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**ADDENDUM F**  
**PREPAREDNESS AND PREVENTION**

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**ADDENDUM F**  
**PREPAREDNESS AND PREVENTION**

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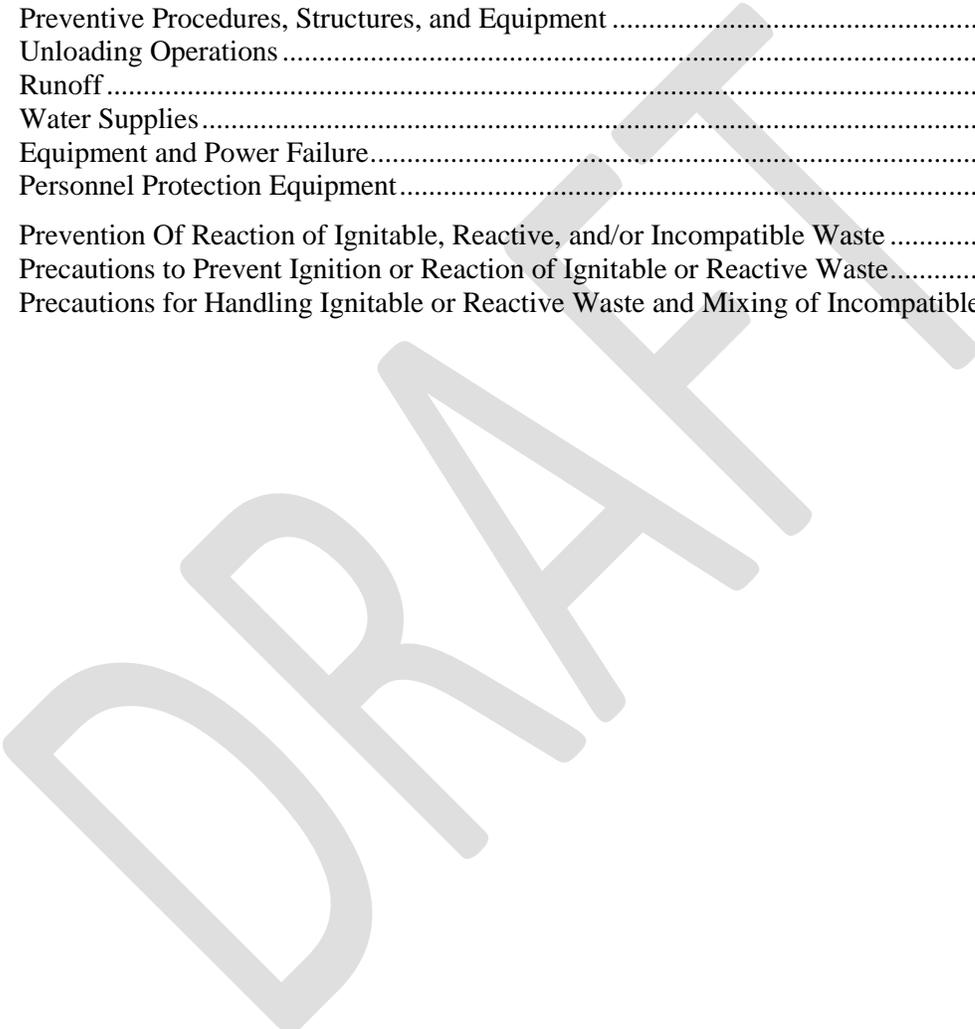
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1 **F PREPAREDNESS AND PREVENTION**

2 This Addendum discusses preparedness and prevention requirements; preventive procedures, structures,  
3 and equipment; and prevention of reaction of ignitable and reactive waste stored at 400 Area WMU.

4 The 400 Area WMU is designed and operated to minimize exposure of the general public and operating  
5 personnel to waste. Shielding, control of toxic or dangerous material, safety and security procedures, and  
6 structures are used to keep exposure within ALARA requirements. In addition, the 400 Area WMU is  
7 designed to withstand accidents without undue risk to the health and safety of the general public and  
8 operating personnel.

9 **F.1 Preparedness and Prevention Requirements**

10 The following sections document the preparedness and prevention measures taken at the 400 Area WMU.

11 **F.1.1 Equipment Requirements**

12 The following sections describe the internal and external communications systems and the emergency  
13 equipment required that could be activated by the 400 Area WMU Building Emergency Director.  
14 Hanford Facility-wide equipment is identified in Permit Attachment 4, *Hanford Emergency Management*  
15 *Plan* (DOE/RL-94-02).

16 **F.1.1.1 Internal Communications**

17 Groups or individuals working in any of the 400 Area WMU mixed waste storage areas communicate by  
18 two-way radio or cell phone. The S&M Operations Manager is the point of contact and all operations  
19 personnel with radios may function as a backup. The public address (PA) system is also available. The  
20 Hanford Patrol Operations Center (POC) is available by dialing 911 from site office phones/373-0911  
21 from cellular phones.

22 The ISA has no installed communication or alarm systems. The PA system can be heard throughout the  
23 400 Area property protection area (PPA). A pressure alarm in the feed line for the inert gas to the CCP  
24 storage boxes in the FSF is wired to an alarm panel in Building 481A to alert the stationary operating  
25 engineer in the event of low pressure.

26 **F.1.1.2 External Communications**

27 The 400 Area WMU is equipped with devices for summoning emergency assistance from the Hanford  
28 Fire Department, the Hazardous Materials Response Team, and/or Hanford Patrol as necessary. External  
29 communication to summon emergency assistance is made via a telephone communication system, fire  
30 alarm pull boxes, a two-way radio base station, and two-way portable radios as described in Permit  
31 Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02). The locations of the primary  
32 staging area are identified in Addendum J, Contingency Plan.

33 **F.1.1.3 Emergency Equipment**

34 The 400 Area WMU relies primarily on the Hanford Fire Department to respond to fires and other  
35 emergencies as described in Permit Attachment 4, *Hanford Emergency Management Plan*  
36 (DOE/RL-94-02). The Hanford Fire Department is capable of providing rapid response to fires within the  
37 400 Area WMU.

38 A detailed list of emergency response equipment is included in Addendum J, Contingency Plan. Fire  
39 extinguishers (Class D) are in the areas of the stored ignitable and/or reactive waste. Personnel are  
40 trained in the use of emergency equipment (Addendum G, Personnel Training).

41 **F.1.1.4 Water for Fire Control**

42 The only mixed waste stored in the 400 Area WMU consists of containerized reactive sodium metal as a  
43 residual contaminant on piping and components. Therefore, water will not be used to extinguish a fire  
44 associated with this waste stream. Existing water fire suppressions systems have been physically

1 disconnected in any case where sprinkled water could potentially contact the stored metallic sodium waste  
2 in the 400 Area WMU.

### 3 **F.1.2 Aisle Space Requirement**

4 A discussion on the applicability of aisle space is found in Addendum C, Process Information.

## 5 **F.2 Preventive Procedures, Structures, and Equipment**

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

### 7 **F.2.1 Unloading Operations**

8 Unloading requirements in [WAC 173-303-395](#)(4) do not apply to the 400 Area WMU because liquid  
9 dangerous waste will not be accepted into the TSD unit on a manifest shipment.

### 10 **F.2.2 Runoff**

11 The 400 Area storm water drainage system and appropriate grading prevent runoff.

### 12 **F.2.3 Water Supplies**

13 The discussion of water supplies in the context of the 400 Area WMU is not applicable, because water is  
14 not connected. Therefore, no potential for cross connection or back flow that could contaminate a water  
15 source exists.

### 16 **F.2.4 Equipment and Power Failure**

17 Loss of electrical power does not constitute an emergency situation regarding storage of mixed waste at  
18 the 400 Area WMU. The FFTF facility is deactivated and in a long-term surveillance and maintenance  
19 mode. Therefore, the 400 Area WMU only has minimal electrical power available. Indoor waste areas  
20 will not be occupied during power outages without adequate alternate substitutes for those systems except  
21 for personnel providing a fire watch or other emergency response activity.

22 As described in Section F.1.1.2, emergency communication equipment is available to summon emergency  
23 assistance in the event of a power loss.

### 24 **F.2.5 Personnel Protection Equipment**

25 Refer to Addendum J, Contingency Plan, for information regarding required personnel protection  
26 equipment available for use at 400 Area WMU.

## 27 **F.3 Prevention of Reaction of Ignitable, Reactive, and/or Incompatible Waste**

28 The following section describes prevention of reaction of ignitable, reactive, and/or incompatible waste.

### 29 **F.3.1 Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Waste**

30 All waste stored in the 400 Area WMU is stored in closed containers.

31 Activities involving heat generation (welding, cutting, open flames, hot surfaces, frictional heat, sparks,  
32 or radiant heat) are not allowed within the 400 Area WMU, without specific authorization by the  
33 S&M Operations Manager.

34 'NO SMOKING' signs are conspicuously placed wherever there is a hazard from ignitable or reactive  
35 waste.

36 The containerized waste (metallic sodium) is also water reactive. Precautions have been taken to ensure  
37 that water does not contact the waste. These precautions included removal of water fire suppression  
38 systems in the immediate area of waste containers, sealing the containers, and ensuring that outdoor  
39 container storage provides protection from precipitation and run-on.

1 [WAC 173-303-630](#) requires managing ignitable and reactive waste containers in a manner equivalent to  
2 the International Fire Code. The Hanford Fire Department will determine whether the storage of ignitable  
3 and reactive waste meets the International Fire Code or equivalent.

4 **F.3.2 Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible**  
5 **Waste**

6 Metallic sodium, in a solid form due to its high melting point (98°C) and sodium-potassium alloy (NaK),  
7 in liquid form, are the only waste stored at the 400 Area WMU. These wastes are adhered to or contained  
8 in the interior of debris that has been generated from FFTF. These wastes, which are a mixed waste,  
9 exhibit the characteristics of ignitability and reactivity due to the metallic sodium and NaK. It is also  
10 designated as a corrosive waste, as it may generate sodium hydroxide if it comes into contact with water  
11 vapor in the air.

12 There is no potential for mixing the metallic sodium or NaK waste with another waste that could result in  
13 an incompatible reaction, as the sodium and NaK wastes are the only waste stored in the 400 Area WMU.  
14 The containers selected for storage of the waste are made of either carbon steel or stainless steel and are  
15 well suited to store the waste, even if small amounts of highly alkaline sodium hydroxide are generated  
16 inside the container. Either new containers are used or existing containers are thoroughly cleaned and  
17 dried before waste is placed in them.

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