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ADDENDUM C
PROCESS INFORMATION

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ADDENDUM C
PROCESS INFORMATION

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1 **C PROCESS INFORMATION**

2 This addendum describes the processes used to store waste at the Central Waste Complex (CWC)
3 Operating Unit Group. All containers of dangerous and/or mixed waste will be stored within the
4 locations identified in Table C.1. A discussion of run-off and run-on control systems also is presented.

5 Revision 0 of the CWC Operating Unit Group Part A form included the Waste Receiving and Processing
6 facility (WRAP) Operating Unit Group as a component of the CWC Operating Unit Group. In the mid-
7 1990s, a separate Part A form was submitted for the WRAP Operating Unit Group. Buildings 2404-WA,
8 -WB, and -WC remained within CWC Operating Unit Group. In Revision 7 of the CWC Operating Unit
9 Group Part A form (in 2003), Buildings 2404-WB and 2404-WC were removed from the CWC Part A
10 form and was added to the WRAP Operating Unit Group Part A form. This process description includes
11 the transfer of Building 2404-WA from the CWC Operating Unit Group to within the WRAP Operating
12 Unit Group. Revision 9 to the Part A form transfers the 2404-WA building from the CWC Operating
13 Unit Group to the WRAP Operating Unit Group updates the capacities consistent with the volumes in this
14 Addenda, and reduces the allowable treatment activities to absorption of free liquids, absorption to
15 accomplish deactivation, and neutralization of corrosive materials. Permittees may manage the following
16 wastes at the CWC Operating Unit Group: dangerous or mixed waste that is generated from processes at
17 the Hanford Site, or waste that is specifically identified in Section II, paragraph 8 of the Settlement
18 Agreement re: Washington v. Bodman, Civil No. 2:30-cv-05018-AAM, January 6, 2006. No other
19 wastes may be managed at CWC unless authorized via a permit modification decision pursuant to Permit
20 Condition I.C.3. Requests for Permit modifications must be accompanied by an evaluation adequate for
21 Ecology to comply with SEPA.

22 **C.1 Process and Facility Description**

23 The CWC Operating Unit Group Dangerous Waste Management Units are designed for storage but can
24 also open, sort, treat, repackage, sample, and physically/chemically screen to characterize retrieved waste;
25 and to verify the characterization of containers of mixed waste and can perform nondestructive
26 examination (NDE) on an as needed basis using portable containment structures. Limited treatment of
27 mixed waste is provided in the 2401-W, 2402-W, and 2403-W series dangerous waste management units.
28 Treatment will consist of absorption of free liquids, absorption to accomplish deactivation, neutralization
29 of corrosive materials. The CWC Operating Unit Group provides storage for dangerous and/or mixed
30 waste from Hanford onsite generating locations including waste from the Waste Retrieval Project (WRP),
31 and off-site generators. Sampling and verification may be done at the CWC Operating Unit Group. The
32 documentation supporting the sampling, and verification, will be maintained in the Hanford Facility
33 Operating Record, CWC file.

34 The CWC operating unit group consists of the following Dangerous Waste Management Units (DWMU):

- 35 1. Flammable and Alkali Metal Waste Storage Modules
36 2. Waste Storage Buildings
37 • 2401 – W Building
38 • 2402 – W Series Buildings
39 • 2403 – W Series Buildings
40 3. CWC Outdoor Storage Area A (gravel)
41 4. CWC Outdoor Storage Area B (gravel)
42 5. CWC Outdoor Storage Area C (gravel)
43 6. CWC Outdoor Storage Area D (epoxy coated concrete pad)
44 7. CWC Outdoor Storage Area E (asphalt pad)
45 8. CWC Outdoor Storage Area F (asphalt pad)

46 These aforementioned dangerous waste management units provide space for the management and storage
47 of various sizes of waste containers. Storage structures with physical features that provide for segregated

1 storage areas are operated to maintain separate containment between containers of incompatible waste as
2 described in Section C.3 (incompatibility is defined in [WAC 173-303-040](#) and requirements are identified
3 in [WAC 173-303-395](#)).

4 **C.1.1 Flammable and Alkali Metal Waste Storage Modules Dangerous Waste** 5 **Management Units**

6 The Flammable and Alkali Metal Waste Storage Modules are pre-engineered structures that vary in size
7 and weight. As a result, there is no set 'standard' module. Originally, there were twenty-seven (27)
8 Flammable Waste Storage Modules (FS01-FS27); however, three modules were removed and disposed of
9 at the Environmental Restoration Disposal Facility (ERDF) due to deterioration (i.e., FS-04, FS-08, and
10 FS-13). Currently, there are twenty four (24) Flammable Waste Storage Modules.

11 There are four (4) Alkali Metal Waste Storage Modules (AMW01-AMW04).

12 Table C.1 lists the maximum volume capacities of these modules.

13 Water supply presently is not provided but could be made available if necessary. Under no circumstances
14 will water be provided to the Alkali Metal Waste Storage Modules.

15 All the modules have a vented catch sump under the storage floor. This provides spill containment, as
16 well as precluding spills from affecting other containers by keeping the storage deck clean. Each sump
17 has a capacity of 1,500 to 7,600 liters depending on size of the module.

18 The Flammable and Alkali Metal Waste Storage Modules are designed to meet all the storage
19 requirements for ignitable, reactive, and corrosive dangerous or mixed waste. Only compatible waste
20 occupies any one storage module or dedicated secondary containment system at any one time.

21 No treatment of dangerous and/or mixed waste will be performed within the Flammable and Alkali Metal
22 Waste Storage Modules.

23 **C.1.2 Waste Storage Buildings Dangerous Waste Management Units**

24 2401-W Waste Storage Building

25 The 2401-W Waste Storage Building is a pre-engineered steel structure. It is 15.2 meters wide by
26 24.4 meters long by 6.1 meters high (to the eave), with a total of 371 square meters of waste management
27 area. The foundation is integrated into a perimeter concrete curb 15.2 centimeters above grade. Ramps
28 are across the curb for loading and unloading operations. The floors are coated with an epoxy resin floor
29 surfacing system that is compatible with the stored waste.

30 The 2401-W Waste Storage Building is maintained at atmospheric pressure. Ventilation complies with
31 the Uniform Building Code occupancy requirements (ICBO 1996).

32 Table C.1 lists the maximum volume capacity for this building.

33 No treatment of dangerous and/or mixed waste will be performed within the 2401-W Waste Storage
34 Building.

35 2402-W Series Waste Storage Buildings

36 The 2402-W Waste Storage Buildings are pre-engineered steel structures. Each building is 15.2 meters
37 wide by 24.4 meters long by 6.1 meters high (to the eave), for a total of 371 square meters of waste
38 management area. There are twelve (12) storage buildings (2402-W, 2402-WB through 2402-WL). The
39 foundation is integrated into a perimeter concrete curb 15.2 centimeters above grade. Ramps are across
40 the curb for loading and unloading operations.

41 Potable water is used in the 2402-W Waste Storage Buildings. The potable water is routed to the
42 2402-W Waste Storage Buildings from a looped supply system.

43 The 2402-W Waste Storage Buildings are maintained at atmospheric pressure. Ventilation complies with
44 ICBO requirements (ICBO 1996).

1 Table C.1 lists the maximum volume capacity for these buildings.

2 Containment requirements are discussed in Section C.2.2. Management of incompatible wastes is
3 discussed in Section C.3.

4 Treatment of dangerous and/or mixed waste may be performed within these buildings.

5 2403-WA through WC Waste Storage Buildings

6 The 2403-WA through WC Waste Storage Buildings are 51.8 meters wide, 61 meters long, and
7 6.1 meters high (to the eave), each with a total of 3,159 square meters of waste management area.

8 The floor areas are divided into quadrants by concrete curbs that are approximately 12.7-centimeter high.
9 The floors were coated with an epoxy resin floor surfacing system that is compatible with the stored
10 waste.

11 Aisle space is provided through the centers of the 2403-WA through WC Waste Storage Buildings to
12 accommodate loading and unloading operations. Curbs are arranged so that the curbs do not interfere
13 with forklift travel, and ramps are provided over curbs.

14 Adjacent areas to the buildings are stabilized and are graded to slope away from the 2403-WA through
15 WC Waste Storage Buildings to preclude water collection.

16 Only potable water is used in the 2403-WA through WC Waste Storage Buildings. The potable water is
17 routed from a looped supply system.

18 The 2403-WA through WC Waste Storage Buildings are maintained at atmospheric pressure. Ventilation
19 complies with ICBO requirements (ICBO 1996).

20 Table C.1 lists the maximum volume capacity for these buildings.

21 Containment requirements are discussed in Section C.2.2. Management of incompatible wastes is
22 discussed in Section C.3. Treatment of dangerous and/or mixed waste will be performed within these
23 buildings.

24 2403-WD Waste Storage Building

25 The 2403-WD Waste Storage Building is a large storage building that is 51.8 meters wide, 99 meters
26 long, and 6.1 meters high (to the eave), for a total of 5,120 square meters of waste management area.

27 The floor areas are divided into quadrants by concrete curbs that are approximately 12.7-centimeter high.
28 The floor areas are coated with an epoxy resin floor surfacing system that is compatible with the stored
29 waste.

30 Aisle space is provided through the center of the 2403-WD Storage Building to accommodate loading and
31 unloading operations. Curbs are arranged so that the curbs do not interfere with forklift travel. Ramps
32 are provided over curbs.

33 Adjacent areas to the building are stabilized and are graded to slope away from the 2403-WD Waste
34 Storage Building to preclude water collection.

35 Only potable water is used in the 2403-WD Waste Storage Building. The potable water is routed from a
36 looped supply system.

37 The 2403-WD Waste Storage Building is maintained at atmospheric pressure. Ventilation complies with
38 ICBO requirements (ICBO 1996).

39 Table C.1 lists the maximum volume capacity for this building.

40 Containment requirements are discussed in Section C.2.2. Management of incompatible wastes is
41 discussed in Section C.3. Treatment of dangerous and/or mixed waste will be performed within the
42 building.

43

1 **C.1.3 CWC Outside Storage Areas Dangerous Waste Management Units**

2 CWC Outside Storage Area A

3 The CWC Outside Storage Area A is an outside area west of the 2403-Series buildings that is
4 approximately 251.5 meters long and 140.2 meters wide for a total of 35,260 square meters of area. The
5 CWC Outside Storage Area A is an uncovered area that is graded and leveled with gravel and, thus, does
6 not have constructed secondary containment system. This storage area will only store wastes that do not
7 contain free liquids, do not exhibit either the characteristic of ignitability or reactivity. The storage area
8 will comply with the requirements of [WAC 173-303-630\(7\)\(c\)\(i\)\(ii\)](#). Refer to Table C.1 for the
9 maximum volume capacity of this storage area. The CWC Outside Storage Area A is primarily intended
10 for waste management of waste boxes; however, it can be used for waste management of other containers.

11 No treatment of dangerous or mixed waste will be performed within the CWC Outside Storage Area A.

12 CWC Outside Storage Area B

13 The CWC Outside Storage Area B is located between the CWC Outside Storage Area A and the 2403-
14 Series buildings. The CWC Outside Storage Area B is approximately 257 meters long and 20 meters
15 wide for a total of 5,140 square meters of area. The CWC Outside Storage Area B is an uncovered area
16 that is graded and leveled with gravel and, thus, does not have a constructed secondary containment
17 system. This storage area will only store wastes that do not contain free liquids, do not exhibit either the
18 characteristic of ignitability or reactivity. The storage area will comply with the requirements of [WAC](#)
19 [173-303-630\(7\)\(c\)\(i\)\(ii\)](#). Refer to Table C.1 for the maximum volume capacity of this storage area.

20 No treatment of dangerous or mixed waste will be performed within the CWC Outside Storage Area B.

21 CWC Outside Storage Area C

22 The CWC Outside Storage Area C is located between storage buildings 2403-WA and 2403-WB. The
23 CWC Outside Storage Area C is approximately 48 meters long and 44 meters wide for a total of 2112
24 square meters of area. The CWC Outside Storage Area C is an uncovered area that is graded and leveled
25 with gravel and, thus, does not have a constructed secondary containment system. This storage area will
26 only store wastes that do not contain free liquids, do not exhibit either the characteristic of ignitability or
27 reactivity. The storage area will comply with the requirements of [WAC 173-303-630\(7\)\(c\)\(i\)\(ii\)](#). Refer
28 to Table C.1 for the maximum volume capacity of this storage area.

29 No treatment of dangerous or mixed waste will be performed within the CWC Outside Storage Area C.

30 CWC Outside Storage Area D

31 The CWC Outside Storage Area D is located east of the 2402-Series buildings, north of Outside Storage
32 Area E, and approximately 27 meters wide by 30 meters long for a total of 818 square meters of area.
33 The Outside Storage Area D is curbed with 15.2 centimeters of concrete and was provided with an epoxy
34 coating to prevent contaminants from entering the concrete. The CWC Outside Storage Area D is
35 provided with an access ramp and a rainwater collection and removal system. Refer to Table C.1 for the
36 maximum volume capacity of this storage area.

37 No treatment of dangerous or mixed waste will be performed within the CWC Outside Storage Area D.

38 CWC Outside Storage Area E

39 The CWC Outside Storage Area E is located east of the 2402-Series buildings, south of CWC Outside
40 Storage Area D, and is an asphalt pad that is approximately 62 meters long and 46 meters wide for a total
41 of 2,862 square meters of area. This storage area will only store wastes that do not contain free liquids,
42 do not exhibit either the characteristic of ignitability or reactivity. The storage area will comply with the
43 requirements of [WAC 173-303-630\(7\)\(c\)\(i\)\(ii\)](#). Refer to Table C.1 for the maximum volume capacity of
44 this storage area.

45 No treatment of dangerous or mixed waste will be performed within the CWC Outdoor Storage Area E.

1 **CWC Outdoor Storage Area F**

2 CWC Outside Storage Area F located between the 2403-WD building and the Flammable and Alkali
3 Metal Waste Storage Modules Area and is an asphalt pad this is approximately 170 meters long and 70
4 meters wide for a total of 11,900 square meters of area. This storage area will only store wastes that do
5 not contain free liquids, do not exhibit either the characteristic of ignitability or reactivity. The storage
6 area will comply with the requirements of [WAC 173-303-630\(7\)\(c\)\(i\)\(ii\)](#). Refer to Table C.1 for the
7 maximum volume capacity of this storage area.

8 No treatment of dangerous or mixed waste will be performed within the CWC Outside Storage Area F.

9 **C.1.4 Temporary Placement on Pavement and Concrete outside the DWMU boundaries -**

10 The CWC operations involve in-process activities outside of the CWC dangerous waste management unit
11 boundaries to safely and efficiently manage waste. These in-process activities often necessitate that the
12 containers are moved onto asphalt or concrete surfaces within the CWC for a short period of time, not to
13 exceed 24 hours. Large containers, palletized containers, and banded-containers are placed on the asphalt
14 or concrete to facilitate the in-process waste activities. These in-process activities include, but are not
15 limited to:

- 16 • loading and unloading of waste containers for shipments;
- 17 • performing surveys of containers;
- 18 • transferring containers from one storage location to another storage location;
- 19 • relocating a container from storage for treatment;
- 20 • performing TSD unit, inspections and repairs (such as building, roof, or floor repair);
- 21 • relocating containers to meet safety requirements;
- 22 • overpacking containers
- 23 • palletizing and banding containers
- 24 • “mining” for a container, which entails pulling containers out of a storage area to retrieve a
25 certain container. This practice keeps the containers out of the direct path of ongoing forklift
26 activities and minimizes the potential for a drum handling accident while “mining” containers.

27 The following requirements are applicable to containers with dangerous waste placed onto pavement or
28 concrete outside of the CWC dangerous waste management units:

- 29 • Containers are actively controlled by CWC operations
- 30 • Containers are in good condition and labeled in accordance with [WAC 173-303-630\(2\)](#) and (3).
- 31 • Containers will always be closed, [[WAC 173-303-630\(5\)\(a\)](#)].
- 32 • Containers will not be handled in a manner which may rupture the container or cause a leak
33 [[WAC 173-303-630\(5\)\(b\)](#)].
- 34 • There will be a 30-inch separation between aisles of containers, and containers can be 2 wide to
35 form an aisle [[WAC 173-303-630\(5\)\(c\)](#)].
- 36 • Containers will be elevated or otherwise protected from contact with accumulated liquids and any
37 run-on [[WAC 173-303-630\(7\)\(c\)](#)], except when operations finds it necessary to place containers
38 directly on the asphalt or concrete to facilitate processing.
- 39 • If placement occurs beyond 24 hours, Ecology will be notified as to why the placement must
40 exceed the 24 hour period and when the container is expected to be moved into a storage location.
- 41 • If any leakage/spill is noted, spill response actions will be performed and the area cleaned up to
42 meet clean closure standards. This clean up activity will be maintained in the Hanford Facility
43 Operating Record, CWC file.

1
2 **C.2 Containers**

3 All waste accepted for storage at the CWC Operating Unit Group will be packaged in containers as
4 dictated by the size, shape, or form of the waste [[WAC 173-303-630\(4\)](#)]. Storage areas for containers of
5 waste that do not contain free liquids, do not exhibit characteristics of ignitability or reactivity
6 [[WAC 173-303-090\(5\)](#) or (7)], and waste that does not designate as F020 through F023, F026, and F027
7 may be stored without a containment system if either of the following is provided:

- 8 • Storage area is sloped to drain and remove liquids resulting from precipitation.
- 9 • Containers are elevated or otherwise protected from accumulating liquids.

10 **C.2.1 Container Management**

11 Container management is discussed in the following sections.

12 **C.2.1.1 Description of Containers**

13 Waste stored in the CWC Operating Unit Group will be packaged in a variety of containers, some of
14 which are galvanized or aluminized steel containers or other containers overpacked, as necessary, to meet
15 [WAC 173-303-630\(4\)](#). The size of containers varies greatly from small drums, uniquely configured
16 containers, to large boxes. Containers received in the CWC Operating Unit Group are either in good
17 condition or have been over-packed. Waste containers stored at the CWC Operating Unit Group will
18 have at least two layers of containment (the outer container and the inner bags or rigid liners, both of
19 which must be compatible with the waste in the container), or will be lined with materials, which will not
20 react with, and are otherwise compatible with the wastes to be stored, as required by
21 [WAC 173-303-630\(4\)](#).

22 Containers of waste stored in the CWC Operating Unit Group may contain some liquids. The quantity of
23 liquids is limited based upon Atomic Energy Act safety requirements such that bulk liquids are not
24 accepted for storage. Some waste containers with liquids in smaller inside containers will meet the
25 labpack requirements in [WAC 173-303-161](#). For a container of waste to be considered as not having free
26 liquids for secondary containment determinations, refer to section C.2.2. Gas generation in containers
27 occurs due to the presence of Atomic Energy Act regulated materials and containers can be vented.
28 Venting activities are identified in the permit for information only.

29 **C.2.1.2 Container Management Practices**

30 Before receipt at the CWC Operating Unit Group, all containers will be closed by the generator to meet
31 applicable packaging and shipping requirements. Upon receipt in accordance with Addendum B, all
32 containers in each shipment or transfer will be subject to container receipt inspection before acceptance
33 by the CWC operations personnel. During the container receipt inspection, any discrepancies that have
34 been noted will be resolved in accordance with Addendum B, Waste Analysis Plan.

35 Each container may be handled individually or as a group on pallets if the containers can be grouped. If
36 handled individually, a hand-truck dolly, a fork-lift truck with barrel grabber, or a crane with a barrel tong
37 may be used. The containers will be placed on pallets or otherwise elevated. Individual pallets may be
38 handled by a fork-lift vehicle. A maximum of four containers will be stored on each pallet. The stacking
39 of the pallets allows for a maximum of 12 containers per stack, and a maximum of three containers in
40 height. Heavier containers will be rotated to the bottom of a stack to ensure a stable center of gravity for
41 each stack.

42 Aisle space requirements are provided in Addendum F, Preparedness and Prevention. The container
43 packaging, module construction, and container handling is designed to maintain containment of the waste,
44 facilitate retrieval capability of damage-free and contamination-free containers, and limit human exposure
45 to dangerous waste and hazardous materials.

1 **C.2.1.3 Container Labeling**

2 All waste containers are labeled, per [WAC 173-303-630](#)(3), to adequately identify the major risk(s)
3 associated with the contents of the containers. Labels are not obscured and must be readable during the
4 course of inspections.

5 **C.2.2 Containment Requirements for Storing Containers**

6 The following sections describe secondary containment systems for the CWC. Secondary containment is
7 for dangerous waste displaying the properties described in Section C.2 [[WAC 173-303-630](#)(7)(c)].

8 Liquids in containers are not considered “free liquids” under the following scenarios:

- 9 • Containers meeting the lab pack requirements of [WAC 173-303-161](#).
- 10 • Containers with liquids packaged with a sufficient quantity of sorbent to completely sorb all of
11 the liquid contents.

12 **C.2.2.1 Secondary Containment System Design and Operation**

13 Secondary containment systems are provided at the:

- 14 1. Flammable and Alkali Metal Waste Storage Modules
- 15 2. Waste Storage Buildings
 - 16 • 2402 – W Series Buildings
 - 17 • 2403 – W Series Buildings
- 18 3. CWC Outdoor Storage Area D

19 The Flammable and Alkali Metal Waste Storage Modules have a vented, self-contained catch basin under
20 the storage floor. This provides spill containment, as well as precluding spills from affecting other
21 containers by keeping the storage deck clean.

22 The 2402-W series buildings contain concrete floors and concrete curbing with each building providing
23 one continuous area for secondary containment. When dangerous waste is being managed in the
24 buildings, the floor areas are coated with an epoxy resin floor surfacing system compatible with the stored
25 waste. Individual spill containment pallets can also be used to provide the necessary engineering controls
26 to support waste management activities. Containers may be elevated (e.g., pallets, skids) to protect the
27 containers from contacting accumulated liquids. Outside adjacent areas to the storage buildings are
28 sloped so that water flows away from the building and/or other temporary structures presenting no danger
29 of floods.

30 The 2403-W series buildings contain floor areas divided into quadrants by concrete curbs approximately
31 12.7-centimeter high with a sloping floor and sump. When dangerous waste is being managed in the
32 quadrant, the floor areas are coated with an epoxy resin floor surfacing system that is compatible with the
33 stored waste. Containers may be elevated (e.g., pallets, skids) to protect the containers from contacting
34 accumulated liquids. Outside adjacent areas to the storage building are sloped so that water flows away
35 from the building and/or other temporary structures presenting no danger of floods.

36 The CWC Outside Storage Area D has a collection removal system (sloping floor and sump) for spill
37 containment and the collection of liquid (e.g., rain or snowmelt) in a liquid catch basin. The floor areas
38 are coated with an epoxy resin floor surfacing system that is compatible with the stored waste. Containers
39 may be elevated (e.g., pallets, skids) to protect the containers from contacting accumulated liquids. The
40 CWC Outside Storage Area D serves as a receipt and storage area. Waste containers with free liquid
41 stored in the CWC Outside Storage Areas A, B, C, E, and F will be placed over portable secondary
42 containment.

43 The floors of the 2402-W and the 2403-W storage buildings are constructed from reinforced concrete that
44 was sealed with an epoxy resin. When cured, the sealant has properties similar to glass. Concrete is
45 essentially an inert material with respect to caustic, oxidizing, combustible, and flammable materials. The

1 polyurethane sealant is chemically resistant and inert with respect to acids, bases, oxidizers, combustibles,
2 and flammables. All piping penetrations and construction joints are grouted or caulked and sealed.

3 In buildings/structures storing waste requiring secondary containment, when inspections identify floor
4 areas where the sealant has been compromised (e.g., concrete is exposed), this area(s) will be noted on the
5 inspection checklist and Hanford Facility Operating Record, CWC file. Repairs will be made in a manner
6 to protect human health and the environment and documented in the Hanford Facility Operating Record,
7 CWC file.

8 **C.2.2.2 Containment System Capacity**

9 Each storage building secondary containment system is required to contain over 10 percent of the total
10 volume of liquid in all containers that may be stored, or 100 percent of the largest container, whichever is
11 greater. Table C.2 lists the designed secondary containment volume for each storage building and the
12 CWC Outside Storage Area D.

13 **C.2.2.3 Control of Run-On**

14 The only major run-on or run-off foreseen would be an event such as a fire sprinkler activation or pipe
15 breakage. All CWC dangerous waste management unit buildings are roofed structures; therefore, run-on
16 is prevented. Containment systems within CWC dangerous waste management units are capable of
17 holding various amounts of liquid, as the size of the storage buildings varies. Collected or contained
18 liquid will be removed. All waste stored in the CWC dangerous waste management units are in closed
19 containers, which limits the detrimental impact of a run-on or run-off situation.

20 In the event that contaminated water is released from any CWC structure resulting from flooding of a
21 containment system by fire sprinkler activation or a pipe breakage, the liquids will be removed according
22 to the provisions in Section C.2.3 and the incident will be documented in the Hanford Facility Operating
23 Record, CWC file.

24 When waste requiring secondary containment is stored on the CWC Outside Storage Area D, the trench
25 drain plug will be kept closed and locked. The CWC supervisor controls the trench key. If water from a
26 known source (e.g., rainwater or snowmelt) accumulates in the CWC Outside Storage Area D trench
27 when waste is stored, the following will be performed:

- 28 • Liquid will be inspected visually for signs of contamination (i.e., discoloration, etc.).
- 29 • Field analysis of VOCs, pH and contamination survey will be performed.
- 30 • When the field analysis confirms that VOCs are present, and/or the material is less than or greater
31 than a pH of 7, a confirmatory sample will be taken and analyzed to determine risk to human
32 health and the environment.
- 33 • Previous inspection checklists will be reviewed to identify any spills since the last time the CWC
34 Outdoor Storage Area D (epoxy coated concrete pad) was drained.
- 35 • The CWC supervisor will sign the Hanford Facility Operating Record, CWC file, indicating that
36 these steps have been completed and that the epoxy coated concrete pad is clean.
- 37 • The CWC supervisor or designee will unlock the drain plug and the water will be released to the
38 ground. Releases to the environment will be recorded in the CWC Hanford Facility Operating
39 Record, CWC file.
- 40 • After the trench has been completely drained, the CWC supervisor or designee will lock the drain
41 plug.
- 42 • The CWC supervisor will sign the Hanford Facility Operating Record, CWC file, indicating that
43 the trench was drained and the drain plug is closed and locked.

44 Water that has accumulated in the CWC Outside Storage Area D trench that cannot be confirmed to be
45 free of contamination will be containerized and placed into storage pending treatment and disposal.

1 Actions to be taken in response to a spill or discharge are detailed in the building emergency plan and
2 Addendum J, Contingency Plan.

3 **C.2.3 Removal of Liquids from Containment System**

4 Liquids can be found in containment systems from rain water, fire system water, or spills and releases
5 from containerized waste. Liquids in containment systems without evidence of a spill or release from
6 containerized waste is handled under normal operating procedures. Spill or releases of containerized
7 waste to containment systems is addressed under the contingency plan requirements in Addendum J.

8 This section discusses operations for the Outdoor Storage Area D sump and operations for building
9 sumps.

10 **C.2.3.1 Operations for the Outdoor Storage Area D Sump**

11 When waste requiring secondary containment is stored on the CWC Outside Storage Area D, the trench
12 drain plug will be kept closed and locked. The CWC supervisor controls the trench key. If water from a
13 known source (e.g., rainwater or snowmelt) accumulates in the CWC Outside Storage Area D trench
14 when waste is stored, the following will be performed:

- 15 • Liquid will be inspected visually for signs of contamination (e.g., signs of oil sheen,
16 discoloration, solids, or abnormal indications, etc.).
- 17 • If no evidence is noted, the water can be drained from the system and discharged to the
18 environment.
- 19 • If visual indicators from inspection of liquid are present, perform field analysis of pH.
- 20 • When the field analysis confirms pH is greater than or equal to 4.5 and less than or equal to 7.5
21 the water can be drained from the system and discharged to the environment
- 22 • The CWC supervisor or designee will unlock the drain plug and the water will be released to the
23 ground. Releases to the environment will be recorded in the CWC Hanford Facility Operating
24 Record, CWC file.
- 25 • After the trench has been completely drained, the CWC supervisor or designee will lock the drain
26 plug.
- 27 • The CWC supervisor will sign the Hanford Facility Operating Record, CWC file, indicating that
28 the trench was drained and the drain plug is closed and locked.

29 When pH results are outside of the acceptable range, the water accumulated in the CWC Outside Storage
30 Area D trench will be containerized and placed into storage pending treatment and disposal.

31 Containerized waste will be considered CWC Generated Waste and will be designated in accordance with
32 [WAC 173-303-070](#) through -100. Actions to be taken in response to a spill or discharge of containerized
33 waste are detailed in Addendum J, Contingency Plan.

34 **C.2.3.2 Operations for Building Sumps**

35 If water from a known source (e.g., rainwater or snowmelt) accumulates in a building sump, the following
36 will be performed:

- 37 • Liquid will be inspected visually for signs of contamination (e.g., signs of oil sheen,
38 discoloration, solids, or abnormal indications, etc.).
- 39 • If no evidence is noted, the water can be removed from the system and discharged to the
40 environment.
- 41 • If visual indicators from inspection of liquid are present, perform field analysis of pH.
- 42 • When the field analysis confirms pH is greater than or equal to 4.5 and less than or equal to 7.5
43 the water can be removed from the system and discharged to the environment

44 When pH results are outside of the acceptable range, the water accumulated in the building sump will be
45 removed and containerized and placed into storage pending treatment and disposal. Containerized waste

1 will be considered CWC Generated Waste and will be designated in accordance with [WAC 173-303-070](#)
2 through -100. Actions to be taken in response to a spill or discharge of containerized waste are detailed in
3 Addendum J, Contingency Plan.

4 Records of all spills and releases, and removal of liquids from the sumps, including documentation of
5 response actions and cleanup verification, will be maintained in accordance with Permit Condition II.I.

6 **C.3 Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste In** 7 **Containers**

8 Administrative controls will be employed to segregate waste throughout the CWC dangerous waste
9 management units as per [WAC 173-303-630\(9\)\(c\)](#).

10 Ignitable, reactive, and incompatible waste stored in containers will be packaged and managed in the
11 manner described in Section C.2.1 for containers with free liquids.

12 **C.3.1 Management of Reactive Waste in Containers**

13 The CWC dangerous waste management unit stores waste exhibiting the characteristics of reactivity as
14 specified in [WAC 173-303-090](#) (Addendum B, Waste Analysis Plan). Proper precautions will be taken to
15 lessen the potential impact of emergencies within the CWC dangerous waste management units.

16 **C.3.2 Management of Ignitable and Reactive Waste in Containers**

17 The CWC Operating Unit Group uses the following precautions for storing ignitable and reactive waste.
18 All containers of waste designated as D001 (ignitable) or D003 (reactive) will be placed in the Flammable
19 and Alkali Metal Waste Storage Modules dangerous waste management units. These storage modules
20 will be physically separated by a distance of at least 1.5 meters between adjacent modules (NFPA 997).

21 The CWC Operating Unit Group will not be authorized to receive shock sensitive or Class 4 oxidizer
22 (international fire code) waste. Nevertheless, should this type of waste be identified through the sorting
23 or characterization process, the Hanford Fire Department will be notified. The management of this type
24 of waste will be conducted under the direction of the Hanford Fire Department.

25 **C.3.3 Design of Areas to Manage Incompatible Wastes**

26 Packages containing incompatible waste will not be permitted in the same container. Incompatible waste
27 will be stored in separate containment systems such as a spill pallet, separate storage modules,
28 combination packages defined in Addendum B, or by a dike, wall, berm or other Ecology approved
29 device. Incompatible waste, defined in [WAC 173-303-040](#), include those that are unsuitable for mixing
30 with another waste or material, because the mixture might produce:

- 31 • extreme heat or pressure, fire or explosion, violent reaction;
- 32 • uncontrolled toxic dusts, fumes, mists, or gases, in sufficient quantities to threaten human health
33 or the environment; or
- 34 • uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion.

35 Also, waste will not be placed in an unwashed container that previously held an incompatible waste or
36 material.

37 The waste generating locations will be responsible for determining the proper designation prior to receipt
38 and acceptance at the CWC Operating Unit Group, for determining the appropriate compatibility of the
39 waste (Addendum B, Waste Analysis Plan). For any waste stored in CWC, a storage category will be
40 assigned to the waste as part of the waste acceptance process described in Addendum B, Waste Analysis
41 Plan. All containers will be subject to a container receipt inspection at the CWC Operating Unit Group as
42 described in Addendum B, Waste Analysis Plan. Containers will be stored in locations based on the
43 storage category.

1 **C.4 Air Emissions Control**

2 This section addresses the CWC Operating Unit Group requirements of Air Emission Standards under
3 [WAC 173-303-692](#) which incorporates by reference, [40 CFR 264, Subpart CC](#).

4 **C.4.1 Applicability of Subpart CC Standards**

5 The air emission standards of [40 CFR 264, Subpart CC](#), apply to tank, surface impoundment, and
6 container storage areas that hold wastes with average volatile organic concentrations equal to or
7 exceeding 500 parts per million by weight, based on the dangerous waste composition at the point of
8 origination. Containers that are used solely for management of mixed waste are exempt from the
9 requirement of [WAC 173-303-692](#). Dangerous and/or mixed waste will be managed at the CWC
10 Operating Unit Group.

11 Operating Unit Group/operators are not required to determine the concentration of volatile organic
12 compounds in a dangerous waste if the wastes are placed in waste storage and/or treatment areas that
13 employ air emission controls that are in compliance with the Subpart CC standards. CWC will
14 demonstrate compliance with the Subpart CC control standards [[40 CFR 264.1084 - 264.1086](#)].

15 **C.4.2 Demonstrating Compliance with Subpart CC Standards**

16 The CWC Operating Unit Group will meet all container Level 1 and Level 2 standards by managing all
17 dangerous waste in U.S. Department of Transportation containers [[40 CFR 264.1086\(f\)](#)], Level 1 controls
18 are required for containers that have a design capacity of more than 0.1 cubic meters and less than or
19 equal to 0.46 cubic meters. Level 2 controls are required for containers that have a design capacity of
20 more than 0.46 cubic meter of waste that is in 'light material service'. Light material service is required
21 where a waste in the container where both of the following conditions apply:

- 22 • One or more organic constituents with a vapor pressure greater than 0.3 kilopascal at 20° C.
- 23 • The total concentration of such constituents is greater than or equal to 20 percent by weight.

24 The monitoring requirements for containers with Level 1 and Level 2 controls include:

- 25 • A visual inspection when a container of dangerous waste is received at any CWC dangerous
26 waste management unit.
- 27 • A visual inspection when waste is initially placed in a container at any CWC dangerous waste
28 management unit.
- 29 • At least once every 12 months when stored onsite for 1 year or more.

30 When DOT non-compliant containers are used at the CWC Operating Unit Group, alternate container
31 management practices will be used that comply with the Level 1 or Level 2 standards as applicable.
32 Specifically, Level 1 standards allow for a "container equipped with a cover and closure devices that form
33 a continuous barrier over the container openings such that when the cover and closure devices are secured
34 in the closed position there are no visible holes, gaps, or other open spaces into the interior of the
35 container. The cover may be a separate cover installed on the container...or may be an integral part of the
36 container structural design..." [[40 CFR 264.1086\(c\)\(1\)\(ii\)](#)]. An organic-vapor-suppressing barrier, such
37 as foam, also may be used [[40 CFR 264.1086\(c\)\(1\)\(iii\)](#)]. Section C.2 provides detail on container
38 management practices at the CWC Operating Unit Group.

39 Container Level 3 standards apply when a container with a design capacity of greater than 0.1 cubic
40 meters is used for the "treatment of a hazardous waste by a waste stabilization process" [[40 CFR](#)
41 [264.1086\(2\)](#)]. Because a waste stabilization process cannot be applied to dangerous waste in containers at
42 the CWC Operating Unit Group, these standards do not apply.

43 **C.5 Process Design Capability**

44 **C.5.1 Storage Design Capacity**

45 The Part A form for the CWC Operating Unit Group (Revision 8, dated October 1, 2008) specifies a

1 storage (S01) process design capacity for CWC of 20,796,400 liters. A revision of the CWC Operating
2 Unit Group Part A form will be submitted to Ecology for approval that increases the storage (S01)
3 process design capacity to a total of 156,419,400 liters. The increase in the storage design capacity will
4 support future waste management activities associated with the retrieval of retrievably stored waste as
5 identified in the Hanford Federal Facility Agreement and Consent Order (HFFACO) M-91-00 milestone
6 series.

7 The revision of the CWC Operating Unit Group Part A form will also propose to remove Waste Storage
8 Building 2404-WA from the CWC Operating Unit Group, and add it to the WRAP Operating Unit Group.
9 A revision to the WRAP Operating Unit Group Part A form to include the addition of the storage design
10 capacity for building 2404-WA will also be submitted to Ecology for approval.

11 This section provides information to support the total CWC storage design capacity of 156,419,400 liters.
12 Table C.1 contains a tabulation of the structures and storage areas within the CWC that may store
13 dangerous and/or mixed waste and the maximum volume (in liters) within each structure and area.

14 A diverse range of waste containers are managed within the CWC dangerous waste management units,
15 including, but not limited to, waste boxes, drums, tanks, casks, self-contained waste, etc. Containers
16 come in varying sizes and types of containers (i.e., metal, wood, fiberboard, etc.). The CWC Operating
17 Unit Group is not limited in the ability to use any type or size of container for waste management as long
18 as the container conforms to the container requirement described in Section C.2 of this addendum.

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Table C.1 – Maximum Total Volume for CWC Dangerous Waste Management Units

Structure	Maximum total volume (liters)
2401-W	334,500
2402-W	334,500
2402-WB	334,500
2402-WC	334,500
2402-WD	334,500
2402-WE	334,500
2402-WF	334,500
2402-WG	334,500
2402-WH	334,500
2402-WI	334,500
2402-WJ	334,500
2402-WK	334,500
2402-WL	334,500
2403-WA	3,619,500*
2403-WB	3,619,500*
2403-WC	3,619,500*
2403-WD	5,460,000*
Flammable Waste Storage Module 1 (FS-01)	9,000
Flammable Waste Storage Module 2 (FS-02)	9,000
Flammable Waste Storage Module 3 (FS-03)	18,000
Flammable Waste Storage Module 5 (FS-05)	10,500
Flammable Waste Storage Module 6 (FS-06)	10,500
Flammable Waste Storage Module 7 (FS-07)	10,500
Flammable Waste Storage Module 9 (FS-09)	10,500
Flammable Waste Storage Module 10 (FS-10)	10,500
Flammable Waste Storage Module 11 (FS-11)	10,500
Flammable Waste Storage Module 12 (FS-12)	10,500
Flammable Waste Storage Module 14 (FS-14)	18,000
Flammable Waste Storage Module 15 (FS-15)	10,500
Flammable Waste Storage Module 16 (FS-16)	13,500
Flammable Waste Storage Module 17 (FS-17)	13,500
Flammable Waste Storage Module 18 (FS-18)	13,500
Flammable Waste Storage Module 19 (FS-19)	9,000
Flammable Waste Storage Module 20 (FS-20)	9,000
Flammable Waste Storage Module 21 (FS-21)	10,500

Table C.1 – Maximum Total Volume for CWC Dangerous Waste Management Units

Structure	Maximum total volume (liters)
Flammable Waste Storage Module 22 (FS-22)	10,500
Flammable Waste Storage Module 23 (FS-23)	10,500
Flammable Waste Storage Module 24 (FS-24)	10,500
Flammable Waste Storage Module 25 (FS-25)	10,500
Flammable Waste Storage Module 26 (FS-26)	15,000
Flammable Waste Storage Module 27 (FS-27)	15,000
Alkali Metal Waste Storage Module 1 (AMW01)	10,500
Alkali Metal Waste Storage Module 2 (AMW02)	10,500
Alkali Metal Waste Storage Module 3 (AMW03)	10,500
Alkali Metal Waste Storage Module 4 (AMW04)	10,500
CWC Outside Storage Area A	132,525,000
CWC Outside Storage Area B	1,011,000
CWC Outside Storage Area C	412,500
CWC Outside Storage Area D	157,500
CWC Outside Storage Area E	550,500
CWC Outside Storage Area F	774,900
Total	156,412,400

1 *In accordance with [WAC 173-303-630\(7\)\(a\)\(iii\)](#), secondary containment must have a sufficient capacity
2 to contain 10% of the volume of waste containing free liquids, or waste designated as F020, F021, F022,
3 F023, F026, or F027. The maximum volume for these waste types listed above will not exceed 10 times
4 the corresponding secondary containment capacity listed in Table C.2.

5

Table C.2 – CWC Dangerous Waste Management Units with Secondary Containment Capability

Location	Floor Area (square meters)	Secondary Containment Capacity	
		Cubic Meters	Liters
2402-W	329.4	50.2	50,200
2402-WB	329.4	50.2	50,200
2402-WC	329.4	50.2	50,200
2402-WD	329.4	50.2	50,200
2402-WE	329.4	50.2	50,200
2402-WF	329.4	50.2	50,200
2402-WG	329.4	50.2	50,200
2402-WH	329.4	50.2	50,200
2402-WI	329.4	50.2	50,200
2402-WJ	329.4	50.2	50,200
2402-WK	329.4	50.2	50,200
2402-WL	329.4	50.2	50,200
2403-WA	1,233.6	188.0	188,000
2403-WB	1,233.6	188.0	188,000
2403-WC	1,233.6	188.0	188,000
2403-WD	2,047.2	312.0	312,000
Flammable Waste Storage Module 1 (FS-01)	13.1	2.0	2,000
Flammable Waste Storage Module 2 (FS-02)	13.1	2.0	2,000
Flammable Waste Storage Module 3 (FS-03)	49.9	7.6	7,600
Flammable Waste Storage Module 5 (FS-05)	23.0	3.5	3,500
Flammable Waste Storage Module 6 (FS-06)	23.0	3.5	3,500
Flammable Waste Storage Module 7 (FS-07)	23.0	3.5	3,500
Flammable Waste Storage Module 9 (FS-09)	23.0	3.5	3,500
Flammable Waste Storage Module 10 (FS-10)	23.0	3.5	3,500
Flammable Waste Storage Module 11 (FS-11)	23.0	3.5	3,500
Flammable Waste Storage Module 12 (FS-12)	23.0	3.5	3,500
Flammable Waste Storage Module 14 (FS-14)	49.9	7.6	7,600
Flammable Waste Storage Module 15 (FS-15)	23.0	3.5	3,500
Flammable Waste Storage Module 16 (FS-16)	27.6	4.2	4,200
Flammable Waste Storage Module 17 (FS-17)	27.6	4.2	4,200
Flammable Waste Storage Module 18 (FS-18)	27.6	4.2	4,200
Flammable Waste Storage Module 19 (FS-19)	13.1	2.0	2,000
Flammable Waste Storage Module 20 (FS-20)	13.1	2.0	2,000
Flammable Waste Storage Module 21 (FS-21)	23.0	3.5	3,500
Flammable Waste Storage Module 22 (FS-22)	23.0	3.5	3,500
Flammable Waste Storage Module 23 (FS-23)	23.0	3.5	3,500
Flammable Waste Storage Module 24 (FS-24)	23.0	3.5	3,500
Flammable Waste Storage Module 25 (FS-25)	23.0	3.5	3,500
Flammable Waste Storage Module 26 (FS-26)	35.4	5.4	5,400
Flammable Waste Storage Module 27 (FS-27)	35.4	5.4	5,400
Alkali Metal Waste Storage Module 1 (AMW01)	23.0	3.5	3,500
Alkali Metal Waste Storage Module 2 (AMW02)	23.0	3.5	3,500
Alkali Metal Waste Storage Module 3 (AMW03)	23.0	3.5	3,500
Alkali Metal Waste Storage Module 4 (AMW04)	23.0	3.5	3,500
CWC Outside Storage Area D	818.0	124.0	124,000

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