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**PART III, OPERATING UNIT GROUP 16 PERMIT CONDITIONS
400 AREA WASTE MANAGEMENT UNIT**

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2 **PART III, OPERATING UNIT GROUP 16 PERMIT CONDITIONS**
3 **400 AREA WASTE MANAGEMENT UNIT**
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6 **UNIT DESCRIPTION:**

7 The 400 Area Waste Management Unit (WMU) is in the Property Protected Area (PPA) at the Fast Flux
8 Test Facility (FFTF), in Hanford's 400 Area. The 400 Area WMU consists of two container storage
9 units:

- 10 • Fuel Storage Facility (FSF, Building 403). The FSF is a large steel-frame, metal-sided, high bay
11 building. Its dimensions are 34 x 27 x 12 meters (112 x 90 x 40 feet). The container storage unit
12 is on the ground-level floor. In it are two large steel boxes that store sodium-contaminated core
13 component pots (CCPs). The Permittees do not plan to store more mixed waste than is currently
14 stored in the facility; however, the FSF is physically capable of storing additional mixed waste.
15 They will store any additional wastes at the 400 Area WMU in the Interim Storage Area.
- 16 • Interim Storage Area, 4718 (ISA). The ISA consists of 156 x 247 meters (513 x 247 feet) totally
17 fenced area. This area is for aboveground dry cask storage of spent fuel. A concrete pad in the
18 ISA, which measures 27 x 37 meters (90 x 120 feet), was used for dry cask storage, but will not
19 necessarily be used for mixed waste management. The rest of the ISA surface is gravel. The ISA
20 is generally flat. However, it is graded to drain in accordance with the general drainage plan for
21 the FFTF PPA. Inside the ISA, there is also one building along the west fence line, and open on
22 the side. This building, Building 432A, is not authorized for mixed waste management.

23 The scale map in Addendum A shows the location of each storage unit. The only mixed waste stored in
24 these two container storage units is elemental sodium, and sodium potassium (D001, D003, and WSC2),
25 sodium hydroxide (D002), and potassium hydroxide (D002) and debris (e.g., piping, equipment, and
26 components) contaminated with elemental sodium, sodium potassium, sodium hydroxide, and potassium
27 hydroxide. The 400 Area WMU will not store, treat, or dispose of bulk metallic sodium or bulk sodium
28 hydroxide.

29 **LIST OF ADDENDA SPECIFIC TO OPERATING UNIT GROUP 16**

- 30 Addendum A Part A Form, dated June 30, 2012
31 Addendum B Waste Analysis Plan, dated June 30, 2012
32 Addendum C Process Information, dated December 31, 2012
33 Addendum D Groundwater Monitoring – Reserved
34 Addendum E Procedures to Prevent Hazards, dated June 30, 2016
35 Addendum F Preparedness and Prevention, dated September 30, 2012
36 Addendum G Personnel Training, dated June 30, 2013
37 Addendum H Closure Plan, dated June 30, 2009
38 Addendum I Inspection Requirements, dated September 5, 2012
39 Addendum J Contingency Plan, dated March 31, 2016

40 **DEFINITIONS**

41 The term "**CCP**" or **Core Component Pot** means one of 109 cylindrical containers, each containing
42 3.75 gallons of un-reacted sodium totaling 405 gallons, currently stored as mixed waste in the FFTF Fuel
43 Storage Facility. The CCPs were previously filled with sodium and used in the FFTF Interim Decay
44 Storage Vessel to store spent FFTF Driver Fuel Assemblies under inert gas.

1 **ACRONYMS**

2	FFTF	Fast Flux Test Facility
3	CCP	Core Component Pot
4	PPA	Property Protected Area
5	ISA	Interim Storage Area
6	FSF	Fuel Storage Facility
7	WMU	Waste Management Unit

8 **III.16.A COMPLIANCE WITH UNIT-SPECIFIC PERMIT CONDITIONS**

9 **III.16.A.1** The Permittees will comply with all conditions in this Chapter and its addenda with
10 respect to dangerous waste management and dangerous waste management units in the
11 400 Area WMU, in addition to conditions in Permit Parts I and II.

12 **III.16.B GENERAL WASTE MANAGEMENT**

13 **III.16.B.1** The Permittees are authorized to accept, according to the waste acceptance procedure
14 documented in Addendum B, Section B.2, mixed debris generated from demolition and
15 decommissioning of the Fast Flux Test Facility reactor system containing or
16 contaminated with residual elemental sodium and sodium hydroxide. The Permittee will
17 store these wastes in the ISA.

18 **III.16.B.2** The Permittees are authorized to store core component pots generated prior to the
19 effective date of this permit in two large metal boxes in the 400 Area WMU, FSF.

20 **III.16.B.3** The Permittees are authorized store mixed waste in the ISA up to a maximum capacity of
21 19,000 gallons.

22 **III.16.B.4** The Permittees will maintain the physical structure of dangerous waste management units
23 in the 400 Area WMU as documented in the Unit Description above and Addendum C,
24 Figures C.1 and C.2.

25 **III.16.B.5** The Permittees will maintain appropriate administrative controls and work practices to
26 ensure that only wastes specified in Permit Condition III.16.B.1, are received by the ISA
27 for storage, and that no co-mingling or cross-contamination of the waste stream specified
28 in Permit Condition III.16.B.1 with any other waste stream may occur.

29 **III.16.C WASTE ANALYSIS**

30 **III.16.C.1** The Permittees will have an accurate and complete waste profile for the waste stream
31 identified in Permit Condition III.16.B.1. This waste profile will be signed and dated
32 upon approval by the 400 Area WMU authorized representative.
33 [[WAC 173-303-380](#)(1)(a)]

34 **III.16.C.2** The Permittees will make a copy of the waste profile required by Permit
35 Condition III.16.C.1 available upon request. [[WAC 173-303-815](#)(2)(b)(ii)]

36 **III.16.D RECORDKEEPING AND REPORTING**

37 **III.16.D.1** The Permittees will place the following into the Hanford Facility Operating Record,
38 400 Area WMU File required by Permit Condition II.I.2. [[WAC 173-303-380](#)]

39 **III.16.D.2** Records required by [WAC 173-303-380](#)(1)(o), incorporated by reference.

40 **III.16.E SECURITY**

41 **III.16.E.1** The Permittees will post warning signs at all entrances to the FSF and the ISA specified
42 in Addendum E, Section E.1.1. [[WAC 173-303-310](#)(2)(a)]

43 **III.16.F PREPAREDNESS AND PREVENTION**

- 1 **III.16.F.1** The Permittees will comply with the Addendum F, Preparedness and Prevention
2 requirements specific to the 400 Area WMU. [[WAC 173-303-340](#)]
- 3 **III.16.G CONTINGENCY PLAN**
- 4 **III.16.G.1** The Permittees will comply with Addendum J, Contingency Plan in addition to the
5 requirements of Permit Condition II.A when applicable. [[WAC 173-303-350](#)]
- 6 **III.16.H INSPECTIONS**
- 7 **III.16.H.1** The Permittees will perform inspections of the 400 Area WMU according to
8 Addendum I, Inspection Plan for inspecting all monitoring equipment, safety and
9 emergency equipment, security devices, and operating and structural equipment that help
10 prevent, detect, or respond to hazards to the public health or the environment pursuant to
11 the requirements of [WAC 173-303-320](#). [[WAC 173-303-320\(2\)](#)]
- 12 **III.16.I TRAINING PLAN**
- 13 **III.16.I.1** The Permittees will include Addendum G unit-specific training requirements in the
14 written training plan required by Permit Condition II.C. [[WAC 173-303-330](#)]
- 15 **III.16.J OTHER GENERAL REQUIREMENTS**
- 16 **III.16.J.1** The Permittees will comply with the requirements of [WAC 173-303-395](#)(1)(a)-(c),
17 incorporated by reference, for prevention of reaction of ignitable, reactive, or
18 incompatible wastes.
- 19 **III.16.J.2 Land Disposal Restriction Requirements**
- 20 **III.16.J.2.a** The Permittees will ensure a schedule of compliance and any applicable associated work
21 requirements are included in the land disposal restrictions report required by the Hanford
22 Federal Facility Agreement and Consent Order (HFFACO) Milestone M-26, incorporated
23 by reference by Permit Condition II.O for treatment and/or acquisition of treatment
24 capacity for wastes which are or are expected to be stored in the 400 Area WMU
25 container storage units.
- 26 **III.16.K CLOSURE**
- 27 **III.16.K.1** The Permittees will close the 400 Area WMU Container Storage Units in accordance
28 with Addendum H, Closure Plan. [[WAC 173-303-610\(4\)](#)]
- 29 **III.16.L POST CLOSURE**
- 30 Reserved
- 31 **III.16.M CRITICAL SYSTEMS**
- 32 Reserved
- 33 **III.16.N RESERVED**
- 34 **III.16.O CONTAINERS**
- 35 **III.16.O.1** Container Management Standards
36

- 1 **III.16.O.1.a** The Permittees will ensure that all containers remain in good condition. If a container
2 holding mixed waste is not in good condition (e.g., severe rusting or corrosion, or
3 apparent structural defects), or if it begins to leak, the Permittee must transfer the waste
4 from the container to a container that is in good condition or place the leaking container
5 in an appropriate over-pack container. [[WAC 173-303-630](#)(2)]
- 6 **III.16.O.1.b** The Permittees shall ensure that all containers are constructed of carbon steel or stainless
7 steel, or other materials compatible with metallic sodium and sodium hydroxide.
8 [[WAC 173-303-630](#)(4)]
- 9 **III.16.O.1.c** The Permittees must remove spilled or leaked waste within secondary containment
10 pursuant to [WAC 173-303-630](#)(7)(a)(ii), incorporated by reference.
- 11 **III.16.O.1.d** Requirements for the Fuel Storage Facility
- 12 **III.16.O.1.e** The Permittee will maintain an inert gas (argon or nitrogen) cover within each large metal
13 box to prevent contact of the metallic sodium with the water vapor in the air and the
14 formation of free liquids.
- 15 **III.16.O.1.f** The Permittees will place large boxes stored in the FSF in drip pans to ensure a base free
16 of cracks or gaps, and ensure that the large boxes are elevated or otherwise protected
17 from contact with accumulated liquids.
- 18 **III.16.O.1.g** Requirements for the Interim Storage Area
- 19 **III.16.O.1.h** The Permittee may store wastes in the ISA in standard metal containers (e.g., 208-liter
20 drums), large metal boxes fabricated to accommodate the size and shape of a particular
21 component or debris, or unique components removed from FFTF that when closed in
22 accordance with [WAC 173-303-630](#)(5)(a) serve as a primary container.
- 23 **III.16.O.1.i** The Permittees will manage unique components stored in the ISA on the gravel surface
24 with sufficient open space between components and between components and the fence
25 line to accommodate inspections and movement of equipment.
- 26 **III.16.O.1.j** The Permittees will not place wastes in the open-sided structure (Building 432A) within
27 the ISA identified in the Unit Description above.
- 28