

RCRA PART B PERMIT  
FOR THE  
IDAHO NATIONAL  
ENGINEERING AND ENVIRONMENTAL LABORATORY

Volume 18 – Idaho Nuclear Technology and Engineering Center

ATTACHMENT 1a

Radioactive Mixed Waste Staging Facility (CPP-1617)  
and  
Hazardous Chemical and Radioactive Waste Storage Facility (CPP-1619)

Section B

Facility Description

Modified Date: September 3, 2003

**CONTENTS**

B. PROCESS DESCRIPTION..... 1  
    B-1 Facility Description..... 1  
    B-2 Description of Operations ..... 6

**EXHIBITS**

Exhibit B-1a. Example of RMWSF Waste Configuration..... 3  
Exhibit B-2a. Example of HCRWSF Waste Configuration..... 4

1 **SECTION B. PROCESS DESCRIPTION**

2  
3 **B-1. Facility Description [IDAPA 58.01.05.008; 40 CFR 270.14(b)(1)]**

4  
5 This Resource Conservation and Recovery Act (RCRA) Part B Permit Application has been  
6 prepared for the units located within the boundaries of the Idaho Nuclear Technology and Engineering  
7 Center (INTEC) in the southwest quadrant of the Idaho National Engineering and Environmental  
8 Laboratory (INEEL) (see Exhibit B-1, in Attachment 1). The units include the Radioactive Mixed Waste  
9 Staging Facility (RMWSF, CPP-1617), and the Hazardous Chemical and Radioactive Waste Storage  
10 Facility (HCRWSF, CPP-1619) (see Exhibit B-2, in Attachment 1). The two units carry the RCRA process  
11 code of S01 (container storage) subject to the requirements set forth in 40 CFR 264.  
12

13 The physical conditions around the INTEC are typical for the INEEL site. The site is  
14 characterized as a high desert ecosystem at an elevation of approximately 5,000 feet above mean sea  
15 level. The area is relatively flat and receives little rainfall. Due to the lack of rainfall and the poor quality  
16 of the surficial soils, the site has little agricultural value. Wind patterns are generally in a  
17 northeast/southwest axis, with some seasonal variability. Detailed site data may be obtained from the  
18 INEEL Part B Permit Application, Volume 3.  
19

20 **RMWSF.** The RMWSF includes Building CPP-1617 and the fenced storage area. CPP-1617 is  
21 a 40 ft × 20 ft metal building with a concrete floor. The entire building may be utilized to store, receive,  
22 sample, and/or sort hazardous and mixed wastes. When waste is stored or sorted, an area is designated  
23 within the building to accommodate the amount and size of wastes to be stored or sorted. This area will  
24 vary as needs arise.  
25

26 The RMWSF fenced storage area contains 8 ft × 20 ft × 8 ft high metal cargo containers. Some  
27 of the metal cargo containers are insulated, equipped with electric baseboard heaters, and have drip pans  
28 for storage of containers with free liquids. Unheated metal cargo containers store wastes without free  
29 liquids and liquid wastes not requiring heat (e.g., oils and other non-aqueous organic liquids). The cargo  
30 containers may contain hazardous or mixed wastes. The number of cargo containers located within the  
31 yard varies according to the volume and type of waste requiring storage at the RMWSF.  
32

33 The walls are to be constructed using 16 gauge or thicker aluminum or steel which may be  
34 corrugated or flat sheet design. Seams in the wall construction must be welded. Patches on the walls

1 must be of the same material as the wall material. The roof must be constructed using a one-piece sheet  
2 steel or aluminum design, 16 gauge or thicker. The floor is elevated to prevent water intrusion through  
3 the seam between the floor and the sidewall. Two sets of forklift pockets are provided  
4

5 The cargo container is capable of stacking another cargo container weighting up to 25,000 pounds  
6 on top of it.  
7

8 An atypical cargo container may be insulated, have a plywood floor, wall vents, and electric  
9 baseboard heating.  
10

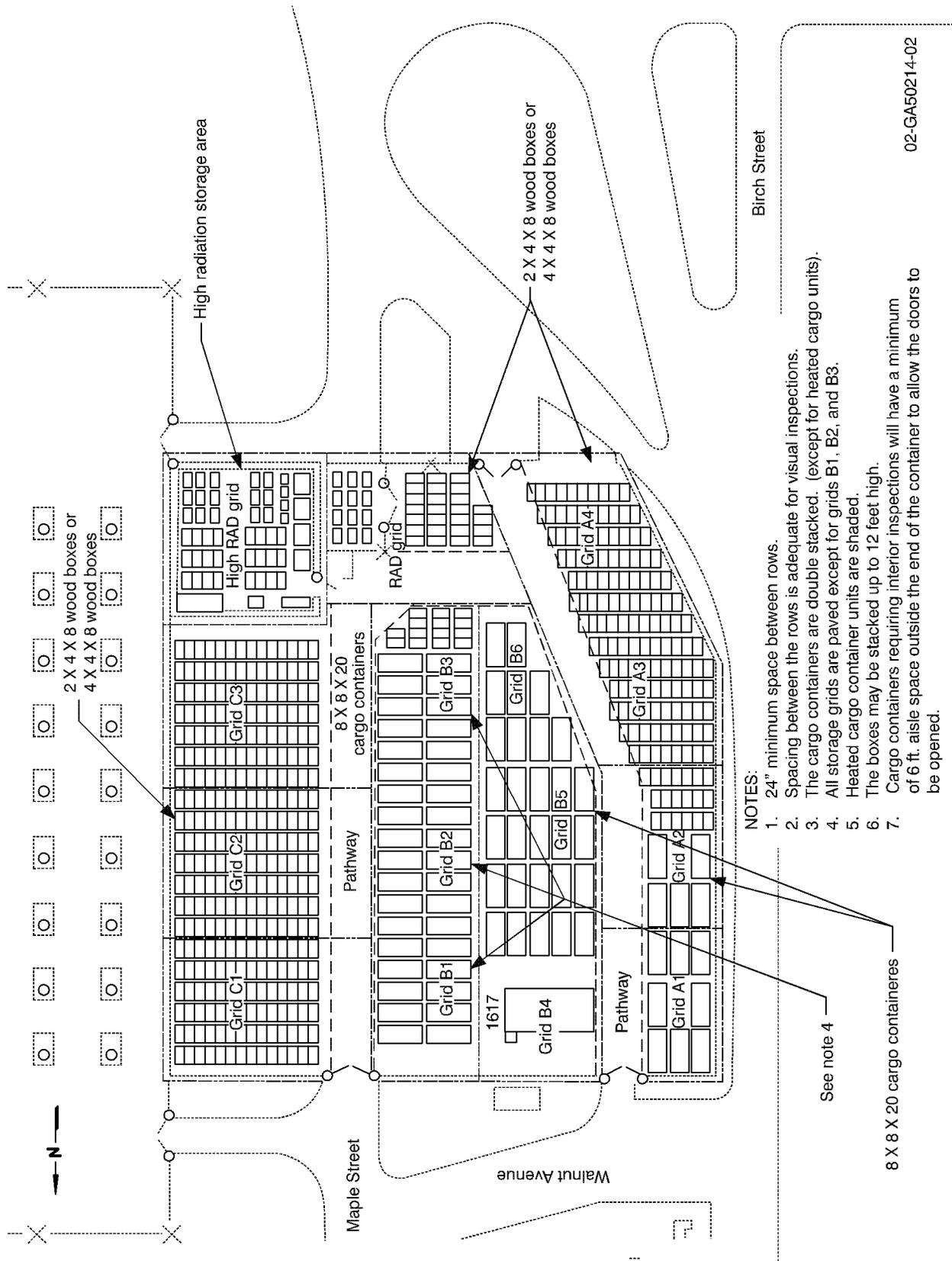
11 The RMWSF can also receive different sized strong tight boxes. The containers and boxes may  
12 contain hazardous or mixed wastes. The number of containers and boxes located within the yard vary  
13 according to the volume of waste requiring storage at the RMWSF.  
14

15 The majority of the RMWSF is paved with asphalt within a 227 ft × 280 ft area surrounded by an  
16 approximately eight-foot high chain link fence as demonstrated by Exhibit B-1a and the photographs  
17 located at the end of this Section. Access to the area is gained through three gates which are locked.  
18 Signs that can be read at a minimum distance of 25 ft from any approach to the facility and state at a  
19 minimum “DANGER Unauthorized Personnel Keep Out” are located on the gates and fences surrounding  
20 the RMWSF.  
21

22 The total storage capacity for all wastes at the RMWSF is 2,244,156 gallons with an estimated  
23 annual throughput of 12,000 tons. Exhibit B-1a demonstrates one example of the storage configuration.  
24

25 **HCRWSF.** The HCRWSF is a storage building (CPP-1619) and a waste loading/unloading dock  
26 (Exhibit B-2a and photographs located at the end of this Section). The HCRWSF serves as a storage area  
27 for RCRA hazardous and mixed waste containers prior to shipment to another permitted treatment,  
28 storage, or disposal (TSD) facility. The total storage capacity for hazardous and mixed wastes at the  
29 HCRWSF is 13,860 gallons with an estimated annual throughput of 355 tons (see Exhibit B-2a, Example  
30 of HCRWSF Waste Configuration, and photographs located at the end of this Section).  
31

32 The truck bay on the southern side of CPP-1619 may be used for unloading hazardous and mixed  
33 liquid waste from tank trucks. The truck bay is not part of the container storage unit. Therefore, the  
34 operation of the truck bay is not described in this document.



**NOTES:**

1. 24" minimum space between rows.
2. Spacing between the rows is adequate for visual inspections.
3. The cargo containers are double stacked. (except for heated cargo units).
4. All storage grids are paved except for grids B1, B2, and B3.
5. Heated cargo container units are shaded.
6. The boxes may be stacked up to 12 feet high.
7. Cargo containers requiring interior inspections will have a minimum of 6 ft. aisle space outside the end of the container to allow the doors to be opened.

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**Exhibit B-1a. Example of RMWSF Waste Configuration**

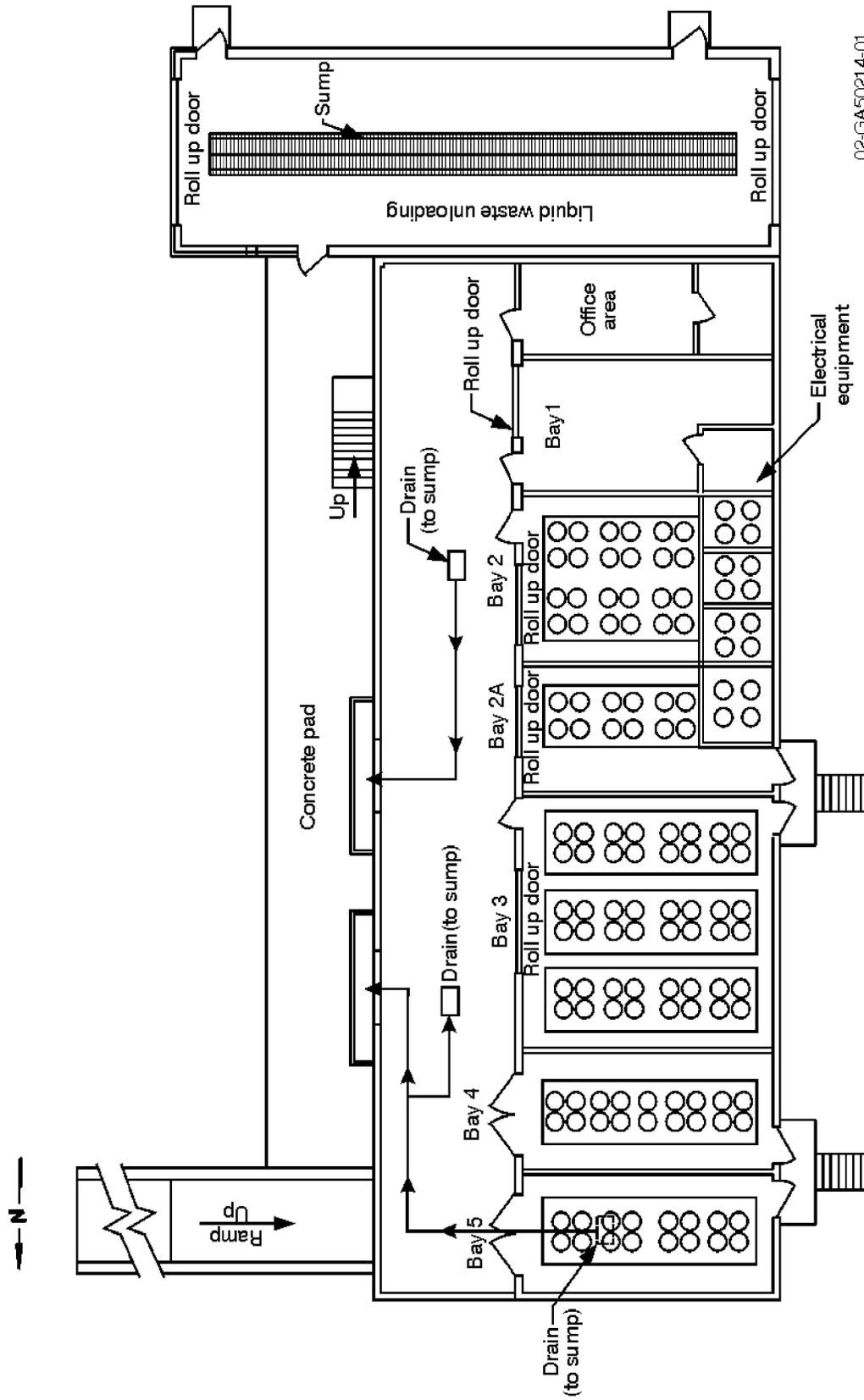


Exhibit B-2a. Example of HCRWSF Waste Configuration

1           The HCRWSF's storage building consists of five bays and an office. All floors are concrete and  
2 are coated with a chemical resistant coating. The HCRWSF's roof inclines toward the west so that  
3 precipitation drains away from the loading and unloading area. Access to bays is gained through roll-up  
4 metal doors in the front and personnel metal doors in the front and back.

5  
6 Bay 1           This is a 14 ft × 16 ft bay which is used for a supply and equipment storage room.

7  
8 Bay 2           This bay is used to store mixed and hazardous wastes, except for ignitable liquids. Bay 2  
9 has an exhaust fan which is used to provide ventilation. Bay 2 is divided into two areas,  
10 2 and 2a. Incompatible wastes are segregated in three curbed areas in Bay 2 and in one  
11 curbed area in Bay 2a. Bay 2 is a 16 ft × 26 ft bay and has a total capacity of 3,960  
12 gallons. Bay 2a is a 12 ft × 26 ft bay and has a total capacity of 1,760 gallons.

13  
14 Bay 3           This bay is used to store mixed and hazardous wastes, except for ignitable liquids. Bay 3  
15 is a 26 ft × 26 ft bay and has a total capacity of 5,280 gallons.

16  
17 Bay 4           This bay is used to store mixed and hazardous wastes, except for ignitable liquids. The  
18 east wall of Bay 4 is made of a steel mesh frame. Bay 4 is a 11 ft × 26 ft bay and has a  
19 total capacity of 1,980 gallons.

20  
21 Bay 5           This bay is primarily used to store mixed and hazardous ignitable liquid wastes. When  
22 not storing ignitables it may be used to store other mixed and hazardous wastes. The  
23 northern and eastern walls are constructed of steel mesh to allow venting to minimize fire  
24 or explosion hazards. The bases of the walls are concrete and the floor area is curbed.  
25 This bay contains an emergency floor drain connected to the sump located in the  
26 loading/unloading dock. Bay 5 is a 12 ft × 26 ft bay and has a total capacity of  
27 880 gallons.

28  
29           Reactive materials carrying EPA hazardous waste number D003 may be stored in Bays 2 through  
30 5 as long as they are compatible with other materials stored in close proximity or are appropriately  
31 segregated via curbed areas or other means.

32  
33           Non-RCRA regulated and recyclable materials may be stored in Bays 2 through 5 prior to  
34 shipment.

1 Loading/Unloading Dock  
2

3 The loading/unloading dock on the east side runs the entire length of the HCRWSF. The dock  
4 has a concrete floor slab coated with a chemical resistant coating and a metal roof. The dock is curbed  
5 and slopes toward two emergency floor drains connected to sumps (see Exhibit B-2a). Each sump has a  
6 capacity of approximately 275 gallons. The sumps are constructed of reinforced concrete and are lined  
7 with stainless steel. Three floor drains lead into these sumps, two from the dock and one from Bay 5.  
8 The sumps are covered with removable metal lids.

9

10 **B-2. Description of Operations [IDAPA 58.01.05.008; 40 CFR 270.14(b)(1)]**

11

12 **RMWSF and HCRWSF**

13

14 RMWSF and HCRWSF container storage units manage a variety of wastes generated from  
15 INTEC and INEEL activities. The types of containers typically received for storage in these areas include  
16 drums, metal boxes and wooden boxes. Plastic bags containing wastes without free liquids are stored  
17 inside boxes and cargo containers at the RMWSF. All waste containers received in these areas are clearly  
18 labeled with the words "Hazardous Waste" or "Mixed Hazardous Waste."

19

20 A container holding hazardous waste must always be closed during storage, except when it is  
21 necessary to add or remove waste. Consolidation of containerized waste is allowed and routinely  
22 performed at both facilities. All containers received at these facilities are inspected, and the  
23 accompanying documentation is examined by facility personnel.



03-06-02  
RMWSF  
Main Gate CPP-1617  
Storage Area  
Looking South

Photo number: 1617-16



03-06-02  
RMWSF  
Inside CPP-1617  
Temporary Structure  
Looking East

Photo Number: 1617-01



03-06-02  
RMWSF  
Mixed Waste Storage Boxes  
Paved Area  
Looking Northeast

Photo Number: 1617-11



9-29-98  
RMWSF  
High Radiation Storage Area with Radioactive and Mixed Waste Boxes (with covers)  
Paved Area  
Looking East

Photo Number: 98-546-2-2



03-03-02  
RMWSF  
Cargo Containers  
Paved Area  
Looking North

Photo Number: 1617-14



1989  
RMWSF  
CPP-1617 Exterior  
Looking North East

Photo Number: 89-566-1-15



03-06-02  
RMWSF  
CPP-1617 Building  
Looking Northwest

Photo Number: 1617-07



1995  
RMWSF  
Interior Cargo Container, Drip Pan, Inspector, and Liquid Waste  
Electric Base Board Heater Lower Left  
Looking West

Photo Number: 95-1015-1-8



03-06-02  
RMWSF  
Heated Cargo Containers  
Paved Area  
Looking Southwest

Photo Number: 1617-09



9-29-98  
CPP-1619  
Loading Dock Ramp, Loading Dock, and Truck Unloading Station  
Looking West

Photo Number: 98-546-1-1



9-29-98  
CPP-1619  
Bay 1 Utility and Equipment Storage Area  
Looking West

Photo Number: 98-546-1-3



03-06-02  
CPP-1619  
Hazardous Waste Bay 2  
Storage Area  
Looking West

Photo Number: 1619-01



03-06-02  
CPP-1619  
Hazardous Waste Bay 2a  
Storage Area  
Looking West

Photo Number: 1619-03



9-29-98  
CPP-1619  
Hazardous Waste Bay 2a  
Designated Storage Areas  
Looking East

Photo Number: 98-546-1-8



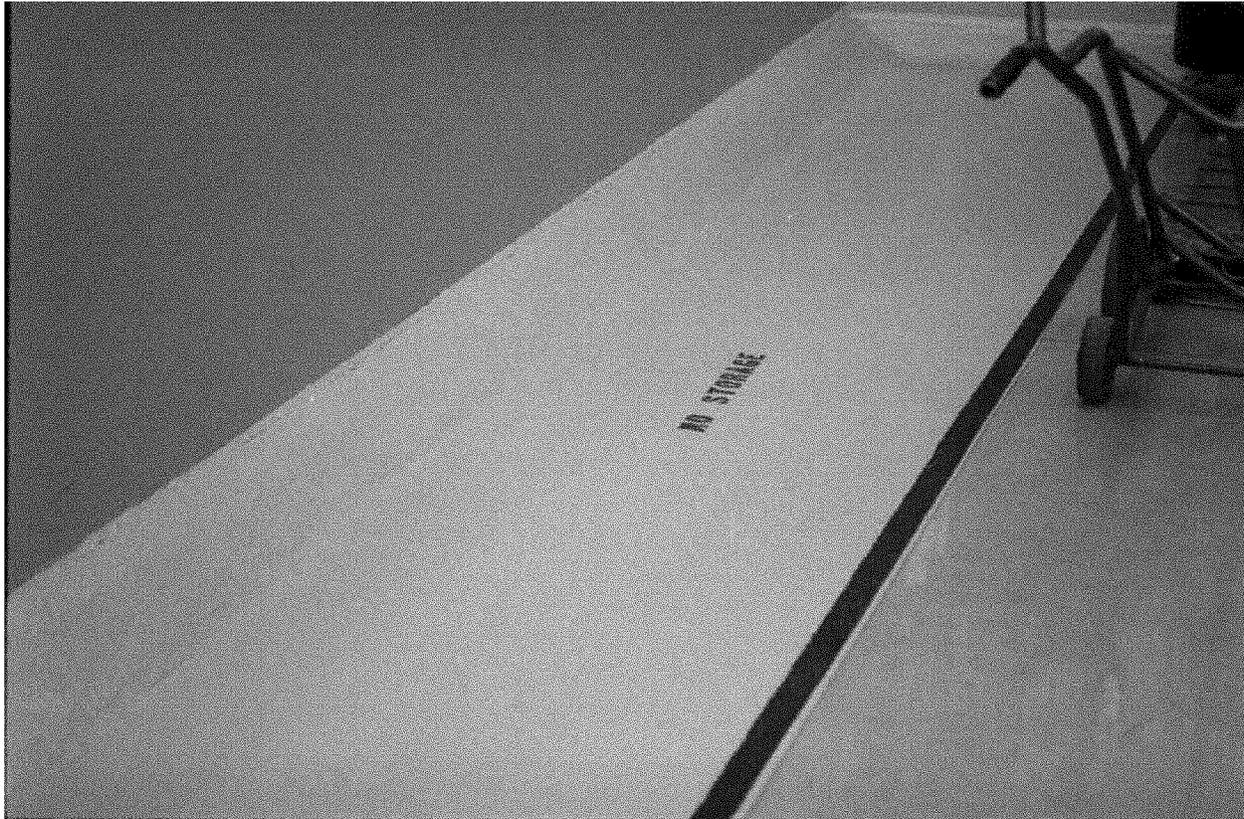
9-29-98  
CPP-1619  
Hazardous Waste Bay 3  
Designated Storage Areas  
Looking West

Photo Number: 98-546-1-9



03-06-02  
CPP-1619  
Hazardous Waste Bay 3  
Storage Area  
Looking North

Photo Number: 1619-06



9-29-98  
CPP-1619  
Hazardous Waste Bay 3  
Designated Storage Area Marking  
Looking West

Photo Number: 98-546-1-11



9-29-98  
CPP-1619  
Radioactive/Mixed Waste Bay 4  
Designated Storage Area  
Looking East

Photo Number: 98-546-1-14



03-06-02  
CPP-1619  
Mixed Waste Bay 4  
Storage Area  
Looking West

Photo Number: 1619-07



9-29-98  
CPP-1619  
Flammable Liquid Waste Bay 5  
Designated Storage Area  
Looking East

Photo Number: 98-546-1-16



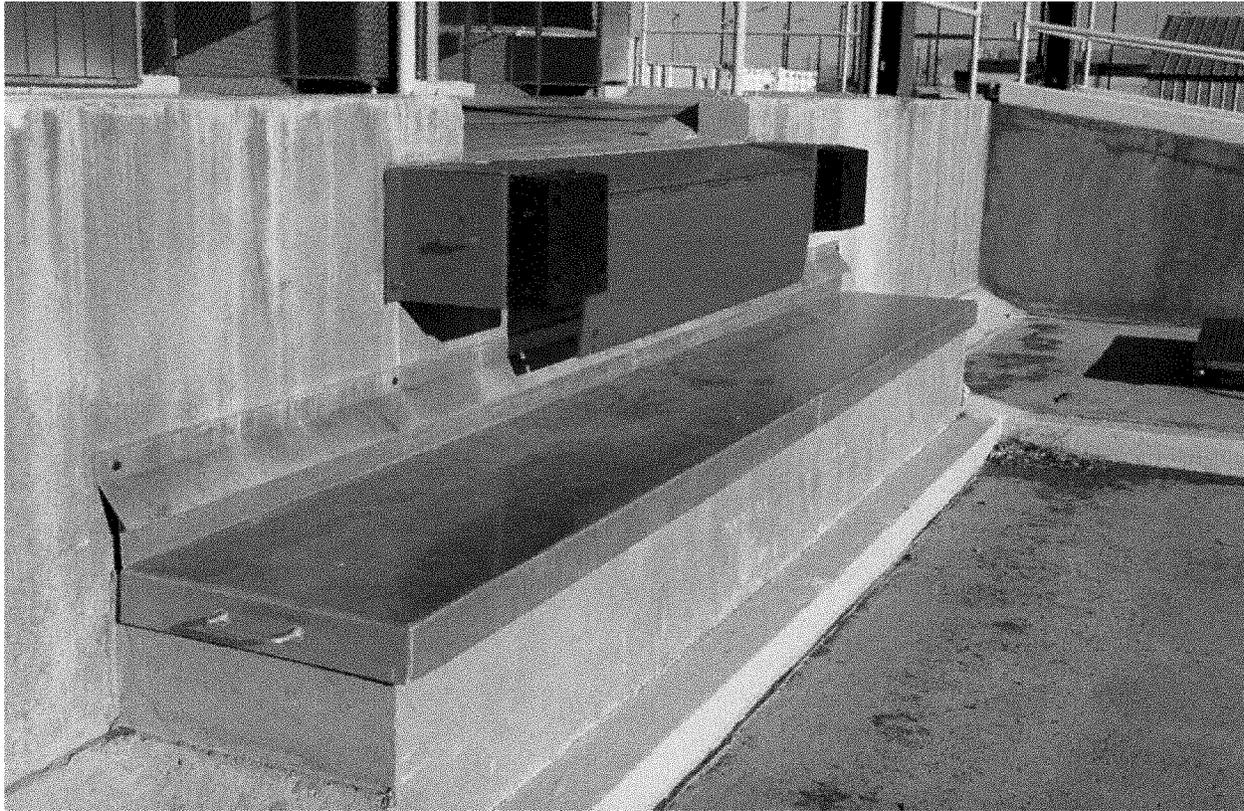
03-06-02  
CPP-1619  
Flammable Liquid Waste Bay 5  
Storage Area  
Looking West

Photo Number: 1619-08



9-29-98  
CPP-1619  
South Sump (with lid removed) and North Sump (with lid in place)  
Looking North

Photo Number: 98-546-1-19



9-29-98  
CPP-1619  
North Sump (with lid in place)  
Receives Liquids From Bay 5 and North End of Loading Dock  
Looking North

Photo Number: 98-546-1-20



1990  
CPP-1619  
Exterior of CPP-1619  
Looking South East

Photo Number: 90-192-3-8

RCRA PART B PERMIT  
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IDAHO NATIONAL  
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Volume 18 – Idaho Nuclear Technology and Engineering Center

ATTACHMENT 1a

Radioactive Mixed Waste Staging Facility (CPP-1617)  
and  
Hazardous Chemical and Radioactive Waste Storage Facility (CPP-1619)

Section D

Process Description

Modified Date: September 3, 2003

## CONTENTS

|       |  |    |
|-------|--|----|
| D.    | PROCESS INFORMATION .....                                      | 1  |
| D-1.  | Containers .....   | 1  |
| D-1a. | Containers with Free Liquids.....                              | 1  |
|       | D-1a(1) Description of Containers.....                         | 2  |
|       | D-1a(2) Container Management Practices.....                    | 5  |
|       | D-1a(3) Secondary Containment System Design and Operation..... | 8  |
| D-1b. | Containers without Free Liquids.....                           | 14 |
|       | D-1b(1) Test for Free Liquids.....                             | 14 |
|       | D-1b(2) Description of Containers .....                        | 15 |
|       | D-1b(3) Container Management Practices.....                    | 15 |
|       | D-1b(4) Container Storage Area Drainage .....                  | 18 |

## TABLES

|      |   |   |
|------|---|---|
| D-1. | Typical Containers Used in Waste Storage and Shipping ..... | 4 |
|------|---|---|

1 **D. PROCESS INFORMATION**

2  
3 This section provides process information for the following waste storage units at the Idaho  
4 National Engineering and Environmental Laboratory (INEEL): (1) Radioactive Mixed Waste Staging  
5 Facility (RMWSF) container storage; and, (2) Hazardous Chemical and Radioactive Waste Storage  
6 Facility (HCRWSF) container storage. These units are located at the Idaho Nuclear Technology and  
7 Engineering Center (INTEC) at the INEEL and carry the process code of S01 (container storage). The  
8 two units are associated with Buildings CPP-1617 and CPP-1619, respectively.

9  
10 **D-1. Containers**

11  
12 Wastes are received at RMWSF and HCRWSF in drums, wooden boxes, metal bins, or other  
13 Department of Transportation (DOT) approved shipping containers.

14  
15 **D-1a. Containers with Free Liquids**

16  
17 Hazardous wastes that contain free liquids will be placed in DOT approved containers and placed  
18 within the appropriate liquid waste storage areas of the RMWSF and HCRWSF. These areas are  
19 provided with adequate secondary containment.

20  
21 At the HCRWSF, containers are stored on pallets, elevating them from the floor. Segregation of  
22 wastes is provided by using individual curbed areas or by using separate bays, all of which have adequate  
23 capacity to contain any accidental releases.

24  
25 All aqueous containers at RMWSF are provided with drip pans and are stored in heated metal  
26 cargo containers. The drip pans will be compatible with the contents of the container and will have  
27 sufficient capacity to contain 10% of the volume of the containers or the volume of the largest container,  
28 whichever is greater.

1 **D-1a(1) Description of Containers [IDAPA 58.01.05.008; 40 CFR 264.171 and 264.172]**

2  
3 The number of each type of container will be variable and is dependent on the quantities and  
4 types of wastes received for storage at these units.

5  
6 Construction Materials, Dimensions, and Usable Volumes. Liquid and RCRA hazardous and  
7 mixed wastes at these units are packaged in Department of Transportation (DOT/UN) approved  
8 containers. The types of containers received and handled at the facility are approved under  
9 49 CFR 172.101 for specific waste types. The types of containers used, their construction materials,  
10 dimensions, usable volumes, and other applicable specifications are provided in Table D-1.

11  
12 Marking and Labels. Tagging, labeling, and marking requirements vary slightly, depending on  
13 the waste type. Per internal procedures, qualified facility personnel mark and label shipping containers  
14 per DOT/UN requirements prior to off-Site shipments.

15  
16 All hazardous and mixed wastes are to be clearly identified and have a waste tracking bar code  
17 applied to the container. The bar code label is part of a waste inventory tracking system that has been  
18 implemented to track generated wastes.

19  
20 Containers of hazardous or mixed wastes must have the following information on the outside of  
21 the container prior to off-Site shipment:

- 22
- 23 • The generator's name and address
  - 24
  - 25 • The date waste was generated
  - 26
  - 27 • The INEEL Waste Manifest Document Number
  - 28
  - 29 • The hazard class or classes, identification number, shipping labels (as listed in the Hazardous  
30 Materials Table in 49 CFR 172.101)
  - 31
  - 32 • Proper DOT shipping name

- 1           • The constituent(s) in the waste and/or waste characteristic(s) that make it hazardous
- 2
- 3           • The letters "RQ" if the waste constitutes a reportable quantity
- 4
- 5           • The words "This End Up" or with appropriate arrows, per DOT requirement, if applicable.
- 6

7           The generator should include on the label any other information deemed helpful to waste  
8 handling and final packaging operations. The information may indicate that the waste contains hazardous  
9 substances or that the waste requires special handling.

**Table D-1. Typical Containers Used in Waste Storage and Shipping**

| Container Specification       | Size               | Comments                                   |
|-------------------------------|--------------------|--|
| Strong Tight Container (STC)  | Various            | Must meet STC requirements                 |
| DOT 17C or UN1A2              | 1 to 110 Gallons   | With liner *                               |
| DOT 17C or UN1A2              | 1 to 110 Gallons   | w/o liner *                                |
| DOT 17E or 1A1                | 1 to 110 Gallons   | N/A *                                      |
| DOT 17H or 1A2                | 1 to 110 Gallons   | w/o liner *                                |
| DOT 34 Poly or UN1H1 or UN1H2 | 1 to 110 Gallons   | N/A *                                      |
| DOT 34 or UN1H1 or UN1H2      | 1 to 110 Gallons   | N/A *                                      |
| DOT 5C or UN1A1               | 1 to 110 Gallons   | Stainless steel                            |
| DOT 6D/2SL or UN6HA1          | 1 to 110 Gallons   | Steel drum with liner. Composite drum      |
| DOT 21C or 1G                 | 1 to 110 Gallons   | Fiber drum                                 |
| Plywood Box (STC)             | 4' × 4' × 8'       | INEEL wooden waste box with liner          |
| Plywood Box (STC)             | 2' × 4' × 8'       | INEEL wooden waste box with liner          |
| Metal Bin (STC)               | Various **         | INEEL B-25 metal waste bin                 |
| Air/Sea Cargo container (STC) | 8' × 8' × 20'      | INEEL storage cargo containers             |
| Concrete Liner                | 3.25' × 3.25' × 4' | Concrete over-pack for radiation shielding |
| Plywood Box                   | 4' × 4' × 4'       | INEEL wooden box with liner                |
| Plywood Box                   | 3' × 3' × 1'       | INEEL wooden box for storage of lead       |

\* Type of waste will determine type of container and material of construction consistent with RCRA and DOT regulations.

\*\* Various sizes 4' × 3' × 8', 4' × 4' × 6', and 4' × 4' × 8'

1 **D-1a(2) Container Management Practices [IDAPA 58.01.05.008; 40 CFR 264.173]**

2  
3 Record Keeping Provisions. Tracking the hazardous, mixed, and radioactive wastes generated at  
4 the INEEL is accomplished through a number of written records. Hazardous material tracking and  
5 chemical release records are also kept according to various INEEL procedures. A shipping log/tracking  
6 number is assigned to each hazardous material shipment. To facilitate identification, each drum has a  
7 computerized bar code sticker applied. A log sheet is filled out for all wastes received at the HCRWSF  
8 and RMWSF.

9  
10 Responsibility for keeping all accountability, reporting, and records rests with the Waste  
11 Technical Specialist (WTS). The TSD Facility operator directs the day-to-day operations at these units  
12 and coordinates the shipment of wastes with the INEEL traffic organization.

13  
14 The generator and qualified shipping agent is responsible for filling out all the required forms,  
15 ensuring all records are complete, and ensuring that all containers are correctly labeled, packaged, and  
16 prepared for shipment. All completed forms associated with the receipt of wastes and any associated  
17 operations go to records storage, to be kept in the facility's operating record. All shipping documents for  
18 hazardous, mixed, and radioactive wastes are retained for a period of three years.

19  
20 When lab packs are shipped, additional requirements must be met. A lab pack inventory list must  
21 accompany each drum, and this list must include every chemical waste in the container. The container  
22 must be composed of materials that are compatible with the wastes in the lab packs.

23  
24 Procedures for Transporting Waste to the RMWSF and HCRWSF. When generators of  
25 hazardous or mixed wastes have wastes needing pickup, certain procedures are followed.

26  
27 For hazardous and mixed wastes, the generator must notify the WTS to make arrangements for  
28 waste pickup.

29  
30 Hazardous and mixed wastes are also accumulated in Satellite Accumulation Areas (SAAs) and  
31 less than 90 day areas. These are established areas where limited quantities of wastes are stored until  
32 sufficient quantity for shipment has accumulated. The operation of SAAs and less than 90 day areas is  
33 outlined in applicable INEEL procedures.

1 Wastes generated within the INEEL for transfer to these units are loaded into transport vehicles  
2 and secured as required by applicable procedures.

3  
4 Ensure Waste Containers are not Opened. A container holding hazardous or mixed waste must  
5 always be closed during storage. Opening containers will only be performed to add/remove waste, sort,  
6 segregate, or to sample for verifying waste acceptance criteria. Containers of solid hazardous and/or  
7 mixed wastes may be consolidated into other DOT/UN containers for storage. Approved procedures and  
8 DOT/UN rules are used in conjunction with guidelines listed in 40 CFR 264, Appendix V, to determine  
9 compatibility or incompatibility of materials before consolidation is performed into approved containers  
10 for storage.

11  
12 Protection From Rupture or Leakage. Waste containers containing aqueous free liquids are  
13 protected from exposure to the environment by keeping them within the heated storage areas of the  
14 HCRWSF and RMWSF. Each building or heated cargo container is inspected at least once per day  
15 during cold weather for potential freeze problems using the freeze protection schedule. RCRA  
16 inspections are conducted on a weekly schedule. Containers in the facility may be placed on pallets or  
17 other structures to prevent direct contact with possible accumulated liquids. All containers are handled as  
18 little as possible and are stored so that the materials in the container are compatible. The operating of any  
19 equipment within the facility is performed by qualified personnel.

20  
21 **Stacking Height, Maximum Number, and Maximum Volume of Containers Stored**

22  
23 **RMWSF - CPP-1617**

24  
25 The maximum capacity of the RMWSF is 2,244,156 gallons. The maximum volume for storage  
26 in RMWSF was based on double stacking 4 ft X 4 ft X 8 ft boxes and by double stacking cargo  
27 containers.

28  
29 Heated cargo containers, cargo containers storing liquids or cargo containers that store containers  
30 requiring inspection will not be double stacked.

1 Containers and boxes will not be stacked to a height greater than 12 ft. Twelve feet was chosen  
2 as a limit due to safety considerations. Any combination of approved boxes may be stacked together  
3 (i.e., two 2 ft × 4 ft × 8 ft stacked on top of one 4 ft × 4 ft × 8 ft box) to allow for the same volume of  
4 waste storage.

5  
6 **HCRWSF - CPP-1619**

7  
8 The maximum capacity of the HCRWSF for the storage of hazardous and mixed waste is  
9 13,860 gallons. This capacity was calculated using 55 gallon drums.

- 10
- 11 • Bay 2 - total of 72 double stacked drums may be stored for a capacity of 3,960 gallons.
  - 12
  - 13 • Bay 2a - total of 32 double stacked drums may be stored for a capacity of 1,760 gallons.
  - 14
  - 15 • Bay 3 - total of 96 double stacked drums may be stored for a capacity of 5,280 gallons.
  - 16
  - 17 • Bay 4 - total of 36 double stacked drums may be stored for a capacity of 1,980 gallons.
  - 18
  - 19 • Bay 5 - total of 16 single stacked drums may be stored for a capacity of 880 gallons
- 20

21 **RMWSF - CPP -1617 and HCRWSF - CPP-1619**

22  
23 Container Inspections and Waste Loading/Unloading. When the wastes arrive at the HCRWSF  
24 and RMWSF, the waste containers must undergo a series of inspections by qualified personnel. Weekly  
25 RCRA-required inspections of these facilities are performed as discussed in Attachment 4 of this permit.  
26 After inspection of the waste shipment, the wastes are transferred into the appropriate waste management  
27 area.

1 Container Segregation. The waste containers are segregated according to the following criteria:

- 2
- 3 • Ignitability: Ignitable liquids go to Bay 5 at the HCRWSF.
- 4
- 5 • Compatibility: Incompatible wastes are segregated according to waste compatibility groups
- 6 and kept separate from incompatible wastes and materials. The compatibility information
- 7 contained in 40 CFR 264, Appendix V provide guidance for determining compatibility.
- 8
- 9 • Presence of free liquids: All containers with free liquids are placed in areas that have
- 10 secondary containment.
- 11

12 Container Palletting. Containers are stored on pallets or other structures at these units to prevent

13 contact with any accumulated liquids and to facilitate handling. The materials in the containers must be

14 compatible, and the containers are placed on the pallets so that the labels are not obstructed.

15

16 Shipment to other Storage, Treatment, or Disposal Facilities. Since the HCRWSF and RMWSF

17 are storage units, wastes are stored there only until shipment can be arranged to the appropriate treatment,

18 storage, or disposal (TSD) facility. Arrangements for shipping are made by INEEL WTS and Packing

19 and Transportation personnel. Packages are prepared for shipment according to DOT/UN and INEEL

20 procedures.

21

22 When routine INEEL hazardous waste shipment is scheduled, the wastes are manifested and

23 shipped in accordance with all applicable EPA and DOT/UN regulations. All hazardous waste is shipped

24 in DOT/UN specified packaging as listed in 49 CFR 172.101.

25

26 **D-1a(3) Secondary Containment System Design and Operation [IDAPA 58.01.05.012 and**

27 **58.01.05.008; 40 CFR 270.15(a)(1), 264.175(a), and 264.175(d)]**

28

29 **HCRWSF - CPP-1619**

30

31 The design of the HCRWSF incorporates a number of secondary containment measures to ensure

32 that any potential releases at the facility are properly contained within the facility. HCRWSF is provided

33 with an epoxy coated reinforced concrete floor that is free of cracks.

1 Three floor drains lead into two sumps, two from the dock and one from the ignitable/flammable  
2 liquid storage area (Bay 5). The floor in Bay 5 is sloped inward toward the floor drain, which is in the  
3 center of the bay. Each half of the loading dock slopes inward to a floor drain. The southern half drains  
4 to the southernmost sump, and the northern half drains to the northernmost sump as does Bay 5. Any  
5 liquids accumulated in the sumps are analyzed prior to disposal. Any liquids accumulated in the sumps  
6 are removed per approved facility operation procedures prior to disposal.

7  
8 The two sumps are located along the front of the loading dock. These sumps measure 14 feet  
9 long by 18 inches wide by 21 inches deep and have a capacity of 275 gallons each. The sumps are  
10 constructed of reinforced concrete. Both sumps have metal lids and are lined with stainless steel. The  
11 elevation of the metal lid covering the sump is 4918.75 ft mean sea level, which is 2.75 feet above the  
12 postulated maximum flood level.

13  
14 Curbed Areas. The HCRWSF has been constructed so that each bay within the facility is capable  
15 of containing a release of liquid waste. In particular, the floors in Bays 2, 3, and 4 are curbed and sloped  
16 toward the west so that a release can be both contained and collected. In addition, Bay 2 includes four  
17 individual curbed areas, three in Bay 2 and one in Bay 2a, for storage of incompatible wastes. Bay 5 is  
18 curbed and sloped toward a drain so that a release can be collected in the sump.

19  
20 Wastes that are not compatible will be segregated. Each curbed area within Bay 2 measures  
21 4 ½ by 4 ½ feet, with a curb height of 6 inches. A total of eight drums can be stored within each of these  
22 areas. Each curbed area is capable of containing a spill of approximately 75 gallons. Drip pans that are  
23 compatible with the contents of the container and drum over-packs are available at the facility for use in  
24 emergency situations.

25  
26 **D-1a(3)(a) Requirement for the Base or Liner to Contain Liquids [IDAPA 58.01.05.008; 40 CFR**  
27 **264.175(b)(1)]**

28  
29 The floors at the HCRWSF are constructed of reinforced concrete, are free of cracks or gaps, and  
30 a coating that can be decontaminated has been applied to seal the floors.

1           Liquids are stored at the RMWSF inside cargo containers and CPP-1617. Depending on the size  
2 of the container, drip pans are provided to contain any spills or leaks. The drip pans will be compatible  
3 with the contents of the container and will have sufficient capacity to contain 10% of the volume of the  
4 containers or the volume of the largest container, whichever is greater.

5  
6           **D-1a(3)(b) Containment System Drainage [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR**  
7                           **270.15(a)(2) and 264.175(b)(2)]**

8  
9           **HCWHSF - CPP-1619**

10  
11           The HCRWSF has been constructed so that each bay within the facility is capable of containing a  
12 release of liquid waste. In particular, the floors in Bays 2, 2a, 3, and 4 are sloped toward the west so that  
13 a release can be contained, collected, and removed. The floor in Bay 5 is sloped toward a floor drain.

14  
15           Liquids accumulated in the secondary containment will be removed within 24 hours of detection  
16 or in as timely a manner as is possible to prevent overflow of the containment or prevent harm to human  
17 health and the environment.

18  
19           **RMWSF - CPP-1617**

20  
21           Liquids stored at the RMWSF inside cargo containers and CPP-1617, depending on the size of  
22 the container, are provided with drip pans to contain any spills or leaks. The drip pans that will be used  
23 will be compatible with the contents of the container and will have sufficient capacity to contain 10% of  
24 the volume of the containers or the volume of the largest container, whichever is greater. Liquids  
25 accumulated in the secondary containment will be removed within 24 hours of detection or in as timely a  
26 manner as is possible to prevent overflow of the containment or harm to human health and the  
27 environment.

1 **D-1a(3)(c) Containment System Capacity [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR**  
2 **270.15(a)(3) and 264.175(b)(3)]**

3  
4 **RMWSF - CPP-1617**

5  
6 Aqueous hazardous or mixed wastes are placed on pallets or other structures to prevent containers  
7 from coming into contact with accumulated liquid. Depending on the size of the container, a drip pan is  
8 provided to contain any spills or leaks. The drip pans will be compatible with the contents of the  
9 container and will have sufficient capacity to contain 10% of the volume of the containers or the volume  
10 of the largest container, whichever is greater. Drum over-packs are available at the INEEL for use in  
11 emergency situations. Liquids accumulated in the secondary containment will be removed within 24  
12 hours of detection or in as timely a manner as is possible to prevent overflow of the containment or harm  
13 to human health and the environment.

14  
15 **HCRWSF - CPP-1619**

16  
17 The maximum capacity of the HCRWSF for the storage of hazardous and mixed waste is 13,860  
18 gallons. This capacity was calculated using 55 gallon drums.

19  
20 Bay 2 – a total of 72 double stacked drums may be stored for a capacity of 3,960 gallons.

21  
22 Bay 2a – a total of 32 double stacked drums may be stored for a capacity of 1,760  
23 gallons.

24  
25 Bay 3 – a total of 96 double stacked drums may be stored for a capacity of 5,280 gallons.

26  
27 Bay 4 – a total of 36 double stacked drums may be stored for a capacity of 1,980 gallons.

28  
29 Bay 5 – a total of 16 single stacked drums may be stored for a capacity of 880 gallons.

30  
31 The design of the HCRWSF incorporates a number of secondary containment measures to ensure  
32 that any potential releases at the facility are properly contained within the facility. HCRWSF is provided  
33 with an epoxy coated reinforced concrete floor that is free of cracks.

1 Bay 2 measures 16 ft × 26 ft with a 6 in. curb. In addition, Bay 2 includes three individual curbed  
2 areas for storage of incompatible wastes. Wastes that are not compatible will not be stored in the same  
3 secondary containment area. The main area within Bay 2 is 16 ft × 21 ft with a 6 in. curb that will contain  
4 a spill of approximately 1,250 gallons. Each curbed area within Bay 2 measures 4.5 ft × 4.5 ft, with a  
5 curb height of 6 in. Eight drums can be stored within each of these areas. Each curbed area is capable of  
6 containing a spill of approximately 75 gallons.

7  
8 Bay 2a measures 12 ft × 26 ft with a 6 in. curb. In addition, Bay 2a includes one curbed area for  
9 storage of incompatible wastes. Wastes that are not compatible will not be stored in the same secondary  
10 containment area. The main area of Bay 2a is 12 ft × 21 ft with a 6 in. curb that will contain  
11 approximately 940 gallons. The curbed area within Bay 2a measures 4.5 ft × 4.5 ft, with a curb height of  
12 6 in. Eight drums can be stored within this area. The curbed area is capable of containing a spill of  
13 approximately 75 gallons.

14  
15 Bay 3 measures 26 ft x 26 ft with a 6 in. curb. This bay will contain a spill of approximately  
16 2,520 gallons.

17  
18 Bay 4 measures 11 ft x 26 ft with a 6 in. curb. This bay will contain a spill of approximately  
19 1,060 gallons.

20  
21 Bay 5 and the loading dock are equipped with floor drains. The three floor drains lead into two  
22 sumps, two from the dock and one from the ignitable/flammable liquid storage area Bay 5. The floor in  
23 Bay 5 is sloped inward toward the floor drain, which is in the center of the bay. Each half of the loading  
24 dock slopes inward to a floor drain. The southern half drains to the southernmost sump, and the northern  
25 half drains to the northernmost sump, as does Bay 5. Any liquids accumulated in the sumps are removed  
26 per approved facility operation procedures prior to disposal.

27  
28 The two sumps are located along the front of the loading dock. These sumps measure 14 ft long  
29 by 18 in. wide by 21 in. deep and have a capacity of 275 gallons each. The sumps are constructed of  
30 reinforced concrete. Both sumps have metal lids and are lined with stainless steel.

31  
32 In addition, drip pans that are compatible with the contents of the container and drum over-packs  
33 are available at the INEEL for use in emergency situations.

1 **D-1a(3)(d) Control of Run-on [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR 270.15(a)(4) and**  
2 **264.175(b)(4)]**

3  
4 **HCRWSF - CPP-1619**

5  
6 The base of the HCRWSF is constructed four feet above grade. The elevation of the floor area of  
7 the HCRWSF is 4,922 feet. The postulated maximum flood level for this area is 4,916 feet. A roof  
8 covers the entire HCRWSF, including the loading/unloading dock. The roof is inclined toward the west  
9 so that precipitation drains away from the east side of the building, where loading/unloading activities  
10 occur. If precipitation collects on the dock or in Bay 4 and 5, it is characterized and promptly removed by  
11 facility personnel.

12  
13 A more detailed discussion of impacts due to the 100-year flood is included in Attachment 6 of  
14 the permit.

15  
16 **RMWSF - CPP-1617**

17  
18 The cargo containers located at the RMWSF rest on approximately 3- inch skids. The storage  
19 area is elevated, graded and is provided with drainage controls to provide drainage away from the cargo  
20 containers. The elevation of the RMWSF is 4,920 feet. The postulated maximum flood level for this area  
21 is 4,916 feet. The cargos are kept closed to prevent water accumulation during a storm. In the event that  
22 a spill or other incident results in liquid accumulation in the interior of the cargo containers, this would be  
23 detected in a timely manner through the regular inspections of the cargo containers. Removal of spills or  
24 liquids would be performed within 24 hours of after detection. Clean-up materials and remaining residues  
25 would be managed as hazardous waste, mixed waste, or non-regulated waste, as appropriate.

26  
27 The boxes are designed with approximately 4- inch skids. These skids elevate the boxes to  
28 prevent contact with accumulated liquids. The storage area is elevated, graded and is provided with  
29 drainage controls to provide drainage away from the boxes.

1 **D-1a(3)(e) Removal of Liquids from Containment System [IDAPA 58.01.05.012 and 58.01.05.008;**  
2 **40 CFR 270.15(a)(5) and 264.175(b)(5)]**  
3

4 Liquids collected in the containment systems will be removed within 24 hours of detection or in  
5 as timely a manner as is possible to prevent overflow of the containment or prevent harm to human health  
6 and the environment. It is expected that most spills and releases can be collected by using adsorbents.  
7 The area will also be cleaned with an appropriate cleaning solution. Wastes generated during such  
8 activities will be handled as hazardous wastes unless testing indicates otherwise. At the HCRWSF liquid  
9 hazardous wastes collected in either of the two sumps will be pumped into drums, and the stainless steel  
10 sump liner will be wiped out with an appropriate cleaning solution. The inspection program at the  
11 HCRWSF and RMWSF ensures that all components of the secondary containment system are inspected  
12 at a minimum of once a week.  
13

14 **D-1b. Containers without Free Liquids**  
15

16 **HCRWSF - CPP-1619 and RMWSF - CPP-1617**  
17

18 Container storage at the RMWSF and HCRWSF is used for solid or liquid hazardous, and mixed  
19 wastes. The containers that are used to store these wastes are DOT/UN approved containers.  
20

21 **D-1b(1) Test for Free Liquids [IDAPA 58.01.05.012; 40 CFR 270.15(b)(1)]**  
22

23 The waste generator is responsible for indicating if a given waste contains free liquids. This  
24 determination is made by applying process knowledge or by performing the Paint Filter Liquids Test  
25 (EPA SW-846 Method 9095).

1 **D-1b(2) Description of Containers [IDAPA 58.01.05.008; 40 CFR 264.171 and 264.172]**

2  
3 **RMWSF - CPP-1617 and HCRWSF - CPP-1619**

4  
5 Specifications of the containers used at these units to store hazardous and mixed wastes  
6 (including metal bins, cargo containers, concrete boxes, and wooden boxes) are presented in Table D-1.  
7 When waste containers are received at the units, they are inspected and any waste that is not packaged  
8 according to the waste acceptance criteria will not be accepted for storage.  
9

10 **D-1b(3) Container Management Practices [IDAPA 58.01.05.008; 40 CFR 264.173]**

11  
12 **RMWSF - CPP-1617**

13  
14 Hazardous and mixed wastes at the RMWSF are stored in DOT/UN approved containers.  
15 Opening containers will only be performed to add/remove waste, sort, segregate, for sampling for  
16 verifying waste acceptance criteria, or consolidating waste in larger containers.  
17

18 Sorting and Segregation. Containers of hazardous and mixed wastes are sorted and segregated at  
19 the RMWSF inside CPP-1617. The containers of waste are segregated using visual inspection, waste  
20 characterization information and the associated identification tag.  
21

22 Aisle Space and Stacking Height of Containers. Containers are currently stored at the RMWSF  
23 with approximately 6 in. between boxes in a row and a minimum aisle space of 24 in. Due to the nature of  
24 the RMWSF, unobstructed movement of emergency equipment to any area of facility operation is not  
25 needed. Emergency response actions could be initiated either outside the fenced boundary and directed at  
26 the area of concern, or in the case of a leak or spill, boxes would be moved to allow for appropriate  
27 response actions. The 24-in. aisle spacing was established to support the inspection of boxes. This  
28 inspection allows for the identification of an adverse condition such as a leak, or degradation of the  
29 containers containing hazardous and mixed waste boxes. Recovery actions would require the movement  
30 of boxes in order to appropriately manage the specific boxes that were involved.

1           For the RMWSF cargo containers, a 1-ft aisle space will be maintained throughout the entire  
2 length of the cargo container to allow access for inspections. No containers shall touch the side of the  
3 cargo container and at least 1 in. shall be maintained between the containers and the wall of the cargo  
4 container. Containers with the longest dimension of 4 ft. or less are considered small containers, while  
5 containers with the longest dimension greater than 4 ft. are considered large containers.

6  
7           Large containers positioned laterally (long axis perpendicular to the length of the cargo container)  
8 shall be separated with 6 in. between each container. Large containers positioned longitudinally  
9 (lengthwise) shall be separated with 2 in. between the ends of each container. Large containers may  
10 include B-25 bins, TX-4 boxes, 4 ft X 4 ft X 8 ft boxes. Small containers may include 55-gallon drums,  
11 85 gallon overpack drums and, 4 ft X 2 ft X 4 ft boxes and shall be separated from other containers by at  
12 least 2 in. unless stored on pallets.

13  
14           Also at the RMWSF, space will be maintained around the cargo containers to facilitate  
15 inspections. Cargo containers requiring interior inspections will have a minimum of 6 ft aisle space  
16 outside the end of the container, to allow the doors to be opened to facilitate container movement. Liquid  
17 hazardous and mixed wastes are centered within the cargo containers to allow inspection and are placed  
18 on appropriate drip pans. A base board heater has been added to cargo containers that contain aqueous  
19 liquid wastes to prevent freezing in the cold weather months.

20  
21           Boxes may be stacked to a height of 12 ft and the cargo containers may be double stacked, except  
22 the heated cargo containers, cargo containers storing liquids, or cargo containers that store containers  
23 requiring inspection.

24  
25           Container Inspections. When the wastes arrive at the RMWSF, the waste containers must  
26 undergo a series of inspections by qualified facility personnel.

1           The method of inspection for the tops of the cargo containers and boxes that are stacked may  
2 consist of the use of a mirror, camera, ladder/man-lift, etc., to verify the integrity of the tops of those  
3 containers. Visual inspections are performed between the rows of cargo containers. These inspections  
4 are normally performed during daylight hours and if visibility is low, flashlights or other sources of  
5 illumination are used. If the visual inspection notes areas of staining or leakage, visual aids such as a  
6 mirror are used to better examine the specific area of concern and if this proves insufficient, the  
7 containers can be moved to allow for access to the area of concern. These inspections are completed on a  
8 weekly basis as discussed in Attachment 4 of this permit.

9  
10 **HCRWSF - CPP-1619**

11  
12           Hazardous and mixed wastes at the HCRWSF are stored in approved containers. In addition,  
13 large batteries and transformers, which are not containerized, may be received and stored at the RMWSF  
14 and HCRWSF.

15  
16           Sorting and Segregation. Hazardous and mixed waste containers are sorted and segregated at the  
17 HCRWSF and placed in curbed or other compatible areas to prevent storing incompatible wastes in the  
18 same secondary containment.

19  
20           Aisle Space and Stacking Height of Containers. Adequate aisle space is maintained in the bays to  
21 allow inspections and movement of emergency personnel and equipment.

22  
23           Containers may be double stacked in Bays 2, 2a, 3, and 4. Double stacking in Bay 5 is not  
24 allowed.

25  
26           Container Inspections. When the wastes arrive at the HCRWSF, the waste containers must  
27 undergo a series of inspections by qualified facility personnel. Weekly RCRA-required inspections of  
28 this facility are performed as discussed in Attachment 4 of this permit.

1 **D-1b(4) Container Storage Area Drainage [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR**  
2 **270.15(b)(2) and 264.175(c)]**

3  
4 **RMWSF - CPP-1617**

5  
6 The waste stored at the RMWSF is protected from precipitation by being placed within  
7 CPP-1617, metal cargo containers, drums, or wooden boxes located in the yard.

8  
9 Aqueous hazardous or mixed wastes are placed on pallets or other structures and then on drip  
10 pans to prevent containers coming into contact with accumulated liquid. The drip pans are capable of  
11 containing 10% of the volume of the containers or the volume of the largest container, whichever is  
12 greater. All wastes are stored in CPP-1617, cargo containers, or strong tight boxes. This prevents run-on  
13 of moisture into the containment. Liquids accumulated in the secondary containment will be removed  
14 within 24 hours of detection or in as timely a manner as is possible to prevent overflow of the  
15 containment or harm to human health and the environment.

16  
17 The floors of the metal cargo containers are elevated above the base surface by design of the  
18 cargo container. This will prevent the floor of the cargo container from being placed into contact with  
19 any potential standing water.

20  
21 Surface run-off from the paved yard area flows into the unpaved yard area and the ditches  
22 adjacent to the surrounding streets. This flow is discharged to a lower-lying open field area to the west of  
23 Birch Street via a storm water pipe that underlies the road. General information on the flood plain  
24 determination and prevention of run-on is located in Section B-3(b) of Volume 3 of the INEEL RCRA  
25 Part B Permit Application.

26  
27 **HCRWSF - CPP-1619**

28  
29 All wastes that are managed at the HCRWSF are stored on pallets or other structures so that they  
30 are elevated above any potential standing liquids. The waste management bays and the dock area are  
31 provided with a number of secondary containment measures to ensure that any potential waste release is  
32 confined to a small area and can be easily collected.

33  
34 Run-on to the HCRWSF is specifically addressed in Attachment 6 of this permit.