storage area

‖ 6" concrete block wall (4'2" high, epoxy coated)

■ Secondary Containment Trench

Figure 4-1. Acids and Oxidizers Cell.

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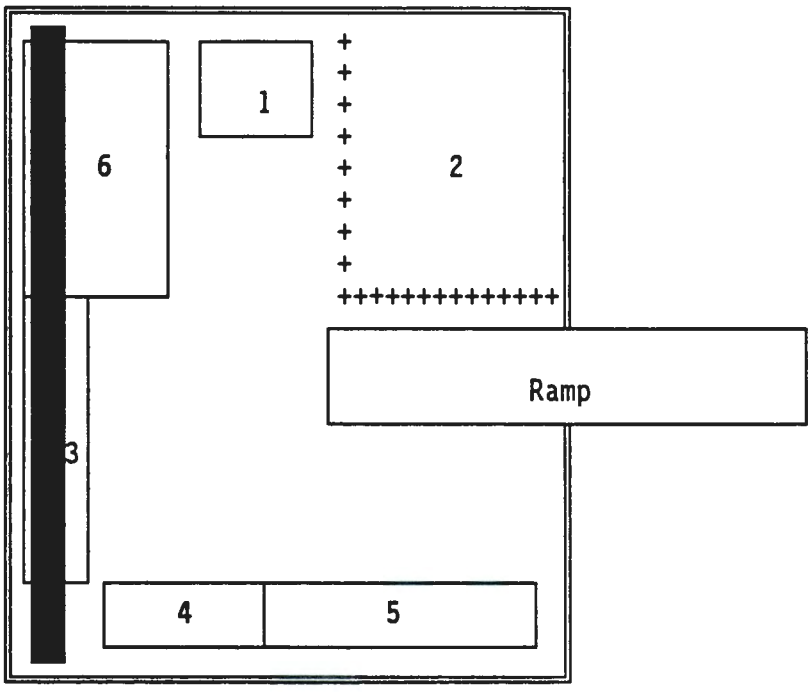


Scale: 1/4"=1' prox.

LEGEND

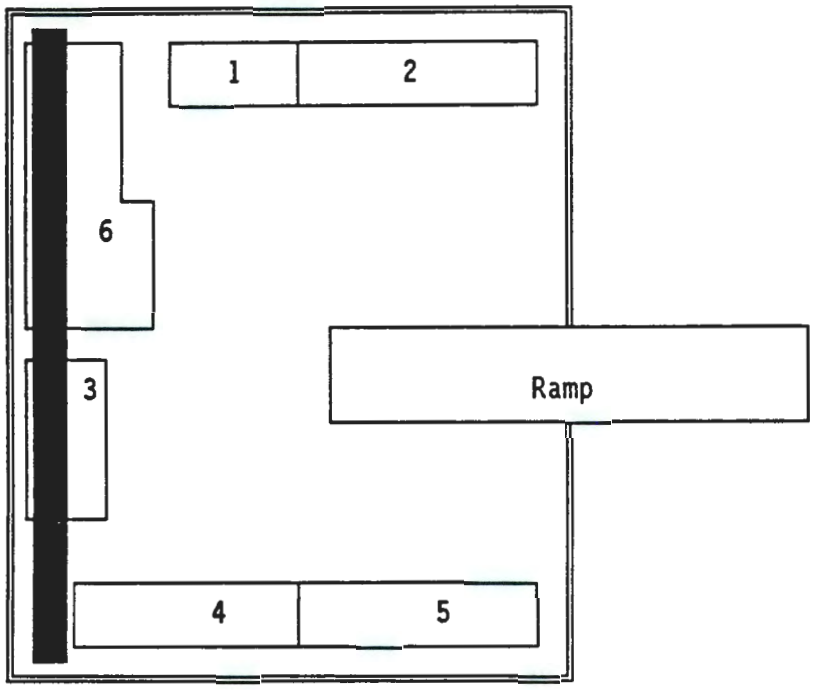
1 Poisons (Large cabinet)
2 PCB Storage for Disposal
3 Poisons & ORMs for redistribution (Large shelf)
4 ORMs (Small shelf)
5 ORM-Es (Large shelf)
6 Drum & Carboy Storage Area

‖ 6" concrete block wall (4'2" high, epoxy coated)

\+ 6" high steel curbing (epoxy coated)

■ Secondary Containment trench (epoxy coated)

Figure 4-2. Poisons and ORM Cell.



Scale: 1/4"=1' prox.

LEGEND

1 Caustics (Small cabinet)
2 Washington dangerous waste (Large shelf)
3 Washington dangerous waste & nonregulated for redistribution (Small cabinet)
4 Washington dangerous waste (Large shelf)
5 Nonregulated (Large shelf)
6 Drum & Carboy storage area

‖ 6" concrete block wall (4'2" high, epoxy coated)

■ Secondary Containment Trench

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Figure 4-3. Caustics, Washington-Only Wastes, and Non-Regulated Waste Cell.

4.1.1.6.4 Organics Cell. This cell is located south of the caustics, Washington-only waste, and non-regulated waste cell. As with the other three cells described above, this cell is constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump along its west end. The secondary containment volume of the individual sump for this cell is 119 gallons, and total containment volume of the cell is 687 gallons. A diagram of this cell is provided in Figure 4-4.

Organic waste materials are stored in this cell unless they are non-ignitable and exhibit the characteristics of corrosivity or reactivity. Seven Factory Mutual-approved flammable liquid storage cabinets are utilized for storage of various classes of flammable liquids as defined by the UFC. The capacities of the various cabinets are shown in Section 4.3.1.

Total ignitable Waste Storage capacity of the 305-B highbay, including the organics cell, Ignitable drum storage area and highbay storage area is limited by the following UBC restrictions for Class B occupancy:

- Class 1A flammable liquids: 120 gallons
- Class 1B flammable liquids: 240 gallons
- Class 1C flammable liquids: 360 gallons
- Maximum Class 1A, 1B, and 1C at any one time: 480 gallons
- Class 2 combustible liquids: 480 gallons
- Class 3A combustible liquids: 1320 gallons
- Combustible fibers, loose: 100 cubic feet
- Combustible fibers, baled: 1000 cubic feet
- Flammable gases in any one cylinder: 3000 cubic feet
- Liquefied flammable gases: 60 gallons

To maintain required aisle spaces and functional usability, the liquid capacity of the hydrocarbon cell is set at 1000 gallons.

4.1.1.6.5 Flammable Liquids Bulking Module. The flammable liquids bulking module, along with its purpose of providing a ventilated area for bulking of compatible hydrocarbon wastes, is used as an independent storage cell. Secondary containment is provided by the walls of the module, which have been sealed at the floor joint by use of grout coated with epoxy paint.

Nontransient storage of flammable liquids in the module is 55 gallons. A diagram of the module is provided in Figure 4-5.

4.1.1.6.6 Ignitable Waste Drum Storage Area. A section of the high bay has been dedicated to storage of drum quantities of ignitable waste prior to offsite shipment. The area is bordered on the north and south sides by angle iron (3½"x6") bolted to the floor (see Plate 2, Appendix 4A for detail) and sealed to provide secondary containment. The area is approximately 15'x7'. To further enhance containment and to allow greater storage capacity, the drums stored in this area are stored in flammable liquid drum storage cabinets.

Sump containment capacity of this area is approximately 224 gallons and total containment capacity is approximately 431 gallons. Maximum storage in this area is six 55-gallon drums and 12 five-gallon drums. A diagram of this area is included in Figure 4-6.

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Additional ignitable waste storage is provided for in cell 4, organics cell, and the in the Highbay storage area. All of this ignitable waste storage is provided for utilizing flammable liquid storage cabinets for added safety.

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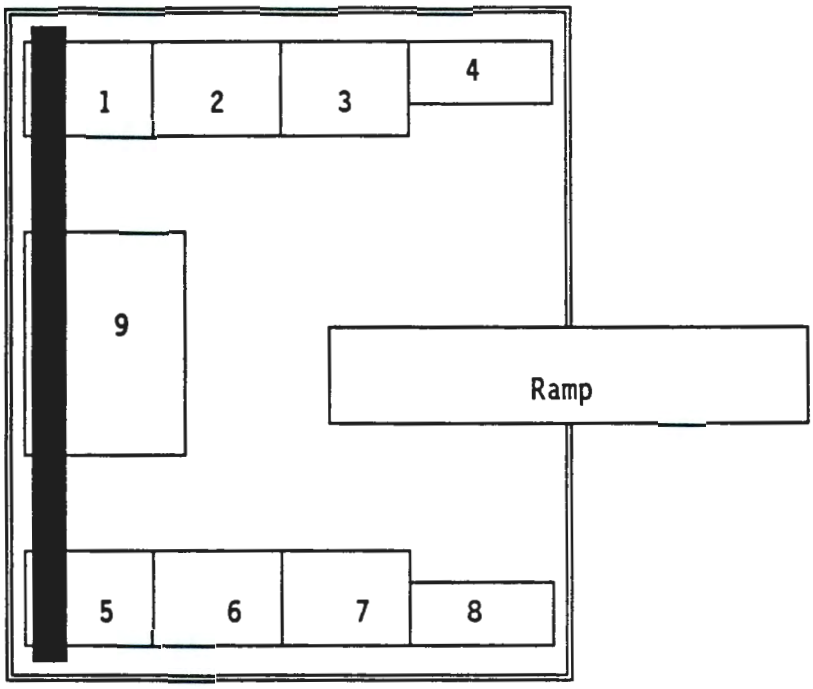

Scale: 1/4"=1' prox.

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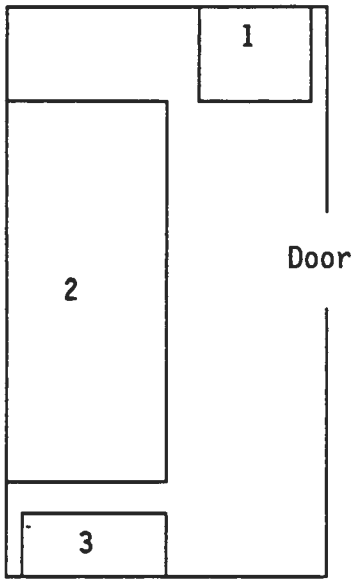
LEGEND

1 Halogenated hydrocarbons (Large cabinet)
2 Flammable/combustible liquids (Large cabinet)
3 Flammable/combustible liquids (Large cabinet)
4 Flammable liquids (Small cabinet) (stored for bulking)
5 Flamamble compressed aerosol containers (Large cabinet)
6 Flammable solids (Large cabinet)
7 Organic Liquids for redistribution (combustible, falmmable & halogenated) (Small cabinet)
8 Compressed gas cylinders, lecture bottles, (Small cabinet)
9 Drum & Carboy storage areas

‖ 6" concrete block wall (4'2" high, epoxy coated)

■ Secondary Containment trench

Figure 4-4. Organics Cell.



Scale: 1/4" = 1' prox.

LEGEND

1 Nontransient drum storage (Small drum cabinet)

2 Walk in hood (flammable liquid bulking, 1 drum max.)

3 Nonflammable compressed gas storage

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Figure 4-5. Flammable Liquids Bulking Module.

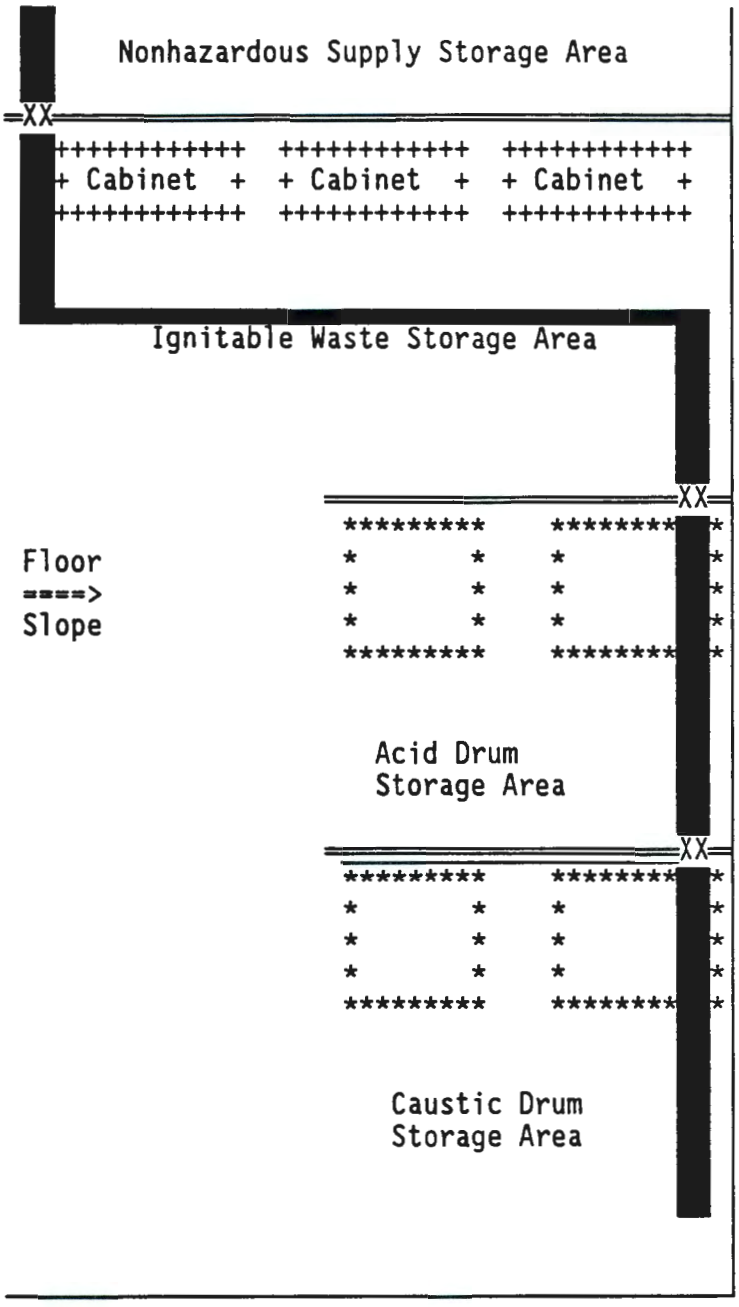


Figure 4-6. Segregated High Bay Drum Storage Areas.

9 3 1 2 2 7 0 4 3 0

4.1.1.6.7 Acid Waste Drum Storage Area. A section of the high bay has been dedicated to storage of drum quantities of acid waste prior to offsite shipment. The area is constructed similarly to the ignitable waste drum storage area (see above) and is also 10'x7' in size. Waste drums stored in this area are stored on pallets to prevent contact with spilled wastes in the event of an incident.

Sump containment capacity in this area is approximately 55 gallons and total containment capacity is approximately 255 gallons. Maximum storage in this area will be eight 55-gallon drums. A diagram of this area is included in Figure 4-6.

4.1.1.6.8 Caustic Waste Drum Storage Area. A third section of the high bay has been designated for storage of drum quantities of caustic waste prior to offsite shipment. The area is constructed similarly to the ignitable waste drum storage area (see above) and is approximately 10'x10' in size. Waste drums stored in this area are stored on pallets to prevent contact with spilled wastes in the event of an incident.

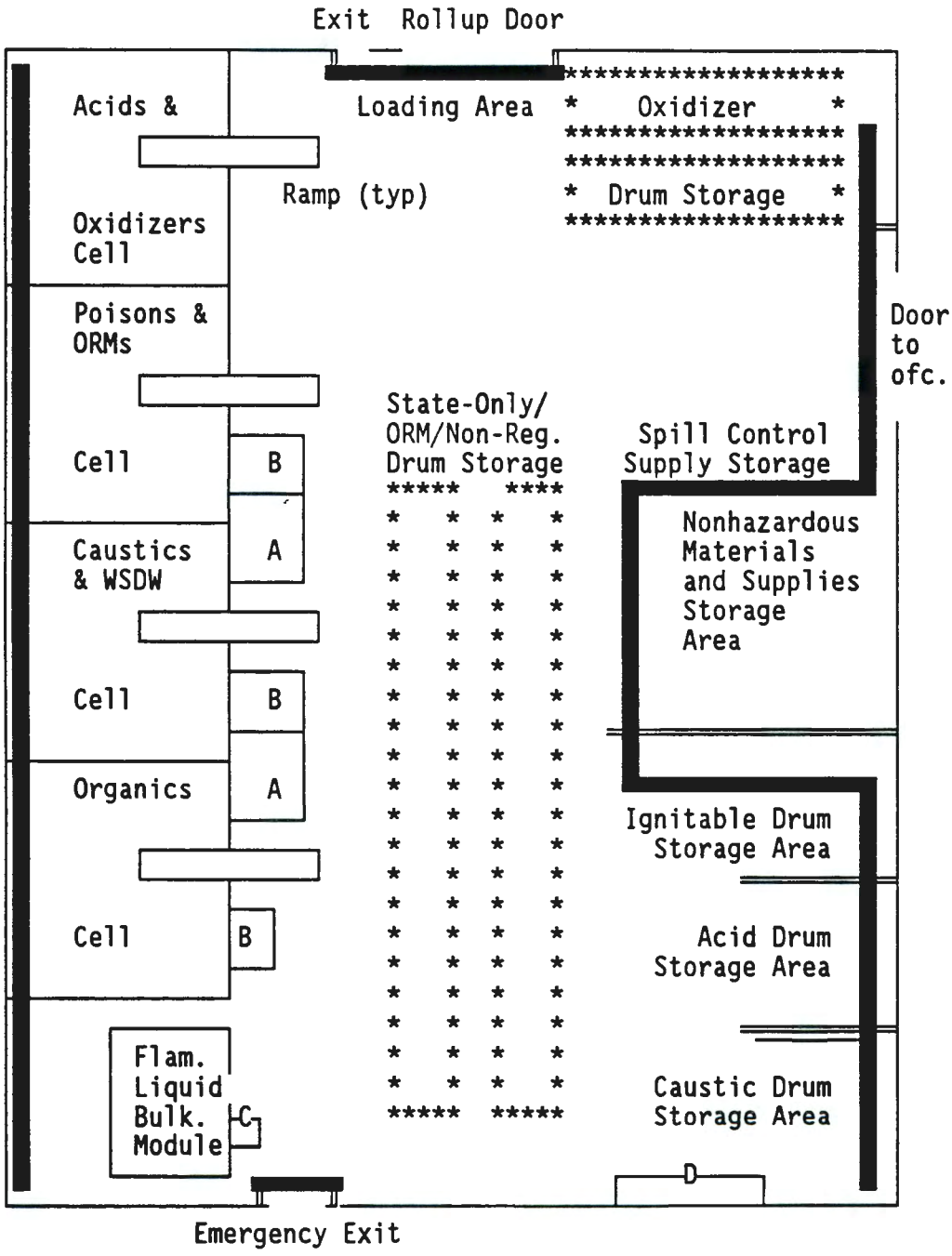
Sump containment capacity in this area is approximately 55 gallons and total containment capacity is approximately 335 gallons. Maximum storage in this area is eight 55-gallon drums. A diagram of this area is also included in Figure 4-6.

4.1.1.6.9 High Bay Storage Area. The high bay storage area, along with its partitioned areas mentioned above, is itself a secondary containment area for loading, unloading, and storage of dangerous wastes. The high bay floor is "crowned" in the center and sloped at ¼" per foot, with drainage to sumps on the east and west sides of the unit. Sump locations are indicated in Figure 4-7.

Due to space limitations in the individual cells, and for ease of mechanical handling, the high bay floor is typically used for storage of nonradioactive chemicals in drums. There is also capacity for six drums of ignitable waste storage inside of four flammable liquid drum storage cabintes located along the west side of the high bay (see Figure 4-7).

The high bay floor is also used to store labpacks and bulked waste containers prior to offsite shipment to licensed treatment, disposal, or recycling facilities. Generally, only ignitable wastes (oxidizers), toxic organic solvent mixtures (typically halogenated solvents), antifreeze mixtures, contaminated water which is toxic DW, nonliquid wastes, ORMs, or state-only dangerous waste materials are stored in the high bay storage area.

If wastes incompatible with the foregoing are stored in the high bay storage area, they are kept separated by at least ten feet of distance and stored in individual drip pans for segregation in case of simultaneous accidental spillage. Compatibility of the materials is determined prior to acceptance in accordance with Section 3.2.



Scale: 1"=10' prox.

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Figure 4-7. High Bay Storage Area. (Page 1 of 2)

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LEGEND -- HIGH BAY STORAGE AREA DIAGRAM

***	Boundary of palletized drum storage areas
═══	3½" x 6" angle iron sealed to floor as inflow control to trench (see construction detail, App. 4A, Plate 2)
═══	4'H x 10'L Stainless Steel Splash Wall
■	Secondary containment trenches
A	Large Drum Storage Cabinet (flammable labpack or bulked drum storage)
B	Small Drum Storage Cabinet (flammable labpack or bulked drum storage)
C	Small Storage Cabinet (asbestos)
D	Material Handling Hood

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Figure 4-7. High Bay Storage Area. (Page 2 of 2)

The secondary containment volume of the sumps in the high bay storage area, exclusive of the sumps within individual areas described above, is 565 gallons. Maximum storage in the high bay storage area is thus approximately 5650 gallons (102 drums). The high bay storage is also governed by the building occupancy maximums of Table 4-1, which includes the inventory of the individual storage cells described above. In order to provide additional separation from spilled liquids and for ease of handling, all drums stored on the high bay floor are stored on pallets. A diagram of this cell is provided in Figure 4-7.

4.1.1.6.10 Flammable RMW Storage Area. Due to UBC restrictions, flammable radioactive mixed waste cannot be stored in the basement of 305-B with the other radioactive mixed waste. The flammable RMW received by 305-B for storage prior to disposal is stored in a separate area above grade in the east portion of the building in a 7'x 7'x 7' flammable liquid storage module. The module is Factory Mutual approved and has four-hour fire rated walls and doors. The module has a self-contained internal dry chemical fire suppressant system. The module has a 90-gallon polyethylene coated sump. The module is lag bolted to the concrete floor in the flammable RMW storage area indicated in Figure 2-3. The module has a storage capacity of four 55-gallon drums, or up to 250 gallons of total capacity of all containers stored, whichever is less. A diagram of this cell is provided in Figure 4-8.

4.1.1.6.11 RMW Storage Area. Radioactive mixed waste which is not flammable per UBC (i.e. flash point above 100°F) is stored in a special area in the basement of 305-B. This area has a 3" high curb to provide secondary containment, sealed with epoxy paint. For additional segregation capability, four 5' x 5' deep stainless steel "container pans" are bolted to the floor or wall of the cell to provide segregated storage for potentially incompatible RMW streams. Drums stored in this area are stored on pallets to prevent potential contact with spilled waste in containment during an emergency.

The secondary containment volume of each pan is approximately 62 gallons and the total for the area within the curbing is 1246 gallons. In normal use, the storage capacity of this area is limited by the radionuclide limits imposed by the Department of Energy for "low inventory facilities." These limitations are shown in Table 4-2. A diagram of this cell is provided in Figure 4-9.

4.1.1.7 Control of Run-On [D-1a(7)]. The 305-B Storage Unit was designed to eliminate the likelihood of on-site, or for that matter, off-site migration via run-on and run-off. The facility is completely enclosed (i.e., complete roof and no open walls) and has been constructed upon a foundation so that precipitation cannot cause either run-on or run-off problems.

4.1.1.8 Removal of Liquids from Containment System [D-1a(8)]. Upon discovery of liquid accumulation in the containment resulting from a spill or other release, the BED must be contacted in accordance with the 305-B contingency plan (Chapter 7). The BED may determine that the contingency plan should be implemented. If the incident is minor, and the BED approves, removal of the liquids will commence immediately following a safety evaluation. Appropriate protective clothing and respiratory protection will be worn during removal activities; a PNL industrial

Table 4-1. Uniform Building Code Storage Restrictions.

TABLE NO. 9-A—EXEMPT AMOUNTS OF HAZARDOUS MATERIALS, LIQUIDS AND CHEMICALS PRESENTING A PHYSICAL HAZARD

BASIC QUANTITIES PER CONTROL AREA[1]

When two units are given, values within parentheses are in cubic feet (Cu. Ft.) or pounds (Lbs.)

CONDITION		STORAGE[2]			USE[2] — CLOSED SYSTEMS			USE[2] — OPEN SYSTEMS		
MATERIAL	CLASS	Solid Lbs. (Cu. Ft.)	Liquid Gallons (Lbs.)	Gas Cu. Ft.	Solid Lbs. (Cu. Ft.)	Liquid Gallons (Lbs.)	Gas Cu. Ft.	Solid Lbs. (Cu. Ft.)	Liquid Gallons (Lbs.)	Gas Cu. Ft.
1.1 Combustible liquid[3]	II	—	120[4,5]	—	—	120[4]	—	—	30[4]	—
	III-A	—	330[4,5]	—	—	330[4]	—	—	80[4]	—
	III-B	—	13,200[5,6]	—	—	13,200[6]	—	—	3,300[6]	—
1.2 Combustible dust lbs./1000 cu. ft.		1[7]	—	—	1[7]	—	—	1[7]	—	—
1.3 Combustible fiber (loose)		(100)	—	—	(100)	—	—	(20)	—	—
(baled)		(1,000)	—	—	(1,000)	—	—	(200)	—	—
1.4 Cryogenic, flammable or oxidizing			45	—	—	45	—	—	10	—
2.1 Explosives		1[5,8,9]	(1)[5,8,9]	—	1/4[8]	(1/4)[8]	—	1/4[8]	(1/4)[8]	—
3.1 Flammable solid		125[4,5]	—	—	25[4]	—	—	25[4]	—	—
3.2 Flammable gas (gaseous)		—	—	750[4,5]	—	—	750[4,5]	—	—	—
(liquefied)		—	15[4,5]	—	—	15[4,5]	—	—	—	—
3.3 Flammable liquid[3]	I-A	—	30[4,5]	—	—	30[4]	—	—	10[4]	—
	I-B	—	60[4,5]	—	—	60[4]	—	—	15[4]	—
	I-C	—	90[4,5]	—	—	90[4]	—	—	20[4]	—
Combination 1-A, I-B, I-C		—	120[4,5,10]	—	—	120[4,10]	—	—	30[4,10]	—
4.1 Organic peroxide, unclassified detonatable		1[5,8]	(1)[5,8]	—	1/4[8]	(1/4)[8]	—	1/4[8]	(1/4)[8]	—
4.2 Organic peroxide	I	5[4,5]	(5)[4,5]	—	(1)[4]	(1)[4]	—	1[4]	1[4]	—
	II	50[4,5]	(50)[4,5]	—	50[4]	(50)[4]	—	10[4]	(10)[4]	
	III	125[4,5]	(125)[4,5]	—	125[4]	(125)[4]	—	25[4]	(25)[4]	—
	IV	500	(500)	—	500[4]	(500)	—	100	(100)	—
	V	N.L.	N.L.	—	N.L.	N.L.	—	N.L.	N.L.	—
4.3 Oxidizer	4	1[5,8]	(1)[5,8]	—	1/4[8]	(1/4)[8]	—	1/4[8]	(1/4)[8]	—
	3	10[4,5]	(10)[4,5]	—	2[4]	(2)[4]	—	2[4]	(2)[4]	—
	2	250[4,5]	(250)[4,5]	—	250[4]	(250)[4]	—	50[4]	(50)[4]	—
	1	1,000[4,5]	(1,000)[4,5]	—	1,000[4]	(1,000)[4]	—	200[4]	(200)[4]	—
4.4 Oxidizer—Gas (gaseous)		—	—	1,500[4,5]	—	—	1,500[4,5]	—	—	—
(liquefied)		—	15[4,5]	—	—	15[4,5]	—	—	—	—
5.1 Pyrophoric		4[5,8]	(4)[5,8]	50[5,8]	1[8]	(1)[8]	10[5,8]	0	0	0
6.1 Unstable (reactive)	4	1[5,8]	(1)[5,8]	10[5,8]	1/4[8]	(1/4)[8]	2[5,8]	1/4[8]	(1/4)[8]	0
	3	5[4,5]	(5)[4,5]	50[4,5]	1[4]	(1)[4]	10[4,5]	1[4]	(1)[4]	0
	2	50[4,5]	(50)[4,5]	250[4,5]	50[4]	(50)[4]	250[4,5]	10[4]	(10)[4]	0
	1	125[4,5]	(125)[4,5]	750[4,5]	125[4]	(125)[4]	750[4,5]	25[4]	(25)[4]	0
7.1 Water (reactive)	3	5[4,5]	(5)[4,5]	—	5[4]	(5)[4]	—	1[4]	(1)[4]	—
	2	50[4,5]	(50)[4,5]	—	50[4]	(50)[4]	—	10[4]	(10)[4]	—
	1	125[5,6]	(125)[5,6]	—	125[6]	(125)[5,6]	—	25[6]	(25)[6]	—

N.L. = Not limited.

[1]Control area is a space bounded by not less than a one-hour fire-resistive occupancy separation within which the exempted amounts of hazardous materials may be stored dispensed, handled or used. The number of control areas within a building used for retail and wholesale stores shall not exceed two. The number of control areas in buildings with other uses shall not exceed four.

[2]The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

[3]The quantities of alcoholic beverages in retail sales uses are unlimited provided the liquids are packaged in individual containers not exceeding four liters.

The quantities of medicines, foodstuffs and cosmetics containing not more than 50 percent of volume of water-miscible liquids and with the

(Continued)

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Table 4-1. (Continued)

(Continued)

remainder of the solutions not being flammable in retail sales or storage occupancies are unlimited when packaged in individual containers not exceeding four liters.

[4]Quantities may be increased 100 percent in sprinklered buildings. When Footnote 5 also applies, the increase for both footnotes may be applied.

[5]Quantities may be increased 100 percent when stored in approved storage cabinets or safety cans as specified in the Fire Code. When Footnote 4 also applies, the increase for both footnotes may be applied.

[6]The quantities permitted in a sprinklered building are not limited.

[7]A dust explosion potential is considered to exist if 1 pound or more of combustible dust per 1,000 cubic feet of volume is normally in suspension or could be put into suspension in all or a portion of an enclosure or inside pieces of equipment. This also includes combustible dust which accumulates on horizontal surfaces inside buildings or equipment and which could be put into suspension by an accident, sudden force or small explosion.

[8]Permitted in sprinklered buildings only. None is allowed in unsprinklered buildings.

[9]One pound of black sporting powder and 20 pounds of smokeless powder are permitted in sprinklered or unsprinklered buildings.

[10]Containing not more than the exempt amounts of Class I-A, Class I-B or Class I-C flammable liquids.

TABLE NO. 9-B—EXEMPT AMOUNTS OF HAZARDOUS MATERIALS, LIQUIDS AND CHEMICALS PRESENTING A HEALTH HAZARD

MAXIMUM QUANTITIES PER CONTROL AREA[1] [2]

When two units are given, values within parentheses are in pounds (Lbs.)

MATERIAL[4]	STORAGE[3]			USE[3]—CLOSED SYSTEMS			USE[3]—OPEN SYSTEMS		
	Solid (Lbs.)[5] [6]	Liquid Gallons[4] [6] (Lbs.)	Gas (Cu. Ft.)[5]	Solid (Lbs.)[5]	Liquid Gallons[4] (Lbs.)	Gas (Cu. Ft.)	Solid (Lbs.)[5]	Liquid Gallons[4] (Lbs.)	Gas (Cu. Ft.)
1. Corrosives	5,000	500	650[6]	5,000	500	650[5]	1,000	100	—
2. Highly Toxics[8]	1	(1)	20[7]	1	(1)	20[7]	1/4	(1/4)	—
3. Irritants	5,000	500	650[6]	5,000	500	650[5]	1,000	100	—
4. Sensitizers	5,000	500	650[6]	5,000	500	650[5]	1,000	100	—
5. Other Health Hazards	5,000	500	650[6]	5,000	500	650[5]	1,000	100	—

[1]Control area is a space bounded by not less than one-hour fire-resistive occupancy separation within which the exempted amounts of hazardous materials may be stored, dispensed, handled or used. The number of control areas within retail and wholesale stores shall not exceed two and the number of control areas in other uses shall not exceed four.

[2]The quantities of medicines, foodstuffs and cosmetics, containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable, in retail sales uses are unlimited when packaged in individual containers not exceeding 4 liters.

[3]The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

[4]For carcinogenic and radioactive materials, see the Fire Code.

[5]Quantities may be increased 100 percent in sprinklered buildings. When Footnote 6 also applies, the increase for both footnotes may be applied.

[6]Quantities may be increased 100 percent when stored in approved storage cabinets or safety cans as specified in the fire code. When Footnote 5 also applies, the increase for both footnotes may be applied.

[7]Permitted only when stored in approved exhausted gas cabinets, exhausted enclosures or fume hoods.

[8]For special provisions, see the Fire Code.

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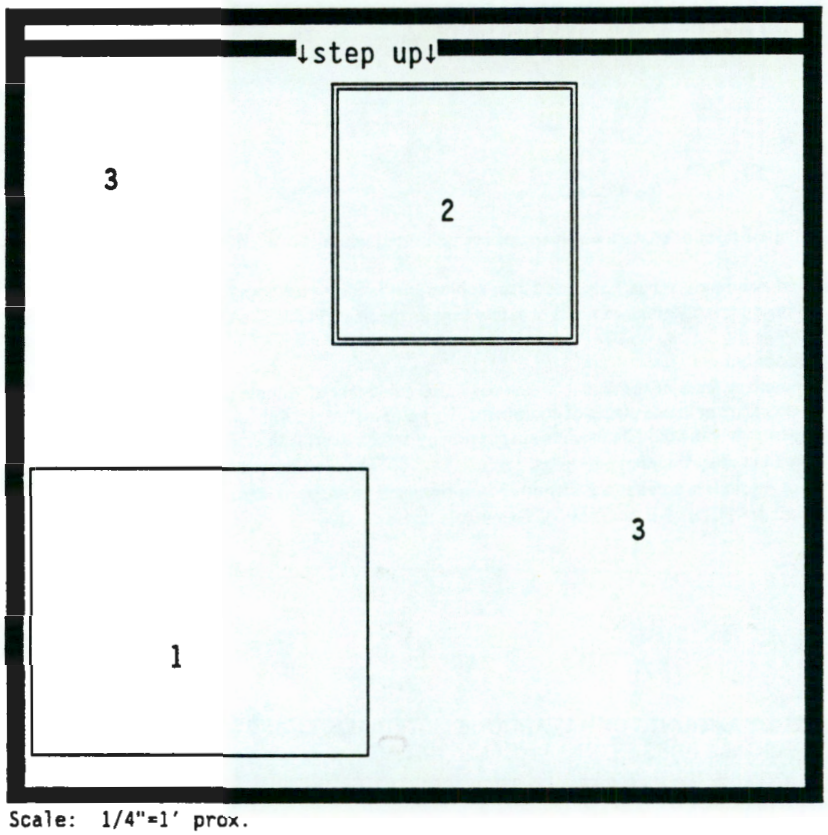

Scale: 1/4"=1' prox.

LEGEND

1 Flammable RMW Storage Module

2 Removable hatch cover for basement access (surrounded by railing)

3 Nonhazardous supplies storage

Figure 4-8. Flammable Radioactive Mixed Waste Storage Area.

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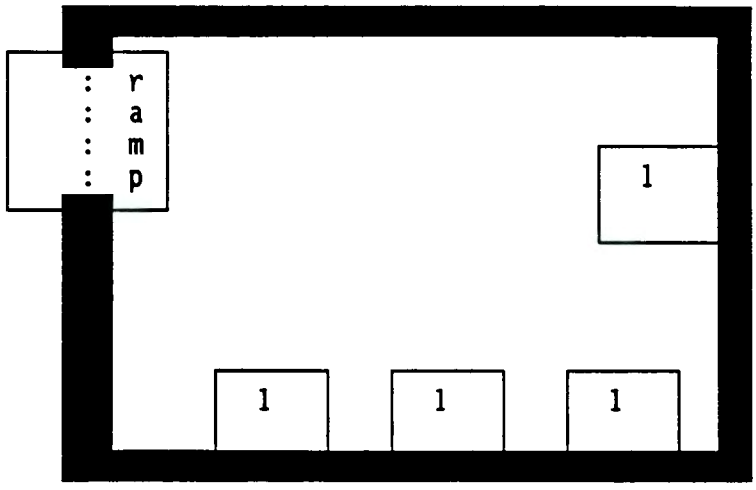

Scale: 1/8"=1' prox.

LEGEND

- Concrete wall, epoxy sealed continous with floor, to a height of 12"
- : Metal sliding door (radiation & spill protective)
- 1 5'x 5' deep stainless steel containment pan
- 2 Stainless steel pan for PCB RMW storage (6' x 6' x 8" deep)

Figure 4-9. Radioactive Mixed Waste Storage Area.

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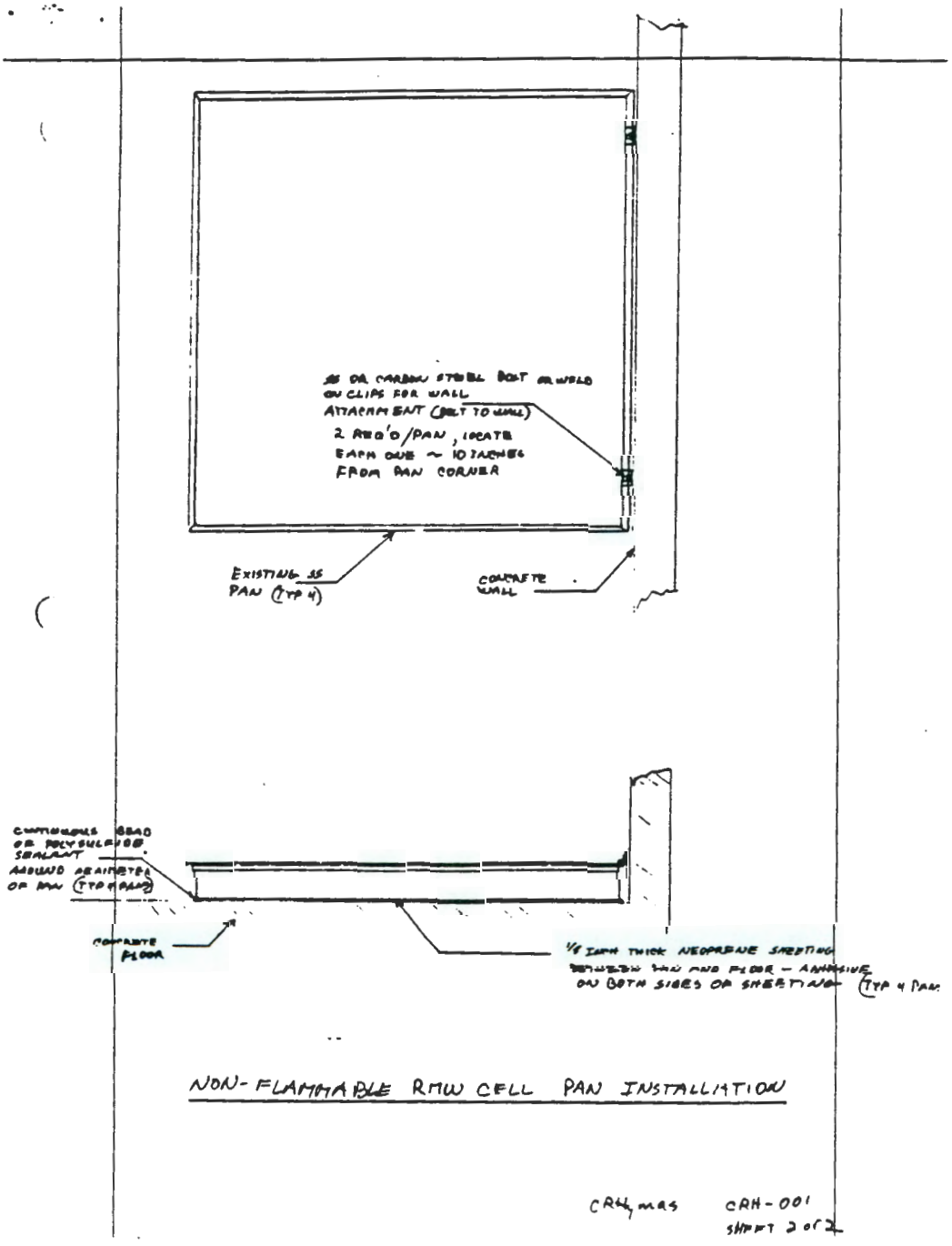

Figure 4-10. RMW Storage Cell Containment Pan Installation.

Table 4-2. Limits for Radionuclides in 305-B.

Radionuclide	Activity Limit (Bq)	Activity Limit (Ci)	Mass Limit (g)
^{3}H	7.8 E+13	2.1 E+3	2.2 E–1
^{60}Co	3.1 E+13	8.5 E+2	7.5 E–1
^{85}Kr	6.3 E+15	1.7 E+5	4.3 E+2
^{89}Sr	7.8 E+13	2.1 E+3	7.3 E–2
^{90}Sr	2.0 E+13	5.5 E+2	3.8 E+0
^{99}Tc	2.4 E+14	6.5 E+3	3.8 E+5
^{106}Ru	1.8 E+13	4.8 E+2	1.4 E–1
^{129}I	8.9 E+09	2.4 E–1	1.5 E+3
^{131}I	4.1 E+10	1.1 E+0	8.9 E–6
^{137}Cs	2.8 E+14	7.5 E+3	7.6 E+1
^{144}Ce	2.0 E+13	5.5 E+2	1.7 E–1
^{226}Ra	1.2 E+11	3.2 E+0	3.3 E+0
^{235}U	2.8 E+11	7.5 E+0	3.5 E+6
^{238}U	3.0 E+11	8.0 E+0	2.4 E+7
^{237}Np	6.7 E+10	1.8 E+0	2.6 E+3
^{238}Pu	5.6 E+10	1.5 E+0	8.9 E–2
^{239}Pu	6.3 E+10	1.7 E+0	2.8 E+1
^{240}Pu	6.3 E+10	1.7 E+0	7.5 E+0
^{241}Pu	3.1 E+13	8.5 E+2	7.5 E+0
^{241}Am	5.6 E+10	1.5 E+0	4.6 E–1
^{243}Cm	5.6 E+10	1.5 E+0	3.6 E–2
^{244}Cm	5.6 E+10	1.5 E+0	1.8 E–1

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NOTE: If more than one radionuclide is in storage at 305-B, the amount of radioactive material present may not exceed the quantity calculated using the following formula:

$$\sum (X_i/Y_i) \leq 1$$

where X is the quantity of each individual radionuclide (i) present and Y is the allowable quantity of that radionuclide as found in Table 4-2.

(Source: Backman, GE, BJ McMurray, NP Nisick, and CR Richey. General Safety Assessment Document for PNL-Managed Nonreactor Nuclear Facilities. PNL-3280. Pacific Northwest Laboratory, Richland, WA, 1981.)

hygienist may be contacted to determine appropriate personnel protection requirements and any other safety requirements that may be required, such as chemical testing or air monitoring. In addition, ventilation of the spill-impacted area may be performed if determined to be safe and if appropriate monitoring of the air discharge(s) is performed.

Spills are normally contained either within the storage cabinet, within the cell, or within a secondary containment trench or berm as described in Section 4.1.1.5. In any case, spilled material will be recovered to the extent possible by pumping recovered liquids with a pump made of nonreactive materials (either steel or PVC) to intact containers selected in accordance with the container selection procedure in Section 4.1.1.1. Nonrecoverable liquids will be absorbed with an appropriate absorbent (after appropriate chemical reaction to neutralize reactivity in the case of reactive waste, or neutralization in the case of corrosive materials); see Table 6.2 for list of available materials for this purpose. The absorbent material will then be recovered and placed in a container selected in accordance with Section 4.1.1.1, using nonsparking shovels in the case of ignitable waste. The floor, cabinets and any other impacted containers may be cleaned with dry rags, soap and water, or a compatible solvent if necessary to remove external contamination. Contaminated rags and other cleanup material will be disposed of in an appropriate manner.

4.1.2 Containers Without Free Liquid That Do Not Exhibit Ignitability or Reactivity [D-1b].

This section is not applicable to 305-B because the storage area is used to store containers both with and without free liquids. 305-B does not meet the conditions for reduced requirements for storing only containers without free liquid; therefore, the facility is subject to the full requirements for containment.

4.2 PROTECTION OF EXTREMELY HAZARDOUS WASTE IN CONTAINERS [D-2]

All wastes are stored inside of 305-B, within the storage areas described in Section 4.1.1.6. These locations are completely enclosed from the weather, as described in Section 4.1.1.7, meeting the requirements of WAC 173-303-630(7)(d).

4.3 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES IN CONTAINERS [D-3]

The following sections provide information on the management of ignitable, reactive, and incompatible waste in containers. Additional information on this subject can be found in Section 6.5.

4.3.1 Management of Ignitable or Reactive Wastes in Containers [D-3a]

Ignitable and reactive wastes are stored in compliance with Uniform Fire Code Division II regulations for Container and Portable Tank Storage Inside Buildings (International Conference of Building Officials 1988). Containers of ignitable and reactive waste are stored in individual flammable material storage cabinets within the storage cells.

4.3.2 Management of Incompatible Wastes in Containers [D-3b]

Section 6.5.2 describes procedures used at 305-B to determine the compatibility of dangerous wastes so that incompatible wastes are not stored together. Chemical wastes stored in 305-B are separated by compatibility, chemical makeup and hazard class and stored in areas having appropriate secondary containment, as described in Section 4.1.1.6.

As shown in Figures 4-2 through 4-10, each storage area has individual storage configurations; secondary containment structures are provided to assure that incompatible materials will not commingle if spilled. Further segregation is provided by chemical storage cabinets located throughout the facility in various areas as shown in Figures 4-2 through 4-10. Cabinet types are noted in those figures and capacities described in Table 4-3.

Incompatible wastes are never placed in the same container, or in unwashed containers that previously held incompatible waste.

Compliance with WAC 173-303-395(1)(b) is assured utilizing the reactivity groupings given in A Method for Determining the Compatibility of Hazardous Waste (EPA 1980). Use of this system is described in "Procedures for Hazardous Waste and Radioactive Mixed Waste Management and Disposal at Pacific Northwest Laboratory." This internal procedure is part of the 305-B Operating Record, as required by WAC 173-303-395(1)(c).

4.3.3 Tank System [D-3c]

This section is not applicable to the 305-B Storage Unit because wastes are not managed in tanks.

4.3.4 Waste Piles [D-3d]

This section is not applicable to the 305-B Storage Unit because wastes are not managed in waste piles.

4.3.5 Surface Impoundments [D-3e]

This section is not applicable to the 305-B Storage Unit because wastes are not placed in surface impoundments.

4.3.6 Incinerators [D-3f]

This section is not applicable to the 305-B Storage Unit because wastes are not incinerated.

4.3.7 Landfills [D-3g]

This section is not applicable to the 305-B Storage Unit because wastes are not placed in landfills.

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Table 4-3. Storage Devices Used at the 305-B Unit.

Storage Device	Typical Use	Dimensions (in.)	Capacity (gal.)
Small Cabinet	Storage of containers (5 gallons or less capacity)	39w x 16d x 61h	50 max
Large Cabinet	Storage of containers (5 gallons or less capacity)	31w x 33d x 61h	80 max
Small Drum Cabinet	Storage of drums (5 to 55 gallons capacity)	32w x 32d x 61h	65 max
Large Drum Cabinet	Storage of drums (5 to 55 gallons capacity)	56w x 32d x 61h	130 max
Small Shelving	Storage of containers (5 gallons or less capacity)	47w x 18d x 62h	65 max
Large Shelving	Storage of containers (5 gallons or less capacity)	72w x 18d x 62h	100 max

4.3.8 Land Treatment [D-3h]

This section is not applicable to the 305-B Storage Unit because wastes are not treated in land treatment units.

CONTENTS

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5.0 GROUNDWATER MONITORING [E]

Because the 305-B Storage Unit is operated as a container storage unit and not as a dangerous waste surface impoundment, waste pile, land treatment unit, or landfill as defined in WAC 173-303-645(1)(a), groundwater monitoring is not required.

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9312937044 7

CONTENTS

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FIGURES

TABLES

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6.0 PROCEDURES TO PREVENT HAZARDS [F]

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

6.1 SECURITY [F-1]

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

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

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

Keys to the unit are issued only to unit personnel, security personnel, and emergency response personnel. One maintenance worker; who only enters the office areas, is also issued a key. Any additions to this list are approved by the unit operating supervisor, the line manager, and the building manager and are noted in the operating record of the unit.

Specific aspects of the security programs for both the 300 Area and 305-B Storage Unit are described in more detail below.

6.1.1 Security Procedures and Equipment [F-1a]

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

6.1.1.1 24-Hour Surveillance System [F-1a(1)]. Access to that portion of the 300 Area in which 305-B is located is through a gate at the south end of Wisconsin Avenue and a gate at the north end of the 300 Area (Fig. 6-1). These gates are controlled by Hanford Patrol guards on a 24-hour basis. The Hanford Patrol can be reached by phoning 375-2400, PNL Single-Point Contact. If 375-2400 is inoperative, the Hanford Patrol can be reached via their emergency number, 811, from onsite telephones.

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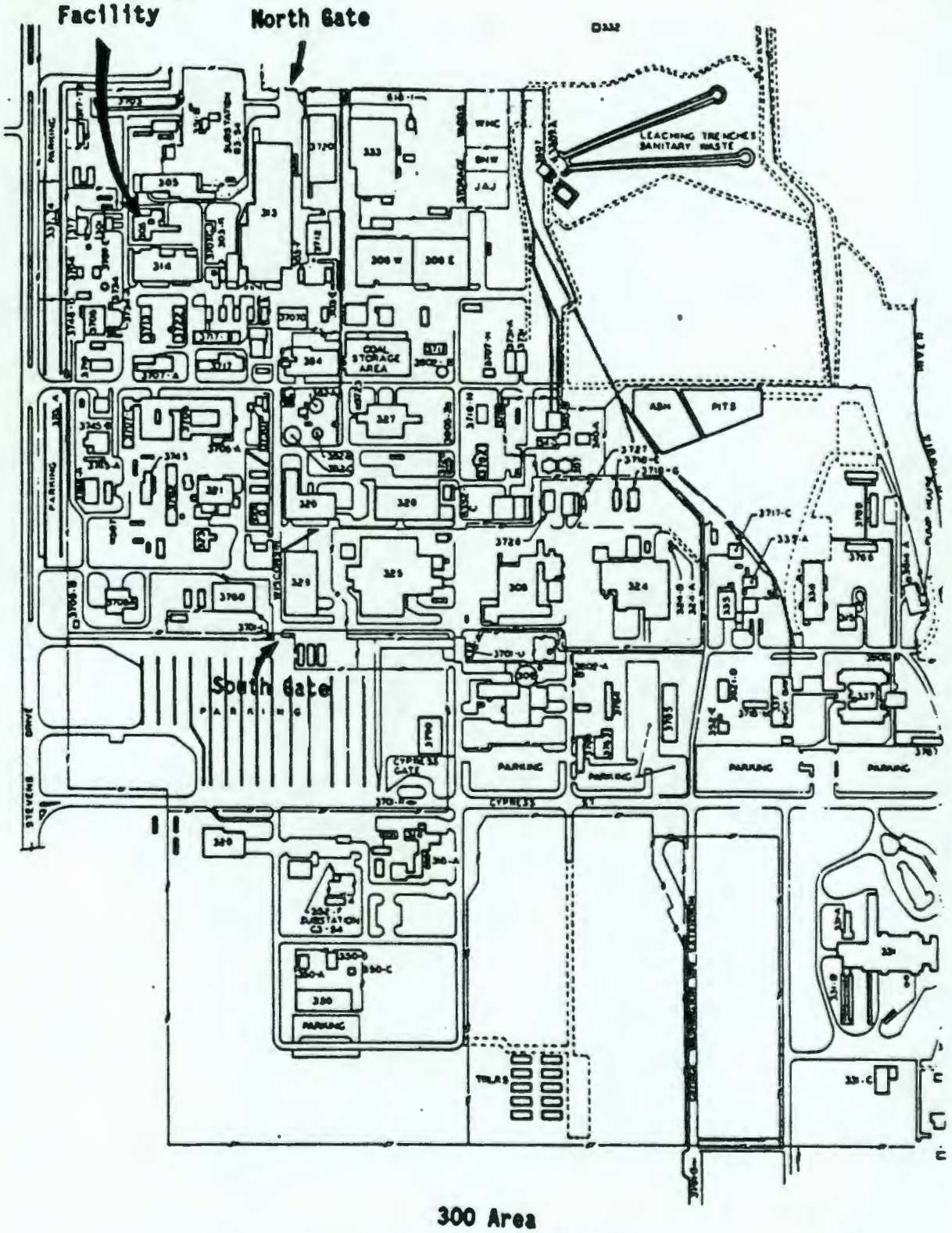

Figure 6-1. Normal Site Access - Entrance at the Southern End of Wisconsin Avenue and the North End of the 300 Area.

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

6.1.1.2 Barrier and Means to Control Entry [F-1a(2)(a), (2)(b)]. The entire 300 Area is surrounded by an 8-ft chain link fence topped with three strands of barbed wire. There is no separate fence surrounding the 305-B unit. All waste management activities, however, are conducted within the unit. The facility itself, therefore, provides a barrier completely surrounding the active waste management operations.

Entry to 305-B is first controlled at the Wisconsin Avenue Gate to the 300 Area and the north 300 Area gate. To be admitted by Hanford Patrol guards through the gates, all persons must have a valid DOE security badge or a temporary badge and be escorted by a person having an escort badge. Entry to the unit is then controlled through the use of locked entrances. The 305-B Storage Unit is kept locked at all times except when in use. Physical control of keys and records of key distributions are maintained by PNL Security. Distribution of keys to 305-B is subject to approval by the manager of the waste management organization, the building manager, and the facility operating supervisor, and a list of those personnel in possession of keys is kept in the Operating Record for 305-B. Personnel in possession of keys have been instructed to admit only persons having official business. All visitors to the unit must be escorted by waste management organization personnel.

6.1.1.3 Warning Signs [F-1a(3)]. The 305-B Storage Unit is posted with "DANGER - UNAUTHORIZED PERSONNEL KEEP OUT" and "305-B CHEMICAL WASTE STORAGE BUILDING" signs near each entrance on all sides of the unit. The signs are clearly visible from the required distance of 25 ft.

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

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

6.2 INSPECTION SCHEDULE [F-2]

The purpose and intent of implementing inspection procedures at 305-B is to prevent malfunctions, deterioration, operator errors, and/or discharges which may cause or lead to the release of regulated waste to the environment or threats to human health. A system of daily, weekly, monthly, quarterly, and annual inspections involving various PNL departments and levels of management is implemented at 305-B.

6.2.1 General Inspection Requirements [F-2a]

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

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6.2.1.1 Types of Problems [F-2a(1)]. Daily, weekly, monthly, quarterly, and annual inspections are performed at 305-B. The types of problems addressed by each of these inspections is described below.

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

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

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

Weekly Inspections. Waste management organization personnel conduct weekly inspections of both safety and operating equipment in 305-B. Safety and emergency equipment are inspected for functionality and adequacy of supply. The weekly inspection is conducted by two personnel on the last workday of each week using the Weekly Inspection Checklist Form (Fig. 6-2) and Inspection Logbook. The Inspection Checklist and Inspection Logbook become a permanent part of the 305-B Operating Record.

Specific problems to be looked for with each of the items inspected are identified on the Inspection Checklist Form. The use of this form enhances inspection effectiveness by providing a consistent and detailed listing of areas of potential problems and those safeguards in place to prevent them. There is space provided on the form for the inventory summary, comments, required remedial actions (if any), as well as the date such actions are accomplished. The inspector is required to sign and date the inspection checklist after performing the inspection. In addition, a space is provided for the dated signature of the co-inspector. A copy of the completed inspection form with any assigned action items is distributed to the responsible operating personnel. All corrective actions required must be completed within one week of the inspection which found them deficient, unless there is documentation and reason for further delay. When corrective action has been completed, the responsible personnel date and initial the form.

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Weekly Inspection Form - 305-B Chemical Waste Storage Unit

Inspector Name (Print): _____ Inspector Signature: _____ Time/Date: _____

Waste Containment Locations
Y = Yes N = No

Earliest PCB Accumulation Date in Cell 2: _____

Cell:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Oxidizers Acids	Poison, PCB ORM's	Caustic, WSDW Non-Reg	Flammable, Combustible	Flammable Building	Asbestos	Non-Flammable RMW	Flammable Drum Storage	Flammable RMW	Non-Reg Yard	WSDW, ORM Non-Reg. Drums	Oxidizer Drums	Alkaline Drums	Acid Drums
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, UBC 3315(b)1 and WAC 173-303)

Inventory Below 30,000 gallon design capacity? _____ Estimated Volume = _____ gallons

Inventory Below UBC Class B Limits? _____ (<360 gallons 1-A, 1-B, 1-C total and/or <180 gallons 1B)

Daily Inspections Logged? _____

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Figure 6-2. Weekly Inspection Checklist Form. (Page 1 of 2)

Emergency Equipment and Supplies
Y = Yes N = No

- North Eyewash Safety Shower: Clear Access and Operational? ____
- South Eyewash Safety Shower: Clear Access and Operational? ____
- Portable Eyewash Outside of East Bay Door Pressurized? ____
- Spill Control Station Stocked for Acid, Base, Solvent and Other Spills? ____
- Fire Extinguishers (8) Inspected and Have Clear Access? ____
- Facility Phone (509)-376-4293) Operational? ____
- Facility Public Address System (376-1885) Operational? ____
- Spill Cart Stocked for Acid, Base, Solvent and Other Spills? ____
- Formaldehyde Spill Kit (Cell 2) Fully Stocked with 11 lbs Neutralizer? ____
- Station 8 Radio Operational (Office 3)? ____

Personnel Protective Equipment
Inventory as noted and in working order?
Y = Yes N = No

- 4 each Full Face Respirators with Combination Organic Vapor/HEPA Filters? ____
- 4 each Full Face Shields? ____
- 6 each Tyvek Suits? ____
- 6 each Acid Suits? ____
- 20 Pair Eye Protection, Glasses and/or Goggles? ____
- Synthetic, Rubber, Leather Gloves Stocked? ____
- 3 each SCBA Units? ____

Corrective Action and/or Clean-up Performed.	Date Corrected

Co-Inspector Signature: _____ Time/Date: _____

9312937045 5

Figure 6-2. (continued)

Monthly Inspections. Monthly oversight inspections are conducted by the manager of the waste management organization or his designee. This monthly inspection is conducted on or near the last workday of each month using the Monthly Inspection Checklist Form (Fig. 6-3). Items targeted for monthly inspection include, but are not limited to, equipment function and condition, housekeeping, chemical inventory, weekly inspections and corresponding corrective actions, safety equipment operation, spill control and cleanup supplies, and general packaging material inventory. Specific problems to be looked for with each of the items inspected are identified on the Inspection Checklist Form. An internal memorandum from the manager of the waste management organization to the Laboratory Safety Department manager reports the findings of the monthly inspections. Copies of the inspection report memorandum are provided to operations personnel and maintained in the files of the waste management organization. Any corrective action noted on the management inspection checklist or deterioration or malfunctions in equipment discovered by the inspector are delegated to responsible individuals in the operations group. Corrective actions identified in the monthly management inspection must be completed within two weeks unless there is documentation and reason for further delay. Monthly management inspection report memos and corrective action response documentation are part of the 305-B Operating Record.

Quarterly and Annual Inspections. In addition to the several layers of management inspection of 305-B, safety inspections are performed to assure the fire protection system, eye wash/shower unit, and walk-in hood ventilation system are in working order. The Hanford 300 Area Fire Department performs a quarterly inspection of fire suppressant and notification systems (i.e., sprinkler system and pull boxes). This inspection includes flow tests of the sprinklers to assure no blockage in the system lines as well as activation of the alarm system to assure proper operation of pull boxes. On an annual basis, the Fire Department performs a full inspection of the sprinkler system, heat detectors, and pull boxes. A complete flow test is performed from the furthest valve to assure flow through the entire system. Fire extinguishers are also checked for proper pressure and function. Records of these fire inspections and their results are kept by the Hanford Fire Department. Documentation of any required corrective actions is kept in the 305-B Operating Record.

PNL facilities support staff perform additional documented inspections of the two emergency eye wash/shower units, the walk-in hood air flow, and the elephant-trunk ventilators air flow. The records of these inspections are transmitted to waste management operations staff and maintained at 305-B. The safety showers and air flow of the walk-in hood and elephant-trunk ventilators are inspected quarterly. The emergency eyewash/safety showers are checked for proper operation, and the walk-in hood and elephant-trunk ventilation face velocity must meet a 125 fpm minimum requirement. Records of these safety equipment inspections and their results, as well as documentation of any required corrective actions, are maintained by the preventive maintenance staff in PNL's Craft Services organization.

6.2.1.2 Frequency of Inspections [F-2a(2)]. Inspections are conducted on a daily, weekly, monthly, quarterly, and annual basis, as described in Section 6.2.1.1. The frequency of inspections is based on specific regulatory requirements and on the rate of possible deterioration of equipment and probability of environmental or human health incidents.

305-B MONTHLY MANAGEMENT INSPECTION CHECKLIST

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 required within two weeks.

Figure 6-3. Monthly Inspection Checklist Form.

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Areas where dangerous and mixed wastes are actively handled, including the high bay area, storage cells, and flammable liquid bulking module, are considered to be areas subject to spills. These areas are given daily inspections when in use, as required by WAC 173-303-320(2)(c).

The containment system (i.e., floors and sumps) is inspected daily when in use for accumulation of spilled material. The containment system itself is inspected weekly for structural integrity, i.e. no cracks, gaps, leaks, etc. which could result in environmental release of wastes in the event of a spill. This frequency is based on the need to perform timely corrective actions in the event that problems are noted.

Aisle space between containers is inspected weekly. This frequency is based on the consideration of the rate of container transfers and movement within 305-B. Weekly inspections will allow container spacing problems to be identified and corrected before they become major problems.

Emergency and safety equipment and personal protective equipment are inspected weekly. This frequency is based on consideration of the expected rate of use of this equipment. Use of emergency equipment should not occur more than once during any one-week period. Weekly inspections will assure that this equipment is always functional and available in adequate supply.

6.2.2 Specific Process Inspection Requirements [F-2b]

The following sections detail the inspections to be performed at the 305-B Storage Unit.

6.2.2.1 Container Inspection [F-2b(1)]. Dangerous and mixed waste containers stored at 305-B are inspected daily for leakage, evidence of damage or deterioration, proper and legible labeling, and proper lid and bung closure. The containment system is also checked on a daily basis for accumulation of any wastes which may have been spilled into them. Structural integrity of the containment systems is checked on a weekly basis.

Daily and weekly inspections are performed and documented in accordance with Section 6.2.1.1. Specific inspection items are enumerated in Section 6.2.1.1 in association with the inspection description and frequency. Response to problems, and documentation of corrective actions are as described in Section 6.2.1.1.

6.2.2.2 Tank Inspection [F-2b(2)]. This section does not apply to the 305-B Storage Unit because wastes are not stored or treated in tanks.

6.2.2.3 Waste Pile Inspection [F-2b(3)]. This section does not apply to the 305-B Storage Unit because wastes are not placed in waste piles.

6.2.2.4 Surface Impoundment Inspection [F-2b(4)]. This section does not apply to the 305-B Storage Unit because wastes are not placed in surface impoundments.

6.2.2.5 Incinerator Inspection [F-2b(5)]. This section does not apply to the 305-B Storage Unit because wastes are not incinerated.

6.2.2.6 Landfill Inspection [F-2b(6)]. This section does not apply to the 305-B Storage Unit because wastes are not placed in landfills.

6.2.2.7 Land Treatment Facility Inspection [F-2b(7)]. This section does not apply to the 305-B Storage Unit because wastes are not treated in land treatment units.

6.3 WAIVER OR DOCUMENTATION OF PREPAREDNESS AND PREVENTION REQUIREMENTS [F-3]

The following documents the preparedness and prevention measures taken at the 305-B Storage Unit.

6.3.1 Equipment Requirements [F-3a]

The following sections describe the internal and external communications and emergency equipment in use at 305-B.

6.3.1.1 Internal Communications [F-3a(1)]. Internal communication systems are used to provide immediate emergency instruction to personnel in 305-B. Internal communications address general emergencies which may occur in the 300 Area as well as specific emergencies which may occur in 305-B.

Because of the nature of activities which occur in the 300 Area, the potential exists for emergencies outside of 305-B (e.g., release of radioactive materials) which could impact operations and staff in 305-B. For this reason, the general emergency signals for the 300 Area are applicable to 305-B. These signals are summarized in Table 6-1. Fire alarm signals are located in each building throughout the 300 Area. The nearest emergency siren for "area evacuation" and "take cover" is located 300 yards southeast of 305-B, on top of the 326 Building, and is audible in all parts of 305-B. Because fissile materials are 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) office wing on the northeast hall; 2) office wing next to the east entrance; 3) on the south wall of the basement; and 4) on the northwest 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.

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

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

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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, operating personnel have access to eight hand-held radios, six inside the storage facility and one in each of two vehicles assigned to the facility. All of the radios transmit at the same frequency, and are capable of summoning PNL's security control room in case of an emergency.

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, 811. Locations of fire alarm pull boxes and telephones are given in Figure 6-4.

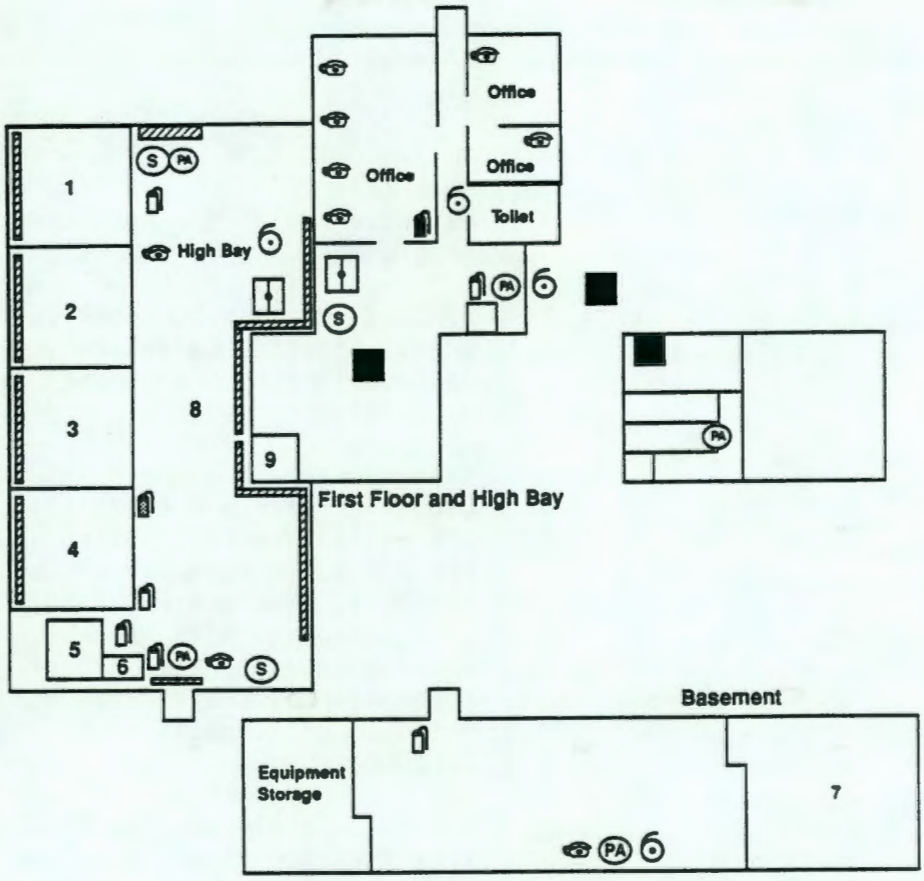

Figure 6-4. 305-B Storage Unit Building Plan and Locations of Emergency Equipment.

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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. Six portable 10-lb ABC fire extinguishers, one 15-lb Class D fire extinguisher for combustible metals, and two portable 14-lb Halon fire extinguishers 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) northwest end of high bay. The 15-lb class D extinguisher is located on the exterior of the organics cell wall south of the entrance. The two 14-lb Halon fire extinguishers are located in the office area.

The facility is also equipped with an automatic fire suppression system consisting of galvanized steel, schedule 40 per ASTM A120 pipe and 150-lb malleable iron per ANSI B16.3 fittings. All components are UL-listed or FM-approved, and installation of the fire sprinkler system has been conducted in accordance with NFPA 13 for ordinary hazard. Spill cleanup supplies and equipment maintained are summarized in Table 6-2. Two emergency eye wash/showers are available for emergency personnel decontamination. The locations of the emergency eye wash/showers are shown in Figure 6-4. If needed, additional emergency equipment can be provided by the Hanford Fire Department. Emergency equipment available through the Hanford Fire Department for hazardous materials response is identified in Appendix 6A.

6.3.1.4 Water for Fire Control [F-3a(4)]. Adequate water volume and pressure are supplied by the large diameter line which services 305-B for potable use and fire protection. Three fire hydrants are located in immediate proximity to serve the 305-B facility: 1) 80 ft directly north of the northwest corner of 305-B; 2) 40 ft directly south of the southwest corner of 305-B; and 3) 60 ft directly east of the southeast corner of 305-B. In addition, the Hanford Fire Department's 300 Area Station is located within 0.25 mile of 305-B.

6.3.2 Aisle Space Requirements [F-3b]

Containers stored in the 305-B unit are placed to provide aisle space clearance in accordance with WAC 173-303-340(3) and applicable standards of the Uniform Building Code and Life Safety Code.

The proper maintenance of aisle space is inspected weekly and noted on the weekly inspection checklist (Figure 6-2).

6.4 PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT [F-4]

The following sections describe preventive procedures, structures, and equipment.

6.4.1 Unloading Operations [F-4a]

Procedures have been developed at 305-B to prevent hazards and minimize the potential for breakage, punctures, or the accidental opening of containers during waste unloading. All waste unloading is performed inside the 305-B Storage Unit. The large bay door is opened and the appropriate transporting vehicle (usually a pickup truck) is driven inside. As described in Section 4.1.1.3, the unloading

Table 6-2. Material and Equipment for Spill Containment and Cleanup.

Materials/ Equipment	Quantity	Purpose	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	Three cartons, each containing 12 pillows	To be used for diking or damming and absorption of spilled materials.	Each 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.

area has secondary containment. By unloading all wastes inside the fully-contained facility, spills during unloading operations will be contained.

Procedures for unloading and transferring wastes to storage areas have been designed to minimize hazards. All wastes are inspected prior to shipment to 305-B to ensure that they are in appropriate containers and that the containers are in good condition. Inspection of containers prior to acceptance at 305-B minimizes the potential for spills during unloading operations. The potential for spills during waste handling is minimized through the use of appropriate container handling equipment. Large waste items such as drums of nonflammable RMW are lowered into the basement of the facility for storage using an overhead crane or winch assembly. The containers are immediately transported, via a hand lift, into the concrete lined storage vault. Forklifts may also be used to unload heavy waste items. Small waste items can be unloaded by hand. Each small waste item is removed from the secondary containment unit in which it was transported (i.e., plastic storage tub) and placed in the appropriate storage location.

6.4.2 Run-Off [F-4b]

The 305-B Storage Unit was designed to eliminate the likelihood of off-site migration via run-off. Because the facility is completely enclosed (i.e., complete roof and no open walls), run-off of precipitation is not a factor. In addition, floors are bermed and sloped toward sumps in the loading/unloading area and each storage cell is similarly bermed, sloped, and individually sumped to eliminate the possibility of spills interacting or migrating offsite. The main high bay area and each storage cell are fully contained by at least a 6-in. high dike or ramp. Each door from the waste handling areas to the outside has a collection trench to intercept any potential run-off. The containment system for 305-B is described in more detail in Section 4.1.1.3.

6.4.3 Water Supplies [F-4c]

305-B is designed and operated to safely contain wastes and prevent any contamination of water supplies. The containment system described in Section 4.1.1.3 prevents infiltration of wastes which could contaminate groundwater and prevents run-off of wastes which could contaminate surface water. The nearest water supply is the 300 Area water intake, which is located on the Columbia River 0.5 mile from 305-B.

6.4.4 Equipment and Power Failure [F-4d]

The 305-B Storage Unit does not have any systems which would cause release of dangerous waste or RMW during a power failure or equipment failure. Interruption of power to any of the systems utilizing electrical power (HVAC system, crane, forklift) merely causes the equipment to stop operating. The unit has an emergency lighting system which operates automatically during power failure incidents.

For actions to be taken in the event of power failure to unit systems or equipment, see the unit Contingency Plan (Section 7).

6.4.5 Personnel Protection Equipment [F-4e]

Protective clothing and equipment are provided to employees during normal and emergency operations. During routine operations, the maximum number of employees working in the 305-B unit is less than ten. For dry chemical handling activities, such as labpacking, the minimum protection requirement is eye protection (safety glasses with side shields or chemical goggles), lab coat, and chemical resistant gloves (plastic or other construction as appropriate). Protection levels for other operations, such as bulking, and emergency situations are determined in consultation with a PNL industrial hygienist, and staffing levels are revised according to the availability of proper protective equipment as shown below. Protective clothing and equipment available in the 305-B Storage Unit includes:

- 50 plastic aprons
- 6 pairs of rubber boots
- 100 pairs of disposable plastic gloves
- 10 pairs of non-disposable gloves
- 12 chemical resistant suits
- 20 pairs of extra protective eyeglasses
- 3 SCBA
- 5 pairs of chemical goggles
- 4 face shields
- 4 full-face respirators with appropriate cartridges.

This protective equipment is stored in cabinets located outside of the operating area east entrance and is well - stocked at all times. The location of the storage cabinets is given in Figure 6-4. This equipment is periodically replaced as it is used. The above inventory reflects the quantities of each type of PPE that are typically present at 305-B. Minimum quantities required to be present are given in the weekly inspection checklist, Figure 6-2.

6.5 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES [F-5]

The following sections describe prevention of reaction of ignitable, reactive, and incompatible waste.

6.5.1 Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Waste [F-5a]

305-B may be used to store a variety of ignitable wastes. Precautions to prevent ignition of ignitable wastes involve separation of wastes from sources of ignition and use of procedures which minimize the potential for accidental ignition. There are no routine sources of ignition or open flame in 305-B. Work with ignition or heat sources, if required, is limited and controlled by PNL management and is performed in compliance with internal PNL health and safety procedures for elimination of ignition sources. These internal procedures:

- Prohibit use of open flame equipment when working with flammable liquids

- Prohibit smoking around flammable liquids [No smoking is allowed at 305-B]

- Require electrical equipment used in flammable or explosive atmospheres to comply with the National Electrical Code, NFPA 70

- Require use of equipment with automatic, adjustable temperature controls and high-temperature limit switches to prevent overheating

- Prohibit placement of flammable liquids on hot surfaces

- Require all static electricity sources to be grounded in areas where ignitable vapors may be present

- Require bonding of conductive containers when transferring flammable liquids.

- Require use of non-sparking tools in flammable waste storage areas

All maintenance or modifications that require work with ignition sources must receive prior approval by a PNL Safety Engineer. This approval is documented in the Operating Record. Smoking is not allowed in 305-B at any time and the interior and exterior of the facility are clearly posted with "No Smoking" signs. Waste storage areas are not heated by any radiant heat source. All tools used to open ignitable waste containers are constructed of nonsparking materials.

Ignitable waste storage areas are inspected annually by a PNL fire safety engineer familiar with the Uniform Fire Code. This inspection is documented in the Operating Record. There are also storage restrictions at 305-B for combustible wastes as part of fire safety requirements. The storage restrictions defined in the Uniform Building Code for Class B Occupancy apply to 305-B (International Conference of Building Officials 1988). These restrictions are given in Table 4-1. The weekly inspection for 305-B includes checking to see if the inventory of combustibles is below these limits. These inspections are documented in the Operating Record.

6.5.2 General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste [F-5b]

As described in Section 6.5.1, ignitable wastes are managed in a manner which protects the wastes from sources of ignition or open flame. Ignitable waste containers are maintained in good condition and inspected weekly to minimize the potential for releases which could result in fire. Containers of ignitable waste are protected from high temperature to prevent the potential for pressurization and buildup of ignitable vapors. Containers of ignitable waste are stored in flammable material storage cabinets within waste storage cells, as described in Section 4.1.1.6. Limitations on sizes of containers and amounts of storage in cabinets are found in Section 4.3.1.

Because of the wide variety of wastes which may be accepted at 305-B, the potential exists for storage of incompatible wastes. Mixing of incompatible wastes is prevented through waste segregation and storage procedures. Chemical wastes stored in 305-B are separated by compatibility and hazard class and stored

in separate storage cells. Separate storage shelves and cabinets are used within the storage cells, as described in Section 4.1.1.6, to provide further waste segregation. Prior to accepting unfamiliar wastes from generators, waste management organization staff determine the Reactivity Group Number as per A Method for Determining the Compatibility of Hazardous Wastes (EPA 1980) for each waste so that wastes may be stored with compatible materials. The following general guidance is used to segregate and separate chemicals:

- Store acids on a low storage shelf or in acid storage cabinets.
- Separate acids from bases and alkaline metals such as potassium or sodium
- Separate oxidizing acids from organic acids and flammable or combustible materials
- Store bases away from acids and store solutions of inorganic hydroxides in polyethylene containers
- Store oxidizers away from flammable or combustible materials and reducing agents such as zinc, alkaline metals, and formic acid
- Store peroxide-forming chemicals in airtight containers in a dark, cool, and dry place (inside of cabinets)
- Store flammable materials in approved containers or cabinets
- Separate flammable materials from oxidizing acids and oxidizers and keep them away from sources of ignition
- Clearly mark cabinets to identify the hazards associated with their contents.

The potential for waste ignition or reaction at 305-B is also minimized through storage restrictions on hazardous material quantities. The storage restrictions defined in the Uniform Building Code for Class B Occupancy apply to 305-B (International Conference of Building Officials 1988). These restrictions are given in Table 4-1. The weekly inspection of 305-B includes checking to see if waste inventories are below these limits. These inspections are documented in the Operating Record.

CONTENTS

9312297 0143

CONTENTS (Continued)

FIGURES

9312937049

FACILITY CONTINGENCY PLAN AND

BUILDING EMERGENCY PROCEDURE

305-B STORAGE UNIT

9312297 0470

7.0 CONTINGENCY PLAN [G]

The information contained in this chapter is the unit contingency plan, as required under WAC 173-303-806(4)(a)(vii). This chapter is also the Building Emergency Plan (BEP) as required under the DOE-RL Site Emergency Plan (revised 4/90) and PNL procedure PNL-MA-11. It supersedes all previous contingency plans and BEPs. It is to be maintained in the locations shown in Section 7.9 of this plan.

A building emergency plan (BEP) is required under the DOE-RL Emergency Plan for each building on the Hanford Site. This Contingency Plan has been designed to meet the requirements for a BEP as well as the Ecology requirements for a contingency plan for the 305-B unit. The Site Emergency Plan details the membership of the Emergency Action Coordinating Team (EACT) mentioned in Section 7.3 and following sections, and the procedure for notifying and mobilizing the team.

This plan provides for the safety of employees, other contractor personnel, visitors, and members of the general public in the event of an emergency. It also is designed to minimize hazards resulting from fires, explosions, or any other unplanned sudden or non-sudden release of dangerous waste or dangerous waste constituents to air, soil, or water. The provisions of the plan will be carried out immediately whenever there is a fire, explosion, or release of dangerous waste or dangerous waste constituents which could threaten human health or the environment.

DOE-RL or PNL shall review and immediately amend, if necessary, this plan whenever:

- Applicable regulations or the facility permit are revised;
- The plan fails in an emergency;
- The facility changes (in its design, construction, operation, maintenance, or other circumstances) in a way that materially increases the potential for fires, explosions, or releases of dangerous waste or dangerous waste constituents, or in any way that changes the response necessary in an emergency;
- The list of emergency coordinators changes; or
- The list of emergency equipment changes.

Amendments to the plan, if necessary following review, will be made in accordance with Section 1.5 of the 305-B Part B permit application.

7.1 GENERAL INFORMATION [G-1]

The 305-B Storage Unit is a dangerous and radioactive mixed waste storage facility located in the 300 Area of the Hanford Site. The unit is owned and

operated by DOE-RL and co-operated by PNL. It is used for the collection, consolidation, and packaging of containerized dangerous and radioactive mixed waste. Typically, 305-B handles various types of small volume wastes from research laboratory activities. A more detailed description of 305-B activities is located in Chapter 2.0.

7.2 EMERGENCY COORDINATORS [G-2]

The overall responsibility for implementation of this Plan lies with the Building Emergency Director (BED) or the designated alternates. The BED has the responsibilities of the Emergency Coordinator as named in WAC 173-303-360. The BED and alternates are on call 24 hours per day and have the authority to commit all necessary resources (both equipment and personnel) to respond to any facility emergency.

Response by an emergency coordinator is usually obtained through the PNL Single Point Contact at (509) 375-2400. The Single Point Contact has been designated as the contact point to mobilize a response to any PNL emergency on the Hanford Site. The Single Point Contact is available at all times and has the responsibility to contact the BED or alternate to begin responses to emergencies under this plan.

Due to the security requirements at the Hanford Site, DOE-RL does not submit names or phone numbers of personnel acting as emergency contacts as part of permit applications or other public documents. All emergency notifications to the BED, building managers, etc. are made through the PNL Single Point Contact.

7.3 IMPLEMENTATION OF THE CONTINGENCY PLAN [G-3]

The decision by the BED or alternate to implement this Plan depends on whether an incident in progress may threaten human health or the environment. Immediately after being notified of an emergency, the BED or alternate will go to the site and evaluate the situation. Based on evaluation of the event, the BED or alternate will implement this plan to the extent necessary to protect human health or the environment.

Incidents discovered by unit personnel trained in emergency response may be responded to according to the procedures given in this plan prior to the arrival of the BED. However, immediate notification of the BED is still required prior to implementing these procedures.

7.4 EMERGENCY RESPONSE PROCEDURES [G-4]

Emergency response procedures have been established for the 305-B Storage Unit and are described below.

7.4.1 Notification [G-4a]

Discoverer

1. If within the unit, notify unit personnel of discovery of spill or release.

2. Immediately notify the PNL Single Point Contact (375-2400) and provide all known information, including:

   - Name(s) of chemical(s) involved and amount(s) spilled, on fire, or otherwise involved, or threatened by, the incident.
   - Name and callback phone number of person reporting the incident.
   - Location of spill or discharge (pinpoint as closely as possible).
   - Time incident began or was discovered.
   - Where the materials involved are going or may go, such as into secondary containment, under doors, through air ducts, etc.
   - Source and cause, if known, of spill or discharge.
   - Name(s) of anyone contaminated or injured in connection with the incident.
   - Any corrective actions in progress.
   - Anyone else who the caller has contacted.

   NOTE: DOE-RL and other (non-PNL) contractor personnel are trained to notify Hanford Emergency number (811 from onsite telephones) rather than the Single Point Contact. Hanford Patrol, who operates the 811 number, then notifies the Single Point Contact.

Single Point Contact

1. The single point contact will notify the BED, or one of his alternates if the BED cannot be immediately reached, to arrange immediate response to the incident.

2. The single point contact will arrange for immediate response from Hanford Fire Department for fire or ambulance services as needed based on the report of the discoverer.

3. The single point contact will notify the Laboratory Safety Department of the spill or release incident.

4. The single point contact will support the BED in providing further notification and coordination of response activities if needed. Potential activities requiring single point contact participation are:

   - Activate the general evacuation alarm for the 300 Area, if the BED determines that evacuation is necessary.
   - Notify the Emergency Management Center (EMC) operated for DOE by WHC if evacuation of the 300 Area or adjacent areas is necessary.
   - Activate the 300 Area Emergency Control Center (ECC), described in the Site Emergency Plan, if needed.

- Notify the DOE-RL Emergency Action Coordinating Team (EACT) in accordance with the Sitewide Emergency Plan if necessary to evacuate areas lying outside the Hanford Site.
- Any other activities found in the DOE-RL Site Emergency Plan.

Building Emergency Director (BED) (or alternate)

1. Notify the Single Point Contact if an evacuation is needed. EXCEPTION: If only 305-B needs to be evacuated, activate the fire alarm first, then notify the Single Point Contact.

2. Arrange for care of any injured employees, utilizing the Single Point Contact for notification of ambulance services.

3. Notify the Single Point Contact of any need to activate the 300 Area Emergency Control Center (ECC) described in the Sitewide Emergency Plan. Activation of the ECC should be done whenever technical assistance in evaluating a spill is required, when the emergency may affect other neighboring buildings, or when otherwise deemed necessary by the BED. See Section 7.5.5.

4. Provide for off-normal event notification in accordance with DOE Order 5000.3A, PNL-MA-11, and other established site procedures, within 30 minutes of discovery. (Normally this is done through the Single Point Contact.)

5. Provide details on incident to Laboratory Safety as they become available.

Laboratory Safety

1. Provide telephone notification of incident to DOE-RL contact personnel. Sections 12.4.1.5.1 and 12.4.1.6 of the permit application.

DOE-RL

1. Provide notification of releases to the National Response Center and to Ecology in accordance with the sitewide hazardous waste permit, 40 CFR 302.6, and WAC 173-303-145.

7.4.2 Identification of Hazardous/Dangerous Materials [G-4b]

The BED or alternate will immediately identify the character, exact source, amount, and extent of the hazardous material or dangerous wastes involved in the incident to the degree possible. Identification of waste may be made by visual inspection of involved containers, by sampling, by reference to facility inventory records or shipping manifests, or by consulting with unit operations personnel. The 305-B operating record includes information on the characteristics and storage location of all wastes stored in the unit. This information is referenced to container identification numbers and can be used to identify containers involved in the emergency.

Samples of materials involved in an emergency can be analyzed by PNL, HEHF, or other analytical laboratories as appropriate.

7.4.3 Hazard Assessment [G-4c]

Once the materials involved in the incident have been identified by the procedure above, it should be possible to determine the extent of the danger posed by the incident. The BED or alternate on scene should assess both direct and indirect hazards posed by the incident. The ECC is available to assist the BED if needed. Possible aid may be in the form of determining the extent of an emergency, identifying the hazards associated with the materials involved in the incident, assisting in response to the incident, or coordinating the mobilization of special equipment or supplies to the incident site.

If assessment of all available information does not yield a positive assessment of the danger posed by the incident, a worst - case condition will be presumed and evacuation procedures will be initiated. The BED (or alternate) present on scene is responsible to inititate any evacuation through the steps shown in Section 7.4.1 above.

7.4.4 Control Procedures [G-4d]

The initial response to any emergency will be to immediately protect the health and safety of persons in the immediate area. Identification, containment, treatment, and disposal assessment will be the secondary response.

The following is presented to define specific emergency actions for personnel assigned to 305-B for different types of emergencies which could be encountered during normal operations.

7.4.4.1 Area-wide Evacuation. (Signal: Steady siren of 3-5 minutes' duration) In the event of an area-wide evacuation of the 300 Area, 305-B personnel will shut down equipment, secure wastes (especially RMW), and secure classified documents (or carry them with them), if time permits. They will then report to the north parking lot accountability area. The zone warden will account for all facility personnel.

7.4.4.2 Take Cover. (Signal: Wavering siren) In the event a take cover alarm is sounded, 305-B personnel will stay inside the 305-B Storage Unit, close all exterior doors, and turn off all intake ventilation. They will secure all wastes and classified documents. Personnel will then contact WM&EC with their whereabouts and request a call back for status.

7.4.4.3 Response to Minor Spills or Releases. (Signal: None) Unit personnel will generally perform immediate cleanup of minor spills or releases using unit equipment, sorbents and emergency equipment noted in Section 7.5. Personnel detecting such spills or releases shall contact the PNL Single Point Contact (375-2400) to notify of the detection of such release and arrange for notification of the BED. For spills or releases occurring within individual storage cells during routine handling and storage, see Section 4.1.1.8.

A spill or release of hazardous material or dangerous waste is considered "minor" if all of the following are true:

- The spill is minor in size (generally less than five gallons of liquid or 50 lb. of solids);
- The composition of the material or waste is known or can be immediately determined from label, manifest, MSDS, or disposal request information;
- The spill does not threaten the health and safety of building occupants, i.e. an evacuation is not necessary;
- Unit personnel have received appropriate training in accordance with Section 8.1.5; and
- Unit personnel have appropriate protective equipment, respiratory protection, and emergency response equipment to immediately respond and remediate the spill or release.

If one or more of the foregoing conditions are not met, the provisions of Section 7.4.4.4 should be followed.

Notification of the spill shall take place as shown in Section 7.4.1.

7.4.4.4 Major Dangerous Waste and/or RMW Spill or Material Release. (Signal: None) The following actions will be taken in the event of a major release:

Discoverer

1. If within the unit, notify unit personnel of discovery of spill or release by sounding the fire alarm.

2. Immediately notify the PNL Single Point Contact (375-2400) and provide all known information, including:

   - Name(s) of chemical(s) involved and amount(s) spilled, on fire, or otherwise involved, or threatened by, the incident.
   - Name and callback phone number of person reporting the incident.
   - Location of spill or discharge (pinpoint as closely as possible).
   - Time incident began or was discovered.
   - Where the materials involved are going or may go, such as into secondary containment, under doors, through air ducts, etc.
   - Source and cause, if known, of spill or discharge.
   - Name(s) of anyone contaminated or injured in connection with the incident.
   - Any corrective actions in progress.
   - Anyone else who the caller has contacted.

3. Take action to contain and/or stop the spill if all of the following are true:

   - The identity of the substance(s) involved is known;
   - Appropriate protective equipment and control/cleanup supplies are immediately available;
   - The employee can perform the action(s) contemplated without assistance, or assistance is immediately available from other trained unit employees; and
   - Time is of the essence, i.e. the spill/discharge will get worse if immediate action is not taken.

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If any of the above conditions are not met, or there is doubt, the employee should evacuate the area and remain outside the unit and upwind from it pending the arrival of the BED. He/she should remain available for consultation with the BED, Hanford Fire Department, or other emergency response personnel.

Single Point Contact

1. The single point contact will notify the BED, or one of the alternates if the BED cannot be immediately reached, to arrange immediate response to the incident.

2. The single point contact will remain available to the BED to support further notification and response activities if needed. Potential activities requiring single point contact participation are shown in Section 7.4.1 and in the DOE-RL Site Emergency Plan.

Building Emergency Director (BED) (or alternate)

1. Go directly to the unit to coordinate further activity. Take command of the scene from discovering unit employee.

2. Obtain all immediately available information pertaining to the incident. Determine need for assistance from agencies listed in Section 7.6 and arrange for their mobilization and response through the Single Point Contact.

3. If building evacuation is necessary, sound the fire alarm.

4. Arrange for care of any injured employees.

5. If a threat to surrounding facilities exists, activate the 300 Area ECC.

6. Provide for event notification in accordance with Section 7.4.1.

7. Maintain access control at the site by keeping unauthorized personnel and vehicles away from the area. Security personnel may be used to assist in site control if control of the boundary is difficult, e.g. repeated incursions. In determining controlled-access areas, be sure to consider environmental factors such as wind velocity and direction.

8. Arrange for proper remediation of the incident after evaluation in accordance with Sections 7.4.2 and 7.4.3. Remain available to fire, police, and other authorities on scene and provide all required information. If round-the-clock work is anticipated, enlist the assistance of alternate BEDs to provide coverage. Make no comment to media unless authorized to do so. Refer media inquiries to the Media Relations office.

9. If remediation is performed by unit personnel, ensure use of proper protective equipment, proper remedial techniques (including ignition source control for flammable spills), and decontamination procedures by all

involved personnel. Consult a PNL industrial hygienist for assistance in determining necessary equipment or procedures.

10. If remediation is performed by outside agencies such as the Hanford Hazardous Materials Response Team or other remedial contractors, remain at the site to oversee activities and provide information.

11. Ensure proper containerization, packaging, and labeling of recovered spill materials and overpacked containers.

12. Ensure decontamination (or restocking) and restoration of emergency equipment used in the spill remediation prior to resumption of unit operations in compliance with Section 12.4.1.5.3 of this permit application.

13. Provide reports after the incident in accordance with Section 12.4.1.6.

7.4.4.5 Response to Fire. (Signal: Gong -- 2 gongs/second) In the event of a fire, the discoverer will pull one of the manual fire alarms and call the Single Point Contact. Automatic initiation of a fire alarm (through the smoke detectors and sprinkler systems) is also possible. The personnel operating the facility are trained in the use of portable fire extinguishers. They will use their best judgment whether to extinguish a fire or evacuate. Under no circumstances will personnel remain in the facility to extinguish a fire if unusual hazards exist.

The following actions will be taken in the event of a fire or explosion:

1. Upon actuation of the fire alarm, personnel will shut down equipment, secure wastes (especially RMW), and lock up classified documents (or carry them with them), ONLY if time permits.

2. The alarm automatically signals both the 300 Area Hanford Fire Department Station and the 300 Area Hanford Patrol Headquarters. Both will respond immediately.

3. Personnel shall leave 305-B by the nearest safe exit and proceed to the designated staging area (south parking lot) for accounting.

4. The Single Point Contact shall be immediately notified, who shall in turn notify the BED (or alternate).

5. The BED will go directly to the scene.

6. The BED will obtain all necessary information pertaining to the incident.

7. The BED will contact the Single Point Contact and advise whether to notify the PNL Occurrence Representative or the PNL 300 Area Emergency Director (AED), depending on the severity of the event. Inform the Single Point Contact as to the extent of the emergency (including estimates of dangerous waste or RMW quantities released to the environment) and any actions necessary to protect nearby facilities.

9312917 0178

8. Activation of the 300 Area ECC sets into motion the notification process for DOE, other Hanford contractors, and outside agencies.

9. The Hanford Patrol will set up roadblocks within the area to route traffic away from the emergency scene.

10. Emergency medical technicians will remove injured personnel to a safe location, apply first aid, and prepare for transport to the medical department (DOE/HEHF) or to hospitals. Medical personnel are on standby at the medical facility 24 hours/day.

11. The Hanford Fire Department will extinguish the fire.

12. All emergency equipment will be cleaned and restored for its intended use immediately after completion of cleanup procedures.

7.4.4.6 Unusual, Irritating, or Strong Odors. (Signal: None) If an unusual, irritating, or strong odor is detected, and the person detecting it has reason to believe that the odor may be the result of an uncontrolled release of a toxic or dangerous material, they shall:

- Immediately activate the building fire alarm system to evacuate the building, and

- Notify the Single Point Contact, the building manager, and cognizant line management.

In the event that the discoverer has knowledge of the source and scope of the release and believes that the release poses no immediate threat to others, the release shall immediately be reported to the building manager and to the discoverer's manager. Measures shall be taken to contain the release and ventilate the area, if safe and advisable to do so.

In the event that an unusual odor is detected within the facility, and the source of the odor is unknown, the BED must consider whether the facility should be evacuated.

7.4.4.7 Criminal Activity. (Signal: None) In the event of sabotage, threatened action, or a bomb or suspicious object is discovered, unit personnel will clear the immediate area. The Single Point Contact will be notified immediately. Facility personnel shall take whatever steps are necessary to assure that suspicious objects are not moved, opened, or otherwise disturbed. If practicable and safe to do so, personnel may place warning signs, barricades, or guards to protect the object pending the arrival of qualified personnel.

7.4.4.8 "Off-Shift" Conditions. (Signal: None) If a staff member is working outside normal facility working hours, and the need to evacuate the facility occurs, the following procedure should be followed:

- Ensure that anyone else in the facility leaves through the nearest safe exit; provide assistance if necessary.

- Follow the facility evacuation procedure (Section 7.4.4.1).

- In case of fire, activate the fire alarm, located at each building exit, and leave the building.

- Stay in a safe place nearby and inform the responding fire personnel of the nature and location of the emergency.

- Notify the Single Point Contact.

7.4.4.9 Power Failure. (Signal: None) In the event of power failure, all containers of waste will be checked for closure and, if the duration of the outage exceeds 30 minutes, will be returned to their storage cells if they have been removed for labpacking or bulking. Facility equipment will be shut down to allow orderly restoration of power.

In a power failure incident, the Building Manager and the BED are to be notified. The Building Manager is responsible to arrange for restoration of power service to the unit. The BED is responsible to evaluate whether the Contingency Plan should be implemented as described in Section 7.3, or whether an evacuation is advisable. If the Contingency Plan is not implemented immediately, site personnel may be required to monitor the unit for continuing release potential during extreme temperature periods. The BED will determine the need for, and extent of, any such monitoring, in consultation with an industrial hygienist if appropriate.

In the event of power loss to site equipment which results in failure of the equipment, the Building Manager is to be contacted to arrange for repair of the affected equipment and/or provide restoration of power. The BED should be contacted in the event that any failure results in a release or potential release to the environment as described in Section 7.3.

7.4.4.10 Damaged, Unacceptable Shipments. (Signal: None) When a damaged shipment of hazardous material or dangerous waste arrives at the unit, the shipment is unacceptable for receipt under the criteria of Section 2.8.3 of this permit application. The damaged shipment should not moved. Unit personnel should instead perform the following steps:

1. If the release from damaged packagings is a "minor spill" under the criteria of Section 7.4.4.3:

   - Immediately notify the Single Point Contact to advise of the situation. The Single Point Contact will notify the BED, who will respond and assist in the evaluation of, and response to, the incident.
   - Notify the generator of the damaged shipment, and obtain any chemical information necessary to assist the response.
   - Unit personnel may proceed with remedial action, including overpacking of damaged containers, cleanup of spilled material, or other necessary actions to contain the spill.

2. If the release does not meet the criteria of a "minor spill" as noted above, or the extent of the spill cannot be immediately determined, the unit contingency plan will be implemented as described in Section 7.3.

7.4.5 Prevention of Recurrence or Spread of Fires, Explosions, or Releases [G-4e]

The BED is responsible for taking the steps necessary to ensure that a secondary release, fire, or explosion does not occur after the initial incident. Procedures that will be implemented may include:

- Inspection of containment for leaks, cracks, or other damage
- Inspection for toxic vapor generation
- Isolation of residual waste materials and debris
- Reactivation of adjacent operations in affected areas only after cleanup of residual waste materials is achieved.

7.4.6 Storage and Treatment of Released Material [G-4f]

Restart of operations after an emergency is conducted in accordance with established procedures for recovery from off-normal events. Treatment and/or storage and disposal of released material and contaminated debris is part of the recovery process leading to restart. These procedures call for cognizant PNL line management and Laboratory Safety staff to determine the need for a recovery plan. A recovery plan is needed following an event when further risk could be introduced to personnel, a facility, or the environment through recovery action and/or to maximize the preservation of evidence. If a recovery plan is required, it must be approved by PNL line management before restart. Restart of operations must be performed in accordance with the approved plan.

For emergencies not involving activation of the ECC, the BED is responsible for ensuring that conditions are restored to normal before operations are resumed. If the ECC was activated and the emergency phase is complete, a special recovery organization may be appointed at the discretion of the BED to restore conditions to normal. The makeup of this organization will be dependent upon the extent of the damage and its effects. The recovery organization will be appointed by the AED.

Immediately after an emergency, the BED or the recovery organization will make arrangements for the cleanup phase. Procedures for treatment, storage, and/or disposal of released material and contaminated debris are implemented at this time.

Released material and contaminated debris will be managed in the same manner as wastes received from outside the unit (see Section 4.3 for procedures). All waste so generated will be containerized in drums or other appropriate containers and stored in an appropriate storage area pending analysis and determination of final treatment/disposal requirements. WM&EC will be contacted for support and guidance during this phase of operations.

Cleanup actions will be taken by unit operations personnel or other personnel meeting the training requirements of Chapter 8 of the unit Part B permit application. Actions to be taken may include, but are not limited to, any of the following:

- Neutralization of corrosive spills
- Chemical treatment of reactive materials to reduce hazard
- Overpacking or transfer of contents from leaking containers
- Using sorbents to contain and/or absorb leaking liquids for containerization and disposal
- Decontamination of solid surfaces impacted by released material, e.g. intact containers, facility equipment, floors, containment systems, etc.
- Disposal of contaminated porous materials which cannot be decontaminated, and any contaminated soil
- Containerization and sampling of recovered materials for classification and determination of proper disposal technique
- Followup sampling of decontaminated surfaces to determine adequacy of cleanup techniques as appropriate.

Wastes from cleanup activities will be analyzed and stored in the same manner as are wastes received from outside the unit, i.e. in the manner prescribed in Chapter 4 of the Part B permit application for 305-B. A field check for compatibility prior to first storage, if necessary, will be performed as described in A Method for Determining the Compatibility of Hazardous Waste (EPA 1980). Incompatible wastes will not be placed in the same container. Containers of waste will be placed in storage areas appropriate for their compatibility class.

If it is determined that incompatibility of wastes was a factor in the incident, the BED or the recovery organization will ensure that the cause is corrected. Corrective examples would be modification of an incompatibility chart, or increased scrutiny of wastes from a generating unit (in accordance with Section 3.2 of the Part B permit application) when incorrectly designated wastes caused or contributed to an incident.

7.4.8 Post-Emergency Equipment Maintenance [G-4h]

All equipment used during an incident will be decontaminated (if practicable) or disposed of as spill debris. Decontaminated equipment will be checked for proper operation prior to storage for subsequent use. Consumables and disposed materials will be restocked in the quantities shown in the inventories of Section 7.5. Fire extinguishers will be recharged or replaced.

The BED is responsible to ensure that all equipment is cleaned and fit for its intended use prior to the resumption of operations. Depleted stocks of neutralizing and absorbing materials will be replenished, SCBAs cleaned and refilled, protective clothing cleaned or disposed and restocked, etc. Notification of state and local authorities will be made through DOE-RL of completion of cleanup, decontamination and emergency equipment resupply activities. Upon notification and approval of PNL line management, normal facility operations may be resumed.

7.4.9 Response to Container Spills or Leaks [G-4i]

In addition to the foregoing contingency plan provisions, the following specific actions may be taken for leaks or spills from containers at the unit:

- Container leaks will be stopped as soon as possible through tightening closures, tipping the container to stop the leak, use of plugging or patching materials, or overpacking. Appropriate protective equipment will be used.

- If it is inadvisable to approach the container, build a containment of sorbent materials and restrict access pending notification of the BED and implementation of the contingency plan.

- Contents of leaking containers may be transferred to appropriate nonleaking containers. Transfer procedures for fire safety will be followed for ignitable or reactive wastes (e.g., use of nonsparking tools, bonding and grounding of containers, isolation of ignition sources, and use of explosion-proof electrical equipment).

- Overpacked containers will be marked and labeled in the same manner as the contents. All containers of spill debris, recovered product, etc. will be managed in the same manner as waste containers received from outside the unit. Overpacks in use at the facility will be marked with information pertaining to their contents, and noting whether the container inside the overpack is leaking or is in good condition.

7.4.10 Response to Tank Spills or Leaks [G-4j]

This section is not applicable to 305-B because wastes are not stored in tanks.

7.4.11 Surface Impoundment Spills and Leakage [G-4k]

This section is not applicable to 305-B because wastes are not placed in surface impoundments.

7.4.12 Waste Pile Spills and Leakage [G-4l]

This section is not applicable to 305-B because wastes are not stored in waste piles.

7.4.13 Incineration Spills and Leakage [G-4m]

This section is not applicable to 305-B because wastes are not incinerated.

7.4.14 Landfill Leakage [G-4n]

This section is not applicable to 305-B because wastes are not placed in landfills.

7.4.15 Land Treatment Facility Spills and Leakage [G-4o]

This section is not applicable to 305-B because wastes are not treated in land treatment units.

7.5 EMERGENCY EQUIPMENT [G-5]

The emergency equipment available for use during an emergency at the 305-B Storage Unit and at adjacent portions of the Hanford 300 Area are discussed in the following sections. The location of emergency equipment in the 305-B unit is shown in Figure 7-1.

7.5.1 Communication Equipment

The 305-B Storage Unit has an alarm system that is monitored by the Hanford Fire Department. A manual fire alarm pull box is located near each exit door. Unit operations personnel may also use telephones, the building PA system, or portable radios located throughout the unit to summon assistance. Further description of communication equipment is located in Sections 6.3.1.1 and 6.3.1.2 of Chapter 6 of the Part B permit application.

7.5.2 Fire Control Equipment

The 305-B Storage Unit is constructed of noncombustible materials and equipped with an automatic fire-suppression (sprinkler) system. A portable fire extinguisher is located in each working area in compliance with NFPA safety codes. Each Class ABC extinguisher is capable of suppressing fires involving ordinary combustible materials, flammable liquids, oils, paints, flammable gases, and fires involving electrical equipment. The Class D extinguisher is capable of extinguishing Class D (reactive metals) fires. Each Halon extinguisher is capable of extinguishing Class ABC fires where Halon would be more appropriate, e.g. fires involving large electrical equipment. All extinguishers comply with the National Fire Code standards for portable extinguishers and are inspected monthly by the building manager. The inspections are recorded on tags attached to each extinguisher.

7.5.3 Personal Protective Equipment

The unit has a safety shower and eyewash units at each end of the high bay. Drainage from these units flows into the containment trenches. In addition to these units, a portable eyewash unit is maintained at the protective equipment storage area just outside the high bay, adjacent to the office area. These eyewash/shower units are inspected weekly in accordance with Section 6.2 of the Part B permit application.

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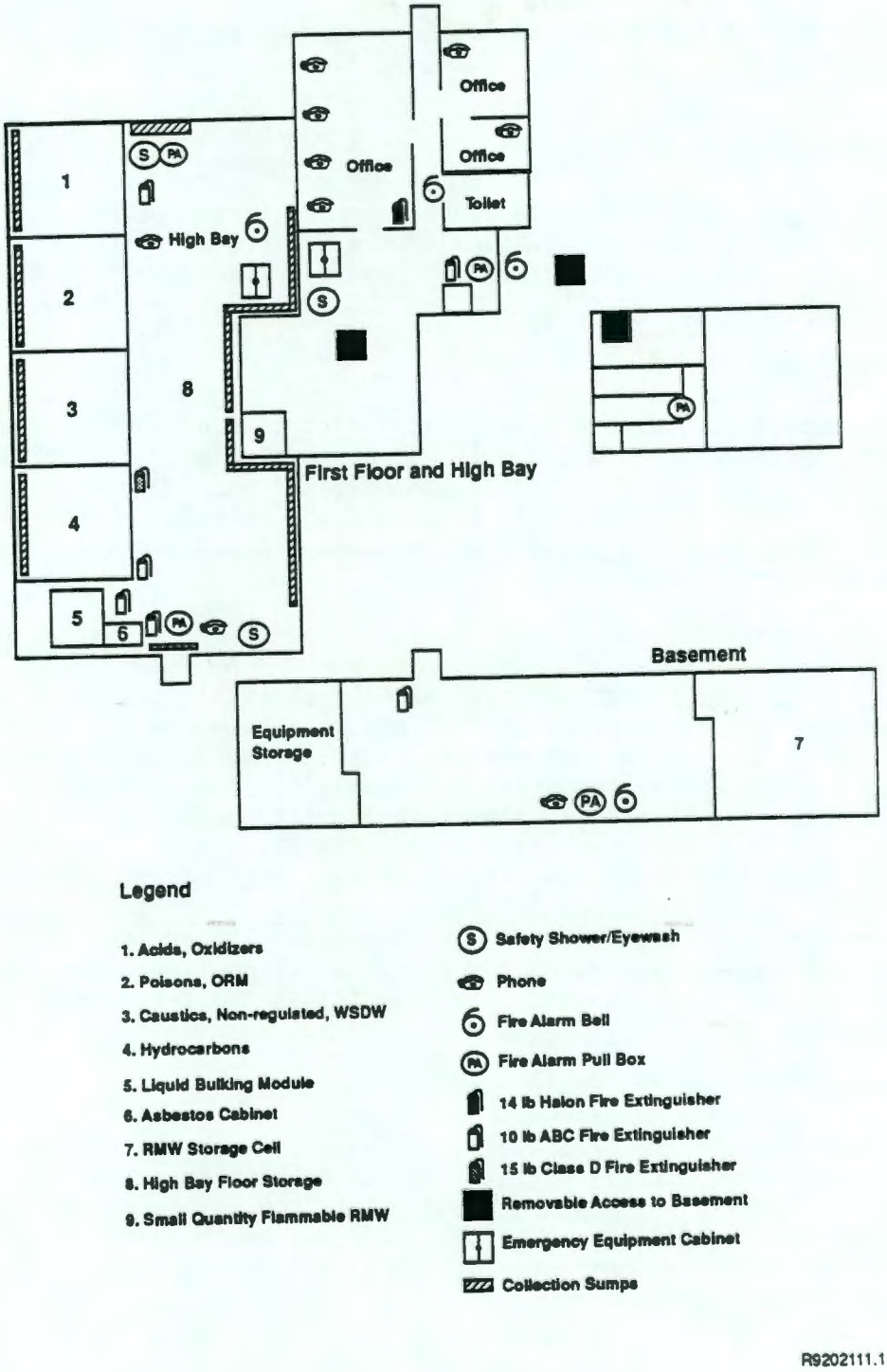

Figure 7-1. 305-B Storage Unit Emergency Equipment Locations.

Protective clothing and respiratory protective equipment are maintained at the facility for use during both routine and emergency operations. This protective equipment includes at a minimum:

- 50 disposable splash aprons
- 6 pairs rubber boots
- 100 pairs disposable gloves
- 10 pairs reusable gloves
- 12 chemical resistant suits
- 20 protective glasses
- 5 pair chemical goggles
- 4 face shields
- 4 full face respirators
- Respirator cartridges (variety)
- 3 self contained breathing apparatus (30 minute type)

This protective equipment is stored in cabinets located outside of the high bay east entrance. Personnel assigned to 305-B are available to assist other trained personnel (e.g., firefighters) in emergency situations or possible Immediately Dangerous to Life or Health (IDLH) spill cleanup situations.

7.5.4 Spill Control and Containment Supplies

Supplies of absorbent pillows are located in the high bay operating area near the east entrance. These pillows absorb organic or inorganic materials and have a rated absorption capacity of approximately one liter of waste each. They may be used for barriers to contain liquid spills as well as for absorbent purposes. The work area also has an ample supply of diatomaceous earth for absorption of liquid waste spills. Neutralizing absorbent is available for response to acid or caustic spills. A supply of empty drums (DOT 17E tight head and DOT 17H open head) and salvage drums (overpacks) is maintained in the high bay area along with brooms, shovels, and miscellaneous spill response supplies.

7.5.5 Hanford Site Emergency Equipment

The Hanford Site has fire and patrol personnel trained and equipped to respond in emergency situations. These personnel are employees of the site operating contractor. The Hanford Fire Department's Hazardous Material Response Team is trained for mobilization and control of hazardous material emergencies. The Hanford Fire Department will take control of the incident scene until the incident is under control and personnel rescue is complete. A list of available equipment for hazardous materials responses available through the Hazardous Material Response Team is given in Appendix 6A.

The Hanford Patrol provides support to the Fire Department during an incident, including such activities as activation of area crash alarm telephone systems or area sirens (for evacuation or take cover), access control, traffic control, and emergency notifications.

If an emergency threatens other facilities and/or there is a danger of release of hazardous materials to the environment, the 300 Area ECC will be activated. The ECC will provide any assistance requested by the BED, coordinate protective

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response actions and notifications, and furnish any necessary technical assistance.

7.6 COORDINATION AGREEMENTS [G-6]

This section refers to a number of coordination agreements "Memorandum of Understanding" and (MOU) established by and through DOE-RL to assure proper response resources availability for incidents involving the 305-B unit.

An MOU among the four major site contractors (WHC, PNL, Kaiser Engineers Hanford, and HEHF) defines the interfaces and notifications required during an emergency. DOE-RL has overall responsibility for emergency preparedness. Per the MOU, WHC has responsibility for Site-wide emergency preparedness while each contractor retains responsibility for emergency preparedness at individual units they co-operate with DOE-RL.

MOUs have been established with a number of offsite authorities to reduce the impact to human health and the environment in the event that an incident has off-site public health implications, or if an on-site emergency warrants off-site assistance. These MOUs are generally activated through the emergency notification of DOE-RL as stated in Section 7.4.1 and in Appendix 7A.

7.6.1 Local, State, and Federal Authorities

Various MOUs have been established between DOE-RL and Benton, Franklin, and Grant Counties and the states of Washington and Oregon. These MOUs describe the cooperative agreements between these agencies for any on-site emergency that warrants off-site assistance, and they describe the planning for, communication of, and response to emergencies at the Hanford Site that might have off-site consequences.

7.6.2 Hanford Fire Department Mutual Aid

The Hanford Fire Department provides fire department services for the Hanford Site. Mutual aid agreements have been established with Richland, Kennewick, and Pasco fire departments; with Benton County Fire Districts 1, 2, and 4; Franklin County Fire District 3; and Walla Walla Fire District 5 for support. In events where fire and/or toxic smoke threatens more than one facility, the 300 Area ECC is activated.

7.6.3 Medical and First Aid

Professional medical help is provided by DOE-RL onsite through HEHF. Doctors and/or nurses are available for emergency assistance at all times. These medical personnel are trained in procedures to assist personnel contaminated with hazardous and/or radioactive material. Emergency call lists are maintained to provide professional medical consultation at all times. A nurse is on duty in the 300 Area Medical Aid station at all times.

Referral to offsite hospital facilities is made by the HEHF physician providing emergency assistance by phone or in person. The primary hospital utilized in emergencies is Kadlec Hospital, Richland. Kennewick General Hospital, Kennewick,

and Our Lady of Lourdes Hospital, Pasco, are backup facilities. MOUs between these hospitals and DOE-RL dated February 24, 1989 are in place and incorporated in the DOE-RL Site Emergency Plan.

7.6.4 Ambulance Service

Ambulance service is provided by the Hanford Fire Department, which uses qualified emergency medical technicians as attendants. This service is available to the 305-B unit from the 300 Area fire station on a 24-hour, 7-day basis. Additional ambulance service is available from other site fire stations and from other local fire departments through the mutual aid agreements noted in Section 7.6.2. An MOU has also been specifically established between DOE-RL and the City of Richland to provide backup ambulance services.

7.6.5 Unified Dose Assessment Center

The Unified Dose Assessment Center (UDAC) is the technical extension of the DOE-RL EACT, providing services to both the EACT and the ECC. The primary mission of the UDAC is to provide recommendations for protective actions, dose calculations and projections, and consultation in the area of industrial hygiene for hazardous materials, biology, environmental monitoring, and meteorology to support the EACT and the ECC.

Industrial hygiene and biological consultants at the UDAC advise and assist in determining proper response procedures for spills or releases of toxic, flammable, carcinogenic, and pathogenic materials. UDAC staff are responsible to provide a central unified assessment of the dispersion and impact of environmental releases from the Hanford Site. In communication with the ECC, UDAC coordinates the assessment of impacts and assists in determination of actual and potential release scenarios.

7.6.6 Hanford Patrol Mutual Aid

The Hanford Patrol serves as the security and enforcement agency for the Hanford Site. In the event of an emergency, the Hanford Patrol provides services such as activating the crash alarm systems or area sirens, coordinating the movement of emergency responders through security gates, assisting evacuation, establishing barricades, and making necessary notifications through the Single Point Contact. MOUs have also been established with the Tri-Cities police departments to provide additional backup capabilities if required.

7.6.7 River Evacuation

An MOU among DOE-RL, the Washington Public Power Supply System (WPPSS), Benton and Franklin Counties, and the Thirteenth Coast Guard District exists to ensure safety on the Columbia River during an emergency at the Hanford Site and to coordinate response activities for a river evacuation.

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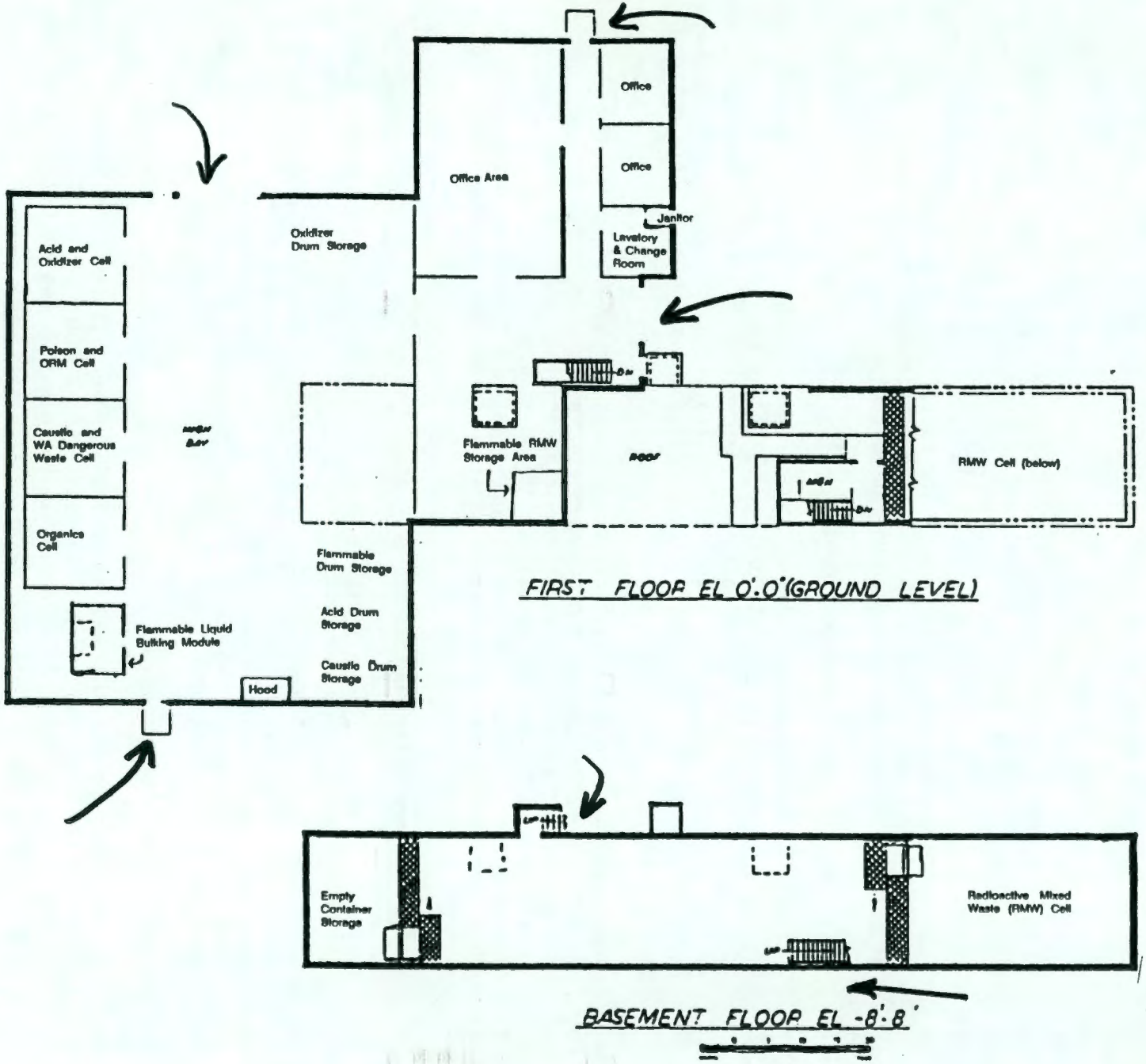

Figure 7-2. 305-B Evacuation Exits.

EMERGENCY SIGNALS

Signal	Meaning	Response
Gong (2 gongs/sec)	Fire	Evacuate building. Move upwind. Keep clear of emergency vehicles.
Siren (steady blast)	Area Evacuation	Proceed promptly to north parking lot accountability area. Follow instructions.
Wavering Siren	Take Cover	Close all exterior doors, turn off all intake ventilation and notify WM&EC of your whereabouts. Request call back for status and monitor portable radios.
Howler (Aa-oo-gah)	Criticality	Follow "take cover" instructions above. (No criticality will take place in 305-B since fissile materials are not accepted for storage.)

To hear these signals and a description of actions to take, call 373-2345.

7.6.8 Meteorological Information

An MOA is in place between the DOE-RL and the National Weather Service to define mutual responsibilities for providing meteorological information in an emergency situation. Additional meteorological information can be obtained from the Hanford weather station.

7.6.9 Washington Public Power Supply System

An MOA has been established between DOE-RL and WPPSS for providing mutual assistance as needed and available in the use of facilities and equipment for personnel decontamination, first aid, evacuation and reassembly areas, respiratory protective equipment, protective clothing, radiological survey equipment, resources for river evacuation, and radiological assistance response.

7.7 EVACUATION PLAN [G-7]

The 305-B unit has an evacuation plan which includes emergency signal identification and staging area location. In the event an evacuation is required, 305-B unit personnel depart by one of the exit doors noted in Figure 7-2 and proceed through the north gate. They are to assemble in the north parking lot accountability area for accounting. If the north gate is blocked by the emergency, personnel may escape through the Apple Street (west) gate opening to Stevens Drive or the south gate.

7.8 REQUIRED REPORTS [G-8]

Three types of written post-incident reports, summarized below are required for incidents at the 305-B unit.

7.8.1 Report to Ecology/EPA

Within 15 days of the incident, a written report will be submitted to Ecology concerning the incident. The report must include:

- Name, address, and telephone number of DOE-RL contact;
- Name, address, and telephone number of 305-B unit;
- Date, time, and type of incident (e.g. fire, explosion);
- Name and quantity of material(s) involved;
- The extent of any injuries;
- Assessment of any actual or potential hazards to human health or the environment caused by the incident;
- Estimated quantity and disposition of recovered material that resulted from the incident;
- Cause of the incident; and
- Description of corrective action taken to prevent recurrence of the incident.

7.8.2 DOE Occurrence Reporting

Under DOE Order 5000.3A, an occurrence report is required for incidents occurring at the 305-B unit involving hazardous materials release, fire, etc. Specific details of this reporting system are found in the Order. To summarize, the BED is responsible to file the following occurrence reports with DOE-RL under the Order:

- Within 24 hours of discovery, file a Notification Report.
- Within 10 days of discovery, file a complete Occurrence Report reporting all information available.
- File an updated Occurrence Report whenever significant new information relating to the incident becomes available.
- File a final Occurrence Report when cause of the incident has been analyzed, root cause and contributing causes determined, corrective actions determined and scheduled, and "lessons learned" identified.

7.8.3 Off-Normal Event Reporting

Under off-normal event reporting procedures, occurrences shall be promptly investigated, reported, and analyzed to ensure that effective corrective actions are taken in compliance with contractual, statutory, and corporate requirements. All incidents are recorded in the building manager's logbook, and the logbook is audited to assure that incidents were reported and handled properly. In the DOE reporting system, four levels of incidents are described in descending order of severity: emergency, unusual occurrence, off-normal occurrences, and logbook entry only.

An "off-normal event" is a significant deviation from normal operation that requires categorization and reporting as noted above. PNL management is required to evaluate an event to determine the depth of investigation and level of reporting required.

Reporting of emergencies, unusual occurrences, and off-normal occurrences takes place as described under Section 7.8.2.

The BED is responsible for investigating each event in his/her area(s) of responsibility and submitting the appropriate report.

7.9 CONTINGENCY PLAN LOCATION

Copies of the 305-B contingency plan are maintained at the following locations:

- The 305-B Storage Unit
- Hanford Fire Department (300 Area Fire Station)
- 300 Area ECC Offices
- The DOE-RL/EACT command post, Federal Building, Richland.

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CONTENTS

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8.0 PERSONNEL TRAINING [H]

The information contained in this chapter outlines the Personnel Training Program for PNL 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. PNL 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.

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 PNL 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 Engineer is responsible for the mixed waste operation of 305-B. This staff member must review all mixed waste disposal requests and ensure their accuracy and reliability. In addition, the RMW Waste Management Engineer 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 Engineer 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 PNL PCB waste stream, managing the waste designation data base, 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.

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TRAINING COURSE NAME	STAFF POSITION[1] OS	E	TS	C
Building Emergency/Contingency Plan	A[2]	A	A	A
Handheld Radio Operator	I	I	I	I
General Radiation Safety	B	B	B	N
Radiation Safety for Females[3]	I	I	I	I
Respiratory Protection	A	A	A	N
TSD Operator (24 hour w/8-hour refresher)	I/A	I/A	I/A	I/A
SCBA Training	A	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	I	I	I	N
Radioactive Material Shipping Representative	N	B[4]	N	N
305-B Safe Operating Procedures	A	A	A	A
Hazardous and Mixed Waste Generator	A	A	A	A
Hazardous Waste Operations Supervisor	I	N	N	N

[1]Staff Position Key: OS -- Unit Operations Supervisor
E -- RMW and Waste Management Engineers
TS -- Waste Management Technicians and Technical Specialists
C -- Waste Management Clerks

[2]Requirements Key: A - Annually; B - Biennially; T - Triennially; I - Initially upon assignment to the unit; N - Not Required.

[3]Required for female staff only.

[4]Required for RMW Engineers only.

Figure 8-1. 305-B Training Requirements.

Waste Management Technical Specialists and Technicians are responsible for the physical operations at 305-B. The persons in these positions are responsible for packaging, labeling, and preparing wastes for shipment to disposal facilities and will assist in any sampling activities and/or waste pickups. One or more of these staff members will also serve as alternate BEDs and zone wardens for 305-B in the event of an off-normal event or an emergency. As zone warden, the primary responsibility is to account for the safe evacuation of plant personnel and report this to the BED. They are also responsible for performing minor maintenance and upkeep of the 305-B building.

Waste Management Clerks are responsible for recordkeeping and database maintenance at the 305-B Storage Unit. It is the role of the Waste Management Clerk to enter data and update the databases as required. Verification of waste inventories are also the clerk's responsibility; other roles include reporting, preparation of labels, manifests and associated paperwork, and unit upkeep.

A list of the personnel filling the above mentioned positions as of June 1, 1991 can be found in Appendix 8A. The personnel list will be updated as the names of responsible personnel change.

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

A number of training courses are required of 305-B personnel on periodic basis. A brief description of required courses is given in this chapter (Figure 8-1).

New employees at 305-B must successfully complete the training program within 6 months after their employment at or assignment to the unit. At a minimum, the training familiarizes personnel with emergency equipment and procedures, unit operations, and Occupational Safety and Health Administration (OSHA) regulations.

8.1.3 Training Coordinator [H-1c]

Training at PNL is provided by a number of specialists in their fields, including a Training Coordinator from the waste management organization who is responsible for coordinating dangerous waste training. The position of Training Coordinator is filled by an engineer or specialist having "hands-on" experience with handling chemical wastes. PNL also has a unit which tracks and monitors training for PNL employees. This coordination includes a system for "flagging" affected employees when additional training and/or followup is warranted.

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

Titles and job descriptions of personnel involved in operating 305-B are set forth in Section 8.1.1. All training is relevant to the positions in which the unit personnel are employed; for normal operating conditions the training includes:

- Hazardous and Mixed Waste Generator -- Annual: This training covers internal PNL hazardous and mixed waste procedures and issues, and regulatory requirements applicable to PNL operations.

- Worker Right-to-Know -- Initial: This course familiarizes the employee with their rights under the right-to-know statutes.

Information on material safety data sheets and their availability and on standard industrial hygiene terms is also covered.

- Vehicle Accident Prevention -- Initial (2 hours) and triennial refresher (30 minutes): This course is intended to familiarize employees with safe driving rules and with the requirements for operation of government-owned and PNL-owned vehicles.

- General Radiation Safety -- Biennial: This course gives staff members information on the basic characteristics of radiation, natural and manmade sources, biological effects and risks of radiation exposure, ALARA, contamination control, and warnings and alarms.

- NCRP Report 39 -- Initial: For female radiation workers only. The briefing informs the female radiation worker of the potential hazards of radiation to women of reproductive age.

- 305-B Safe Operating Procedures -- Annual or whenever procedure content is revised, whichever is more frequent: This requirement is fulfilled by reading and studying the written procedures.

- Hazardous Waste Shipment Certification -- Initial: This course provides training to those who supervise and prepare hazardous waste shipments and who certify that these shipments have been properly prepared in compliance with applicable laws and regulations. This training ensures that these persons understand their responsibilities and liabilities in the shipment of hazardous waste and that they have a basic understanding of which regulations are applicable and how they must achieve compliance.

- Radioactive Material Shipping Representative -- Biennial: This course provides training in the onsite radioactive material shipping procedures and requirements. Successful completion of this course is required to receive authorization to sign for onsite radioactive shipments (onsite RSRs).

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

- Safe Forklift Operation -- Triennial: This course provides instruction in the safe operation of forklifts.

Training is tracked and documented by PNL and by the unit training coordinator. Training records and class documentation are held on file in the waste management operations office in 305-B as part of the Operating Record. The waste organization manager is responsible for ensuring the necessary training is provided to the 305-B staff.

8.1.5 Training for Emergency Response [H-1e]

Training is adequate to ensure that personnel are able to respond effectively to emergencies and are familiar with emergency procedures, emergency equipment, and emergency systems. Emergency response training includes, but is not limited to:

- Using, inspecting, repairing, and replacing unit emergency and monitoring equipment
- Activating and responding to communications and alarm systems
- Response to fires and explosions
- Shutdown of operations.

Procedures for Using, Inspecting, Repairing, and Replacing Unit Emergency and Monitoring Equipment. Personnel operating 305-B are adequately trained to ensure prompt and effective response to emergency situations that may arise during operation of the unit. The following required safety courses outline procedures for using, inspecting, repairing, and replacing unit emergency and monitoring equipment.

- Building Emergency Preparedness (contingency plan): conducted annually or when changes are made, whichever is more frequent, to familiarize the employee with the written contingency plan and specific responsibilities of emergency procedures.
- Hand-Held Radio Operator: conducted initially, this briefing makes the employee familiar with the operation of the hand-held and truck-mounted radio for both everyday and emergency operation. This briefing also includes a discussion on radio etiquette.
- Respiratory Protection (SAF-RP-001): conducted annually, the course familiarizes the operating staff with the proper use of air purifying respirators and their limitations. It also makes the staff aware of potential respiratory hazards, how to recognize them, and what actions to take.
- Treatment, Storage, or Disposal (TSD) Facility Operator Safety (SAF-WM-0057): consists of 24-hour initial training and an 8-hour annual refresher. This course provides extensive instruction on the use of field survey instruments such as combustible gas indicators, oxygen meters, detector tube systems, photo and flame ionization instruments, organic vapor analyzer (OVA) meters, and atmospheric sampling instruments. Other topics covered include heat-induced illnesses, OSHA's Emergency Response Standards, lists of personal protective equipment, hazardous materials classification systems, confined space work practices, liquid storage tanks, contamination control, toxicology, medical monitoring, and many others.
- SCBA: conducted annually, this course instructs the employee of the advantages and limitations of the SCBA equipment. Key items covered include equipment inspection, modes of operation, donning procedures,

recognition and response to malfunctions, maintenance and repair, and practical demonstrations.

- Fire Extinguisher Use: conducted annually, this 30-minute course consists of a videocassette, lecture, and reading materials. Its intent is to familiarize all personnel with proper discharging, inspecting, and maintenance procedures for fire extinguishers to be used during an emergency.

Key Parameters for Automatic Waste Feed Cut-Off Systems. This section is not applicable because there are no automatic waste feed systems at 305-B.

Communications or Alarm Systems. Personnel operating 305-B are properly trained in both handling communication devices and alarm systems and recognizing alarm sirens as to their meaning. A Hand-Held Radio Operator training course (outlined above) is required to be a part of all 305-B employee training. In addition, the Contingency Plan, also required reading for all the operating staff at 305-B, details communication and alarm systems, as well as proper response to each system during an emergency.

Response to Fires. Personnel at 305-B are adequately trained in response to fires at the unit. All staff are trained annually in implementation of the contingency plan which outlines each person's immediate and sequential actions in case of a fire emergency. In addition, all staff receive training for proper handling, maintenance, and discharge of on-site fire extinguishers, and proper activation of alarm and fire suppressant systems.

Response to Groundwater Contamination Incidents. This section is not applicable because groundwater monitoring is not required at 305-B.

Shutdown of Operations. Procedures for shutdown of operations of 305-B because of an emergency situation are outlined in the contingency plan. As mentioned previously, all staff are trained annually in implementation of the contingency plan. The person responsible for the decision to shut down is the BED or alternate.

8.2 IMPLEMENTATION OF TRAINING PROGRAM [H-2]

The training program is currently being implemented. All employees will receive training within six months of their date of hire or their transfer to a new position at the unit. Personnel will not work in unsupervised positions until they successfully complete the training course. Records of each individual's formal training are maintained at the 305-B unit; backup files are kept at the office of the Laboratory Training Coordinator. Training records of current employees will be kept until closure of the unit. Records of former employees are kept for at least three years from the date the employee last worked at the unit.

The training outline is on file in the Laboratory Training Coordination office and at 305-B and is available for review by all waste handling and management personnel, emergency response personnel, and all regulatory agencies. Provisions are made for updating and reviewing courses, as necessary, to ensure compliance with WAC 173-303.

CONTENTS

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9.0 EXPOSURE INFORMATION REPORT

The 305-B Storage Unit does not store, treat, or dispose of hazardous waste in a surface impoundment or landfill as defined in 40 CFR 270.10. Exposure information report requirements under RCRA, Section 3019, therefore, are not applicable.

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CONTENTS

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10.0 WASTE MINIMIZATION PLAN

This chapter discusses the program to minimize the volume or quantity and toxicity of waste generated at the 305-B Storage Unit. The regulatory basis for, and objectives of, the waste minimization program are discussed. Waste generators are described and procedures for minimizing waste are discussed.

10.1 REGULATORY BASIS

The Hazardous and Solid Waste Amendments of 1984 to RCRA require that, whenever feasible, the generation of regulated hazardous waste be reduced or eliminated as expeditiously as possible. Section 3002(b) of RCRA requires certification of the following:

- The generator of the hazardous waste has in place a program to reduce the volume or quantity and toxicity of such waste to the degree determined by the generator to be economically practicable

- The proposed method of treatment, storage, and/or disposal is that practicable method currently available to the generator that minimizes the present and future threat to human health and the environment.

In addition, WAC 173-303-283(3)(h) requires each facility to prevent the use of processes that do not treat, detoxify, recycle, reclaim, and recover waste material to the extent economically feasible. This chapter provides the means to certify that a waste minimization program is in place for the 305-B Storage Unit.

10.2 THE 305-B STORAGE UNIT WASTE MINIMIZATION OBJECTIVES

305-B's waste minimization program is tied to the overall waste minimization program for the Hanford Site. The 305-B waste minimization program includes all practices that reduce, avoid, or eliminate dangerous waste generation.

The 305-B waste minimization program objectives are to:

- Minimize the volume of dangerous waste generated.
- Recover laboratory chemicals for redistribution and/or for reuse if practicable.
- To the extent that dangerous waste is generated, select management options which recycle, reclaim or reuse the waste for a beneficial purpose to the maximum extent feasible.
- Segregate dangerous waste from nondangerous waste if practicable.

Annually, a certification as required by 40 CFR 264.73(b)(9) will be placed in the unit Operating Record stating that a waste minimization program is in place. In addition, a Hanford Site-wide biennial report is made to the EPA containing a description of efforts made to minimize waste and certification that a waste minimization program is in place. The report will include information on the 305-B unit's waste minimization program.

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minimization program is in place. The report will include information on the 305-B unit's waste minimization program.

10.3 WASTE GENERATION CONTROL

As noted above, the 305-B unit is a storage unit receiving waste generated at other locations on the Hanford Site (principally the 300 Area) until the waste can be transported to a permitted offsite recycler or treatment, storage and/or disposal facility. The 305-B storage unit does not exercise direct control over the quantities or types of waste generated at Hanford. However, the 305-B unit does intercept certain laboratory chemicals delivered for disposal and makes them available for reuse or reclamation, thus reducing the amount of laboratory chemicals disposed as dangerous waste.

Very little hazardous waste is generated by unit operations. Most wastes are used protective clothing. Occasionally, spill cleanup residues may be generated.

Section 10.4 describes the methods used at the unit to eliminate or reduce the generation and/or offsite management of waste.

10.4 SPECIFIC WASTE MINIMIZATION PROCEDURES

The 305-B unit operates a program to intercept laboratory chemicals for reuse or reclamation. In some cases, laboratory chemicals delivered for disposal are in their original, unopened factory containers. In other cases, the containers have been opened and the contents partially consumed.

When unopened laboratory chemicals are delivered by generating units in their original factory containers, they are separately inventoried. This inventory is then provided to users of laboratory chemicals throughout PNL and at WHC in an effort to locate other users of the chemical. This inventory is published not less often than monthly. The unopened containers are retained for up to nine months before being consigned for offsite disposal.

Opened containers are also offered to other PNL users for use where use of non-certified reagents is acceptable. Examples of such use would be neutralization of bench acid spills, solvent cleaning of glassware stains, etc. Opened containers are not accumulated for purposes of reuse, however, as are unopened reagents. Potential users must contact 305-B staff about availability of opened containers.

Liquid laboratory chemicals in small containers which cannot be redistributed onsite are bulked, if practicable, in accordance with the procedures described in Section 4.1.1.2. This activity serves to reduce the number of containers which are shipped and ultimately disposed as dangerous waste, since containers which are "empty" as defined in WAC 173-303-160(2) are crushed and disposed as solid waste rather than being included in the dangerous waste quantity (as occurs with labpacks).

Waste generated at the 305-B unit, while minimal, is managed to ensure that the quantity and toxicity are minimized.

PNL has an operating procedure for the disposal of unit-generated waste, which includes proper responses for cleanup after dangerous waste spills. The response to dangerous waste spills is aimed at minimizing liquid and material used during spill cleanup.

Dangerous waste releases occurring within the 305-B unit are responded to and cleaned up as soon as possible in order to minimize the amount of cleanup-generated wastes. Releases are cleaned up in accordance with the procedures found in Section 4.1.1.8 and/or the 305-B contingency plan (Chapter 7).

Housekeeping and surveillance activities are performed daily to properly clean the unit in order to minimize the potential for dangerous waste generation. Floors in the operating area of the unit are cleaned using only dry sweeping compounds and/or damp mops. The use of free liquid or running water is not permitted without permission of the unit supervisor.

Site personnel are instructed not to dispose non-dangerous wastes (office trash, beverage containers, etc.) in dangerous waste containers. Dangerous waste containers are kept closed except when adding or removing waste, which helps prevent inadvertent addition of ordinary refuse.

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CONTENTS

9 3 1 2 2 7 3 1 2

CONTENTS (Cont'd)

FIGURES

TABLES

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11.0 CLOSURE AND POST-CLOSURE REQUIREMENTS [I]

This chapter is submitted in accordance with the requirements of WAC 173-303-806(4)(a)(xiii) to demonstrate that DOE-RL has developed a plan to ensure safe closure of the 305-B unit. In accordance with WAC 173-303-610, copies of the closure plan and all revisions will be maintained at 305-B until certification of closure completeness has been submitted and accepted by Ecology. A post-closure plan is not required because 305-B is not a disposal unit and all dangerous wastes and dangerous waste residues will be removed at the time of closure.

11.1 CLOSURE PLANS [I-1]

This plan presents the activities required for final closure of the 305-B Storage Unit at its maximum extent of operation. The wastes included are those regulated as dangerous waste and RMW. Partial closure will not be conducted. Closure activities are presented in sufficient detail such that the closure process is understandable and a closure schedule can be developed.

11.1.1 Closure Performance Standard [I-1a]

The 305-B Storage Unit will be closed in a manner that will minimize the need for further maintenance and eliminate post-closure release of dangerous/mixed wastes or dangerous/mixed waste constituents which could pose a risk to human health or the environment. This standard will be met by removal of all dangerous/mixed wastes and dangerous/mixed residues from the unit.

Closure activities will return the 305-B site to the appearance and use of surrounding land areas. After closure, the 305-B unit will be in a condition suitable for use to support research and development activities. This use is consistent with the surrounding land use.

If there is any evidence of spills or leaks from the unit into the environment, samples will be taken and analyzed to determine the extent of contamination in the soil, and if necessary, in groundwater. Evidence of spills or leaks will be obtained through sampling of unit structures accessible to the environment (e.g., floors) and through inspection of all barriers designed to prevent migration to the environment (e.g., sumps). If this sampling program indicates that contamination is present, the potential for migration of contamination to the environment will be evaluated. If potential migration appears likely, additional samples will be taken. In addition, if the inspections identify any potential contaminant migration routes (e.g., cracks in sumps), additional samples will be collected to determine whether migration has occurred.

Any contaminated soil will be excavated, removed, and disposed as dangerous or mixed waste (determination of dangerous or mixed waste status will be based on waste radioactivity). Soil will be decontaminated to the following levels, as required under WAC 173-303-610(2)(b):

- Background environmental levels for wastes which are listed under WAC 173-303-081 or WAC 173-303-082

- Background environmental levels for wastes which are characteristic dangerous wastes under WAC 173-303-090

- Designation limits for wastes which are designated under WAC 173-303-084, or WAC 173-303-101 through WAC 173-303-103.

Equipment and structural components will be decontaminated using the procedures described in Section 11.1.4. All residues resulting from decontamination will be sampled and analyzed, as described in Section 11.1.4.3, to determine whether they are dangerous wastes. All residues will be removed from the unit and transferred to a facility having the necessary permits. Residues containing listed wastes, having dangerous waste characteristics, or exceeding dangerous waste designation limits will be disposed as dangerous wastes.

11.1.2 Partial and Final Closure Activities [I-1b]

This plan identifies the steps necessary to perform final closure of the unit in order to meet the aforementioned closure performance standard (Section 11.1.1). Closure activities involve removal of dangerous and mixed wastes from the unit and decontamination of the unit. These activities can be implemented at any point during the active life of the unit. Partial closure of the unit will not be conducted. The entire 305-B Storage Unit will be in use at all times prior to closure. The entire unit, therefore, represents the maximum extent of the operation which will be unclosed during the unit's active life.

11.1.3 Maximum Waste Inventory [I-1c]

The 305-B Storage Unit is used to store a variety of different research-related wastes. The maximum inventory of wastes in storage at any time will be constrained by three factors:

- The total amount of dangerous/mixed waste in storage at 305-B at any time will not exceed the design capacity of 30,000 gal (it is typically 2,000 to 5,000 gal)

- The total amount of any particular dangerous/mixed waste in storage during any given year will not exceed the amounts given in the Part A permit application for 305-B (see Table 11-1)

- The total amount of dangerous/mixed waste by hazard class in storage at any one time will not exceed Uniform Building Code Class B Hazardous Material Quantity Restrictions (see Table 6-3).

Except on the relatively rare occasion when 85-gal overpacks are used, approximately 90% of all dangerous wastes shipped from the unit are contained in 55-gal drums, with the remaining 10% consisting of 30-gal and smaller containers.

11.1.4 Inventory Removal, Disposal or Decontamination of Equipment, Structures, and Soils [I-1d]

Steps for removing or decontaminating all dangerous/mixed waste containers, residues, and contaminated equipment are described below.

Table 11-1. Dangerous/Mixed Waste Allowable Inventory.

Dangerous Waste No.	Kilograms of Waste
D001	10,000
D002	5,000
D003	500
D004 through D006	200
D007	10,000
D008	50,000
D009	400
D010	50
D011	200
WT01	20,000
WT02	10,000
WP01	5,000
WP02	1,000
WP03	500
WC01 and WC02	1,000
F001 and F002	2,000
F003	3,000
F004	1,000
F005	2,000
F027	200
W001	5,000
U001 through U247	200
P001 through P123	200

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11.1.4.1 Inventory Removal. Closure activities will be initiated by removal of the dangerous/mixed waste inventory present at 305-B at the time of closure. Inventory removal procedures will be identical to the waste handling, packaging, and manifesting activities associated with normal operation of the unit. All dangerous wastes present will be placed into proper containers according to currently accepted waste handling procedures; mixed waste will be placed into containers and meet Hanford specifications outlined in WHC-EP-0063, Hanford Radioactive Solid Waste Packaging, Storage, and Disposal Requirements. To the extent possible, chemicals will be bulked into larger containers. If wastes are bulked, containers will be emptied in compliance with WAC 173-303-160 so that they are not dangerous wastes. Small quantity laboratory chemicals that cannot be bulked will be packaged into labpack containers in compliance with the requirements of WAC 173-303-161. All containers of dangerous/mixed waste will be manifested, and custody transferred to a dangerous waste transporter having a proper dangerous waste identification number. Wastes will be transported to a permitted dangerous waste facility for treatment or disposal.

11.1.4.2 Decontamination of Building Equipment and Structures. All equipment and structures in dangerous/mixed waste handling and storage areas will be decontaminated at the time of closure. Equipment and structures to be decontaminated include:

- Floors and walls of the four dangerous waste storage cells
- Floors, walls, and ceiling of high bay and flammable liquid bulking module areas
- Floors and walls of remainder of first floor except for offices, work area, and lavatories/change rooms
- Floors, walls, and ceiling of basement except equipment storage room
- Interior surfaces of all secondary containment trenches
- Fork lift and loading hoist
- Asphalt ramp outside north high bay door.

Prior to decontamination, sampling and analysis will be performed to determine decontamination requirements. In most cases, minimal decontamination consisting of washing or wiping will be performed unless the sampling and analysis indicates the presence of high levels of contamination. In order to determine whether such contamination exists, a systematic sampling approach designed to identify the presence of "hot spots" will be employed. Structures (i.e., floors, walls, ceilings) to be sampled prior to decontamination will be sampled on a regular grid with a spacing of 5 ft. This spacing provides an 80% probability of detecting a circular area of contamination having a radius of 2.5 ft or larger (Gilbert 1987, pp. 119-125). Biased sampling of areas more likely to have been contaminated by unit operations, such as cracks or seams in the concrete floor or any visible stains, will also be performed. If any areas of contamination are detected, more thorough decontamination procedures will be used in those areas.

Structural surfaces will be sampled by collecting wipe samples at each grid point. At each sample location, two samples will be collected within adjacent 1 ft square templates. One sample will be collected using a gauze pad wetted with dilute nitric acid for extraction of inorganic contaminants. The other sample will be collected with a gauze pad wetted with hexane for extraction of organic contaminants. The procedure for collecting wipe samples is given in Appendix 11A.

Decontamination of equipment and structures will take place as described below. The magnitude of each phase of the operation and estimated time for completion are included.

11.1.4.2.1 Decontamination of Basement. Once the RMW room has been completely emptied of stored waste, any visible residues present will be scraped, vacuumed and/or swept up until visibly clean. All residues thus obtained will be placed in open top drums and disposed of as appropriate. All waste materials generated during the decontamination process of the RMW room will be surveyed by radiation protection technologists (RPTs) to determine whether the wastes generated from decontamination should be handled as RMW. After the above process is completed, wipe samples will be collected at various points along the floors, walls, and ceiling of the basement.

Swab samples will be collected from the RMW room to test for dangerous waste contamination resulting from storage activities. Any dangerous waste contamination found during this testing will be presumed to have come from storage activities unless otherwise documented. Random and biased sampling locations will be selected using the procedures noted in Section 11.4.4. The swab samples will be analyzed to determine if the RMW storage area has been radioactively contaminated. Baseline smears will have been documented prior to introduction of RMW. Radioactivity has been selected as an indicator of contamination since it is present in the RMW and is easily detected. Once the results from the testing are known, a decision can be made as to the appropriate decontamination procedures.

If no contamination is found on the swab samples, decontamination procedures will consist of dusting, vacuuming, and wiping with soap and water. Vacuuming is performed using a commercial or industrial vacuum equipped with a high-efficiency particulate air (HEPA) filter. The vacuum cleaner bag containing captured particulates is disposed of as appropriate.

Dusting/wiping is done with a damp cloth or wipe (soaked with water or solvent) to remove dust from surfaces not practically treatable with a vacuum. The cloth or wipe is also disposed of as appropriate. Brushing or sweeping is used to clean up coarse debris.

Minimal time will be required for setup of the equipment. Labor requirements for the process should be moderate. Minimal time will also be required for packaging debris and dismantling and removing cleaning equipment. Little wastewater (only the contents of the buckets) will be generated by this procedure. However, if contamination is found on the swab samples, more sophisticated decontamination procedures must be implemented. The entire RMW storage room will be extensively treated via steam cleaning. The ceiling, all four walls, and the floor will be treated by applying steam from a hand-held wand to remove all residues from the

surfaces. The contaminated wastewater generated by this activity will be contained by the designed spill controls already in place for waste storage areas. Pumps or vacuums will be used to empty the wastewater from the containment area into polyethylene-lined, closed top drums. These containers will be transported for proper management at an approved dangerous waste or RMW TSD facility.

Although this procedure will require more time than the dusting, vacuuming, and wiping procedures outlined above, time requirements are still considered to be minimal for the steam cleaning approach. Wastewaters generated by this procedure are not anticipated to exceed 100 gal.

Following completion of decontamination, sampling will be performed, as described in Section 11.1.4.4, to verify that decontamination is complete.

11.1.4.2.2 Decontamination of Waste Handling Equipment. All equipment will be decontaminated first by solvent washing followed by steam cleaning, or disposed of as dangerous waste at an approved disposal facility. The decision to dispose or decontaminate equipment will be made at the time of closure. Whichever option, in the opinion of the Building Supervisor, is most environmentally and economically feasible will be chosen. If the equipment is not considered to be substantially contaminated, the solvent washing may not be performed. In this case, the equipment will be cleaned by the steam cleaning technique only.

All equipment to be decontaminated will be placed in one of the fully contained storage cells and subjected to the solvent wash deemed most effective for the removal of the suspected contamination. The equipment is then subjected to a final washing and rinsing by a steam cleaning unit. All wastewaters will be collected in the storage cell sumps, pumped to polyethylene-lined closed top drums, and transported and disposed of as dangerous waste.

The time required for completion and wastewaters generated by these processes are largely dependent upon the amount of equipment which needs to be treated. However, at this time, minimal time and effort are anticipated. In addition, wastes to be generated are not anticipated to exceed 50 gal.

Following completion of decontamination, sampling will be performed, as described in Section 11.1.4.4, to verify that decontamination is complete.

11.1.4.2.3 Decontamination of Dangerous Waste Storage Cells. Any visible contamination present in the storage cells will be scraped and/or swept until visibly clean. All residues obtained from the scraping/sweeping exercise will be placed in open top drums and disposed of as dangerous waste. Each of the four storage cells will be steam cleaned and the generated wastewaters collected in each of the storage cell's individual sumps. The wastewaters will be pumped from the sumps to polyethylene-lined, closed top drums in preparation for disposal. No wastewaters will be mixed with scrapings, sweepings, or wastewaters from other storage cells. Each sump area will be re-rinsed with water. This water will similarly be pumped to containers for disposal.

The containerized wastewaters will be analyzed to determine if they are designated as dangerous waste under WAC 173-303-070. If designated as dangerous,

the wastewaters will be handled, transported, and disposed of as dangerous waste. If not dangerous waste, the wastewater will be managed appropriately.

Total decontamination of the storage cells should be completed in no more than 2 weeks. Each of the storage cells should have approximately 30 gal of wastewater generated during the cleaning and rinsing process; therefore, a total of 120 gal of wastewater will need to be analyzed and disposed.

Following completion of decontamination, sampling will be performed, as described in Section 11.1.4.4, to verify that decontamination is complete.

11.1.4.2.4 Decontamination of High Bay, Flammable Liquid Bulking Module and Other First Floor Areas. Wipe samples will be collected at various points along the floors, walls, and ceiling of the entire first floor, except for the office, supply/office area, lunch room, and rest room. The wipe samples will be analyzed to determine if these areas have been contaminated with dangerous waste constituents. Once the results from the testing are known, a decision can be made as to the appropriate decontamination procedures.

If no contamination is found on the wipe samples, decontamination procedures will consist of dusting, vacuuming, and wiping. Vacuuming is performed using a commercial or industrial vacuum equipped with a HEPA filter. The vacuum cleaner bag containing captured particulates is disposed of as appropriate.

Dusting/wiping is done with a damp cloth or wipe (soaked with water or solvent) to remove dust from surfaces not practically treatable with a vacuum. The cloth or wipe is also disposed of as appropriate. Brushing or sweeping is used to clean up coarse debris.

Minimal time will be required for setup of the equipment. Labor requirements for the process should be moderate. Minimal time will also be required for packaging debris and dismantling and removing cleaning equipment. Little wastewater (only the contents of the buckets) will be generated by this procedure.

On the other hand, if contamination is found on the wipe samples, more sophisticated decontamination procedures must be implemented. The affected areas will be extensively treated via steam cleaning. Such areas will be treated by applying steam with a hand-held wand to remove all residues from the surfaces. The contaminated wastewater generated by this activity will be contained by the designed spill controls already in place for the waste storage areas. Pumps will be used to empty the wastewater from the containment area into polyethylene-lined closed top drums. These containers will be transferred for proper treatment or disposal at an approved dangerous waste facility.

Although this procedure will require more time than the dusting, vacuuming, and wiping procedures outlined above, time requirements are still considered to be minimal for the steam cleaning approach. Wastewaters generated by this procedure are not anticipated to exceed 200 gal.

Following completion of decontamination, sampling will be performed, as described in Section 11.1.4.4, to verify that decontamination is complete.

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11.1.4.2.5 Decontamination of Sumps. All collection sumps located at 305-B, including those lining the storage cells on the west side of the unit, the sump along the east side inside wall, and those protecting the exits on the north and south ends, will be decontaminated by steam cleaning. Wastewaters collected in each sump from the implementation of the cleaning process will be pumped into polyethylene-lined, closed top drums and analyzed as to whether or not they are designated as dangerous waste under WAC 173-303-070. If designated, they will be disposed of as dangerous waste. If they are not dangerous waste, the wastewaters will be discharged to the 300 Area process sewer system. The steam cleaning of all the sumps should take minimal time and generate approximately 100 gal of wastewater.

Following completion of decontamination, sampling will be performed, as described in Section 11.1.4.4, to verify that decontamination is complete.

11.1.4.3 Management of Decontamination Wastes. Liquid decontamination wastes will be placed in drums and sampled to determine disposal requirements. Grab samples will be collected from drums using COLIWASA samplers. In order to properly designate the decontamination wastes under WAC 173-303-070, grab samples from each drum will be analyzed for the following:

- Corrosivity using the methods described in SW-846.
- Flash point using methods described in SW-846.
- Toxicity characteristic using the toxicity characteristic leaching procedure described in SW-846 (includes analysis for metals, volatile organics, and semivolatile organics including chlorinated pesticides)
- Total radioactivity using gross alpha, gross beta, and gamma scan.

The results of sample analysis will be used to determine how to dispose of liquid decontamination wastes. The results of volatile and semivolatile organic analysis of the liquid performed as part of the TCLP will be used to determine the presence of potential listed [WAC 173-303-081(1) and WAC 173-303-082(1)] dangerous waste constituents above background. (Background levels will be determined by analysis of the tap water used for makeup of the decontamination solutions.) Those liquid wastes with listed waste constituents above background will be designated as dangerous wastes. The results of the ignitability, corrosivity, and TCLP analyses will be used to determine if liquid wastes are characteristic dangerous wastes [WAC 173-303-090]. Organic and inorganic analytical results will also be used to determine if liquid wastes are dangerous waste mixtures [WAC 173-303-084]. These results will also be used to determine whether the wastes are LDR [WAC 173-303-140(4) and 40 CFR 268]. The results of the radiological analyses will be used to determine whether any of the liquid wastes are low-level liquid radioactive wastes or radioactive mixed wastes. Depending on designation, liquid decontamination wastes will be disposed of as follows:

- Dangerous--Manifested and shipped to a permitted dangerous waste TSD facility

- Radioactive Mixed--Manifested and shipped to a permitted radioactive mixed waste TSD facility

- Low-level Radioactive--Discharged to the 300 Area liquid radioactive waste system, or otherwise appropriately disposed

- Nonregulated--Discharged to the 300 Area process sewer system.

All non-liquid wastes generated during decontamination of dangerous waste storage areas and equipment (e.g., personnel protective clothing) will be collected in 55-gal open-head drums and managed as dangerous wastes. All non-liquid wastes generated during decontamination of RMW storage areas and equipment will be similarly collected and managed as RMW.

11.1.4.4 Methods For Sampling And Testing To Demonstrate Success Of Decontamination. A series of wipe samples will be collected at various points along floors, walls, ceilings, and equipment of areas at which decontamination activities were conducted. These samples will be analyzed and used to verify whether decontamination procedures were effective. To verify decontamination, a systematic sampling approach designed to identify the presence of "hot spots" will be employed. Samples will be collected on a regular grid with a spacing of 5 ft. This spacing provides an 80% probability of detecting a circular "hot spot" having a radius of 2.5 ft or larger (Gilbert 1987, pp. 119-125). Biased sampling of areas more likely to have been contaminated by unit operations, such as cracks or seams in the concrete floor or any visible stains, will also be performed. If any "hot spots" are detected, additional decontamination will be performed.

Decontaminated surfaces will be sampled by collecting wipe samples at each grid point. At each sample location, two samples will be collected within adjacent 1 ft square templates. One sample will be collected using a gauze pad wetted with dilute nitric acid for extraction of inorganic contaminants. The other sample will be collected with a gauze pad wetted with hexane for extraction of organic contaminants.

11.1.4.5 Closure of Containers [I-1d(1)]. At closure, all containers will be removed from the 305-B unit. All dangerous waste residue will be removed from the containment system components. Contaminated equipment, floors, walls, and loading areas will be decontaminated or removed. All decontamination equipment and rinsate will be containerized, tested, and properly disposed. Sampling and analysis will be conducted to ensure that no contamination remains around the storage area and containment system. Additional details for closure and decontamination are provided in Sections 11.1.4.1 through 11.1.4.3.

11.1.4.6 Closure of Tanks [I-1d(2)]. This section is not applicable to the 305-B Storage Unit because wastes are not stored or treated in tanks.

11.1.4.7 Closure of Waste Piles [I-1d(3)]. This section is not applicable to the 305-B Storage Unit because wastes are not stored in waste piles.

11.1.4.8 Closure of Surface Impoundments [I-1d(4)]. This section is not applicable to the 305-B Storage Unit because wastes are not placed in surface impoundments.

11.1.4.9 Closure of Incinerators [I-1d(5)]. This section is not applicable to the 305-B Storage Unit because wastes are not incinerated.

11.1.4.10 Closure of Land Treatment Facilities [I-1d(6)]. This section is not applicable to the 305-B Storage Unit because wastes are not treated in land treatment units.

11.1.5 Closure of Disposal Facilities [I-1e]

This section is not applicable to the 305-B Storage Unit because it will not be closed as a dangerous waste disposal unit.

11.1.6 Closure Schedule [I-1f]

Closure of 305-B is not expected to begin during the term of the Part B permit. When closure begins, the inventory of dangerous and radioactive mixed waste will be removed within 90 days from receipt of the final volume of wastes. All closure activities will be completed within 180 days of receipt of the final volume of waste. The Director of the Washington Department of Ecology will be notified by DOE-RL at least 45 days before the final closure activities are begun. Closure activities are summarized in Table 11-2. A detailed schedule of closure activities is provided in Figure 11-1.

11.1.7 Extension of Closure Time Frame [I-1g]

The inventory of dangerous and radioactive mixed wastes will be removed from the 305-B Storage Unit within 90 days of receipt of the last volume of waste. The closure activities described in this plan will be completed within 180 days of receipt of the final volume of waste. No extension to the time frame for initiation and completion of closure is currently expected to be necessary. Extensions to the time frames for closure would only be necessary if unexpected conditions were encountered during closure of the unit. If it becomes apparent that all wastes cannot be removed within 90 days, Ecology will be so notified at least 30 days prior to expiration of the 90 day period. This notification will demonstrate why more than 90 days is required for removal of the wastes and will demonstrate that steps have been taken to prevent threats to human health and the environment and that the unit is in compliance with applicable permit standards. If it becomes apparent that closure cannot be completed within 180 days after approval of this plan, Ecology will be so notified at least 30 days prior to expiration of the 180 day period. This notification will demonstrate why more than 180 days is required for closure and will demonstrate that steps have been taken to prevent threats to human health and the environment and that the unit is in compliance with applicable permit standards.

11.1.8 Amendments to Closure Plan

If changes are deemed necessary to the approved closure plan, DOE-RL will submit a written request to Ecology for authorizing a change to the approved plan. The written request will include a copy of the amended plan, in accordance with WAC 173-303-610(3)(a).

Table 11-2. Summary of Closure Activities.

Closure Activity Description	Expected Duration
Receipt of final volume of dangerous and/or mixed waste	N/A
Notify EPA and Ecology that closure will begin	N/A
Remove waste inventory -- package all dangerous and mixed wastes, manifest, and transfer to permitted facility for treatment and/or disposal	45 days
Obtain wipe samples from structural surfaces and equipment to identify areas of contamination and determine level of decontamination needed	10 days
Analyze wipe samples	25 days
Decontaminate structural surfaces and equipment using procedures based on results of wipe sampling	35 days
Obtain wipe samples to verify decontamination	25 days
Analyze verification samples	35 days
Analyze decontamination wastes to determine proper methods of treatment/disposal	25 days
Dispose of decontamination wastes based on results of waste analysis	20 days

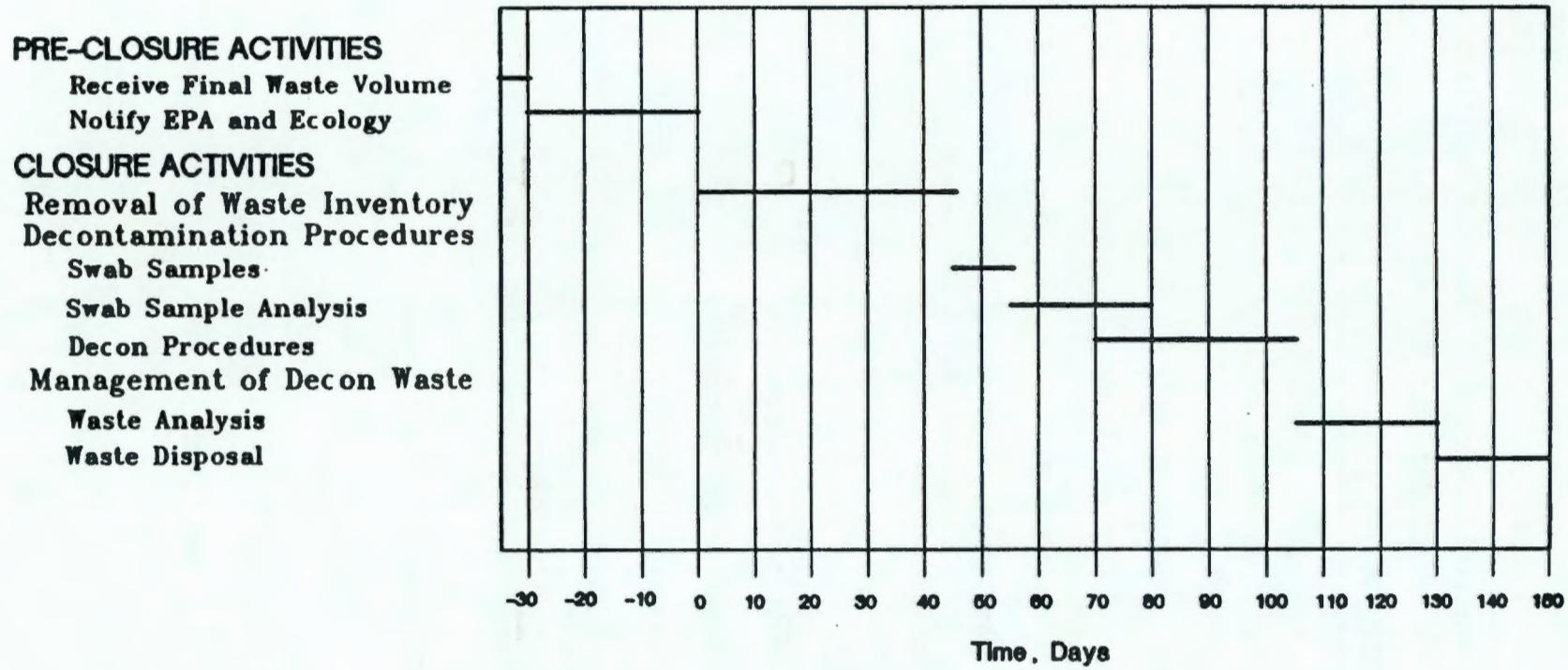

Figure 11-1. Detailed Schedule of Closure.

11.2 CERTIFICATION OF CLOSURE

Within 60 days of completion of the final closure activities described in this plan, a certification of closure will be submitted to Ecology. This certification will indicate that the 305-B Storage Unit has been closed as described in this plan and that the closure performance standards given in Section 11.1.1 have been met. The certification will be submitted by registered mail and will be signed by DOE-RL and an independent Professional Engineer registered in the State of Washington as described below.

The DOE-RL will self-certify with the following document or a document similar to it:

> I, (name), an authorized representative of the U.S. Department of Energy-Richland Field Office located at the Federal Building, 825 Jadwin Avenue, Richland, Washington, hereby state and certify that the 305-B Storage Unit at the 300 Area, to the best of my knowledge and belief, has been closed in accordance with the attached approved closure plan, and that the closure was completed on (date).
> (Signature and date)

The DOE-RL will engage an independent Professional Engineer registered in the State of Washington to inspect closure activities, to verify that closure activities are being conducted according to this plan, and to certify that closure has been performed in accordance with this plan.

The engineer will inspect 305-B at least weekly while closure activities are being performed. During these inspections the engineer will observe closure activities to determine whether they are being performed according to this plan. Inspections will include, but not be limited to:

- Inspection of dangerous and radioactive mixed waste containment structures and systems to determine whether releases of wastes to the environment have occurred

- Verification that the dangerous and radioactive mixed waste inventory has been removed within 90 days of receipt of the last waste shipment

- Inspection of manifests and Operating Record to verify that these wastes were disposed of in compliance with WAC 173-303

- Inspection of decontamination operations to verify that they are being performed using the procedures described in this plan

- Inspection of the Operating Record to verify that samples of liquid decontamination wastes were collected and analyzed using the procedures described in this plan

- Inspection of the Operating Record to verify that decontamination wastes were properly designated in compliance with WAC 173-303-070 and properly disposed.

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Inspections by the engineer will be documented in a bound notebook. Notations will include the date and time of the inspection, the areas inspected, the activities inspected, applicable closure plan requirements inspected, status of observed activities with respect to plan requirements, corrective actions required, status of past corrective actions, and name and signature of inspector. This inspection notebook will be made available to Ecology upon request.

Upon completion of closure according to the plan, the DOE-RL will require the engineer to sign the following document or a document similar to it:

> I, (name), a certified Professional Engineer, hereby certify, to the best of my knowledge and belief, that I have made visual inspection(s) of the 305-B Storage Unit at the 300 Area and that closure of the aforementioned unit has been performed in accordance with the attached approved closure plan.
>
> (Signature, date, state Professional Engineer license number, business address, and phone number.)

11.3 POST-CLOSURE PLAN [I-2]

This section and subsequent subsections are not applicable because the 305-B Storage Unit is not to be closed as a dangerous waste disposal unit.

11.4 NOTICE IN DEED [I-3]

This section is not applicable because the 305-B Storage Unit is not to be closed as a dangerous waste disposal unit.

11.5 CLOSURE COST ESTIMATE [I-4]

It is DOE-RL's understanding that federal facilities are not required to comply with WAC 173-303-620. However, projections of anticipated costs for closure will be provided annually during closure activities.

11.6 FINANCIAL ASSURANCE MECHANISM FOR CLOSURE [I-5]

In accordance with 40 CFR 264.140(c) and WAC 173-303, this section is not required for federal facilities. The Hanford Site is a federally-owned facility for which the federal government is an operator and this section is therefore not applicable to the 305-B Storage Unit.

11.7 POST-CLOSURE COST ESTIMATE [I-6]

A post-closure cost estimate is not required for the 305-B Storage Unit because it will not be closed as a dangerous waste disposal facility.

11.8 FINANCIAL ASSURANCE MECHANISM FOR POST-CLOSURE CARE [I-7]

Post-closure financial assurance is not required for the 305-B Storage Unit because it will not be closed as a dangerous waste disposal facility.

11.9 LIABILITY REQUIREMENTS [I-8]

In accordance with 40 CFR 264.140(c) and WAC 173-303, this section is not required for federal facilities. The Hanford Site is a federally-owned facility for which the federal government is an operator and this section is therefore not applicable to the 305-B Storage Unit.

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CONTENTS

TABLES

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12.0 REPORTING AND RECORDKEEPING

This chapter summarizes the reporting and recordkeeping requirements from the other sections of the Part B permit application. The reports are submitted to Ecology and/or the EPA as required by applicable regulations, and required records are maintained at the 305-B Storage Unit. Many of the reports and records that would be required for a facility accepting waste from off-site sources are not directly applicable to the 305-B Storage Unit. A general reporting requirement applicable to all dangerous waste management facilities (e.g., notification) is described, as well as reporting and recordkeeping requirements for generators, transporters, and treatment, storage, and/or disposal facilities. Reports and records applicable to the 305-B Storage Unit are summarized in Table 12-1.

12.1 NOTIFICATION OF HAZARDOUS WASTE ACTIVITIES

Facilities generating or transporting dangerous waste and the owner and operators of treatment, storage, and/or disposal facilities must have current EPA/State Identification Numbers. The 305-B unit operates under EPA/State Identification Number WA7890008967, issued to the Hanford Facility.

12.2 GENERATOR REQUIREMENTS

The 305-B Storage Unit generates only minor amounts of waste during the cleanup of container spills or leaks and this waste is handled together with other waste generated on the Hanford Site. Hanford Site waste generation records and required reports (e.g., annual reports) are compiled and issued as single records or reports for the entire Hanford Site; information on waste generated by the 305-B unit is compiled and provided together with other Hanford Site generator records and reports.

12.2.1 Recordkeeping

Generator records maintained by the Hanford Site include the following:

- Records of waste generated onsite
- Records of waste packaged to be shipped offsite
- A copy of each annual report
- Land disposal restriction records.

Waste generation records are retained as required by WAC 173-303-210 and 40 CFR 268.7.

12.2.2 Reporting

Generator reports required by WAC 173-303-220 submitted by the Hanford Site include the annual report, exception reports, and any required additional reports.

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[2]
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

Table 12-1. (Cont'd).

Item	Storage	
	Retention Time	Location
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
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

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Table 12-1. (Cont'd).

Item	Storage	
	Retention Time	Location
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

Table 12-1. (Cont'd).

Item	Storage	
	Retention Time	Location
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]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.

[2]N/A: Not Applicable

The Hanford Site submits an annual report of waste generation activities to Ecology. The annual report is submitted on the "Generator Annual Dangerous Waste Report--Form 4." All dangerous waste generated at the 305-B unit is included in the annual report.

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

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

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

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

12.3 TRANSPORTER REQUIREMENTS

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

12.4 TREATMENT, STORAGE, AND/OR DISPOSAL REQUIREMENTS

Storage facility reporting and recordkeeping requirements are discussed below.

12.4.1 Reports

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

- Waste manifest reports
- Annual reports
- Groundwater monitoring reports

- Contingency plan incident reports
- Spills, discharges, and leaks reports
- Closure reports
- Post-closure reports.

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

12.4.1.1 Waste Manifest Reports. The waste manifest or lack thereof, is the source of two possible reports, the manifest discrepancy report and the unmanifested waste report.

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

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

The report shall include at least the following information:

1. The EPA/State identification number, name, and address of the facility;

2. The date the unit received the waste;

3. The EPA/State identification number, name, and address of the generator and transporter, if available;

4. A description and the quantity of each unmanifested dangerous waste the unit received;

5. The method of management for each dangerous waste;

6. The certification signed by the owner or operator of the unit or the authorized representative; and

7. A brief explanation of why the waste was unmanifested, if known.

12.4.1.2 Annual Report. The state of Washington, pursuant to WAC 173-303-390, requires an annual overall report for each facility which holds an active EPA/State Identification Number. The report is due to Ecology on March 1 of each

year. A single report is prepared for the entire Hanford Site and covers each dangerous waste treatment, storage, and disposal unit at Hanford, including 305-B. The report contents for each unit include the following:

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

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

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

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

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

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

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

All situations requiring contingency plan implementation are documented in accordance with Section 7.8.2, DOE Event Reporting. A copy of all such

documentation for incidents at 305-B will be retained at the unit as part of the Operating Record.

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

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

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

The DOE-RL report will contain the following information:

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

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

- Name, address, and telephone number of the owner or operator
- Name, address and telephone number of the unit
- Date, time, and type of incident
- Name and quantity of material(s) involved
- Extent of injuries if any
- Assessment of actual or potential hazards to human health or the environment where this is applicable
- Estimated quantity and disposition of recovered material that resulted from the incident
- Cause of the incident

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- Description of corrective action taken to prevent recurrence of the incident.

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

12.4.1.6 Spills, Discharges, and Leak Reports. This section discusses the reports prepared as a result of unpermitted spills and discharges into the environment.

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

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

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

The DOE-RL will immediately notify Ecology of all spills and discharges of hazardous materials (unless permitted) in accordance with WAC 173-303-145(2).

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

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

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

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

12.4.2 Recordkeeping Requirements

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

12.4.2.1 Permit Application Plans. The plans described in other portions of this permit application and kept at the unit include:

- Waste analysis plan
- Contingency plan and amendments
- Training plan
- Closure plan
- Inspection plans.

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

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

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

12.4.2.2.1 Waste Description and Quantity. Each dangerous waste received at the 305-B unit is described by its common name and dangerous waste number(s) from WAC 173-303-080 through 173-303-104. When a dangerous waste contains multiple dangerous waste constituents, the waste description includes all applicable dangerous waste numbers. For waste numbers that are not listed in WAC 173-303,

the waste description includes the name of the process that generated the waste. The waste description includes the following information:

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

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

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

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

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

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

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

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

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

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

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

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

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

12.4.2.2.7.3 **Notice and Certification.** Each waste generator is required to provide the PNL waste management organization with adequate waste characterization data for the waste management organization to determine whether the waste is subject to land disposal restrictions. The waste management organization determines whether the waste is subject to land disposal restrictions prior to transporting the waste offsite from 305-B. If wastes are determined to be subject to land disposal restrictions, the required notices and certifications are included with waste shipments from 305-B to off-site treatment, storage, and/or disposal facilities. Such notifications are made as

described below. Copies of notifications, certifications, demonstrations, and supporting documentation for each shipment of waste subject to a land disposal restriction or prohibition are maintained at 305-B.

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

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

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

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

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

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

12.4.2.3 Miscellaneous Support Records. Miscellaneous support records include the following:

- Training records
- Liability coverage documentation
- Closure and post-closure cost estimates
- Report records.

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

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

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

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

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CONTENTS

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7 5 1 2 9 3 7 0 3 6 9

13.0 OTHER RELEVANT LAWS [J]

The 305-B Storage Unit was constructed, and is operated, in compliance with applicable laws and regulations. Relevant environmental laws and regulations have been reviewed, necessary notifications have been made, and approvals or permits obtained. Aside from submission of a SEPA checklist, no additional approvals or permits for 305-B requiring action by either Ecology or EPA have been identified.

This chapter provides a summary of the regulatory review performed to assist Ecology in determining that 305-B has met its obligations with respect to other federal or state environmental laws.

This chapter provides a summary of the regulatory review performed to assist Ecology in determining that 305-B has met its obligation with respect to other federal or state laws. The major environmental laws evaluated include the following:

- Clean Air Act of 1955, as amended
- Clean Water Act of 1977, as amended
- Coastal Zone Management Act of 1972, as amended
- Endangered Species Act of 1973, as amended
- Fish and Wildlife Coordination Act of 1934, as amended
- National Historic Preservation Act of 1966, as amended
- Wild and Scenic Rivers Act of 1968, as amended
- Toxic Substances Control Act of 1976, as amended

In addition, a summary of other requirements that may apply is provided. Full references for each of these acts are included in Chapter 15.0.

13.1 CLEAN AIR ACT

Since the 305-B Storage Unit is an existing unit within an existing facility, permitting under the Clean Air Act does not apply to the unit. The unit has a responsibility to comply with any emissions generated which are regulated under the NESHAP program, including asbestos, benzene, and radionuclides. Except during a catastrophic incident, the potential to emit these materials from the 305-B unit is minimal. Catastrophic incidents are dealt with in the unit contingency plan in Chapter 7. At the Hanford Site, the Tri-County Air Pollution Control Authority oversees site compliance with CAA regulations dealing with hazardous materials; the Washington Department of Health oversees compliance with radionuclide CAA regulations.

13.2 CLEAN WATER ACT

Operation of the 305-B Storage Unit will not result in any point source or nonpoint source discharges to surface waters. As such, National Pollutant Discharge Elimination System permits are not required. Spill reporting requirements of the CWA are covered in the unit contingency plan in Chapter 7.

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13.3 THE COASTAL ZONE MANAGEMENT ACT OF 1972

The 305-B Storage Unit is not located in a coastal zone or shoreline area as defined by this statute. Therefore, no permits or reviews pursuant to this statute are applicable.

13.4 THE ENDANGERED SPECIES ACT OF 1973

The 305-B Storage Unit is located in the 300 Area of the Hanford Site (see Chapter 2.0 for site location information). The site for 305-B cannot be considered an undisturbed area or a major habitat for native plant and animal species. Also, this area constitutes a very small fraction of the Hanford Site and, hence, would not play a significant role in the ecology of the Site. No listed or proposed endangered or threatened species or their habitats are expected to be affected by 305-B activities.

13.5 THE FISH AND WILDLIFE COORDINATION ACT OF 1934

The 305-B Storage Unit will not involve the impoundment, diversion, or other control or modification of any body of water. Therefore, no permits or reviews pursuant to this statute are applicable.

13.6 THE NATIONAL HISTORIC PRESERVATION ACT OF 1966

The 305-B Storage Unit affects no areas that are eligible for nomination to the National Register of Historic Places. All activities at Hanford involving excavation, require review for the presence of archaeological resources in accordance with regulations issued pursuant to, or other regulations of, the American Antiquities Preservation Act of 1906; the American Indian Religious Freedom Act of 1978; the Historic Sites, Buildings, and Antiquities Act of 1935; the Archaeological and Historic Preservation Act of 1960; and the Archaeological Resources Protection Act of 1979. No known cultural resource impacts have occurred from 305-B activities.

13.7 THE WILD AND SCENIC RIVERS ACT OF 1968

The 305-B Storage Unit does not affect any rivers presently designated under the Wild and Scenic Rivers Act of 1968.

13.8 TOXIC SUBSTANCES CONTROL ACT

The 305-B Storage Unit does not affect any rivers presently designated under the Wild and Scenic Rivers Act of 1968.

13.9 OTHER REQUIREMENTS

The application of insecticides and herbicides on or in the immediate vicinity of the 305-B Storage Unit will be conducted in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act of 1975, TSCA, and the applicable provisions of the Washington State Water Quality Standards, WAC 173-201.

CONTENTS

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14.0 CERTIFICATION [K]

The following certification, required by Washington Administrative Code 173-303-810(13), for all applications and reports submitted to Ecology is hereby included:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

9512297 71554

Co-Operator
William R. Wiley, Director
Pacific Northwest Laboratory

4-1-92
Date

for

Owner/Operator
John D. Wagoner, Manager
U.S. Department of Energy,
Richland Field Office

4-3-92
Date

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CONTENTS

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15.0 REFERENCES

| The Clean Air Act of 1955, as amended, 42 U.S.C. 7401 et seq.

| The Clean Water Act of 1977, as amended, 33 U.S.C. 1251 et seq.

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| Ecology, 1991, Dangerous Waste Regulations, WAC 173-303, Washington State Department of Ecology, Olympia, Washington.

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Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. 6901 et seq.

Toxic Substances Control Act, 1976, 15 U.S.C. 2601 et seq.

Washington Hazardous Waste Management Act, Title 70, Chapter 105 as amended, Revised Code of Washington, Olympia, Washington.

The Wild and Scenic Rivers Act of 1968, as amended, 16 U.S.C. 1271 et seq.