ADDENDUM F
PREPAREDNESS AND PREVENTION

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F PREPARDENESS AND PREVENTION

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

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

F.1 Preparedness and Prevention Requirements

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

F.1.1 Equipment Requirements

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

F.1.1.1 Internal Communications

Groups or individuals working in any of the 400 Area WMU mixed waste storage areas communicate by two-way radio or cell phone. The S&M Operations Manager is the point of contact and all operations personnel with radios may function as a backup. The public address (PA) system is also available. The Hanford Patrol Operations Center (POC) is available by dialing 911. Cell phones should use 373-3800 to call the POC.

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

F.1.1.2 External Communications

Personnel at the 400 Area WMU are equipped with devices for summoning emergency assistance from the Hanford Fire Department, the Hazardous Materials Response Team, and/or Hanford Patrol as necessary. External communication to summon emergency assistance is made via two-way portable radios or cell phones as described in Addendum J. The locations of the primary staging area are identified in Addendum J, Contingency Plan.

F.1.1.3 Emergency Equipment

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

A detailed list of emergency response equipment is included in Addendum J, Contingency Plan. Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02) also contains the Hanford Facility wide equipment list. Fire extinguishers (Class D) are in the areas of the stored ignitable and/or reactive waste. Personnel are trained in the use of emergency equipment (Addendum G, Personnel Training).

F.1.1.4 Water for Fire Control

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

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

F.1.2 Aisle Space Requirement

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

F.2 Preventive Procedures, Structures, and EQUIPMENT

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

F.2.1 Unloading Operations

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

F.2.2 Run Off

The 400 Area storm water drainage system and appropriate grading prevent run-off.

F.2.3 Water Supplies

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

F.2.4 Equipment and Power Failure

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

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

F.2.5 Personnel Protection Equipment

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

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

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

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

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

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

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

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

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

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

Metallic sodium, in a solid form due to its high melting point (98°C), is the only waste stored at the 400 Area WMU. This waste is adhered to or contained in the interior of debris that has been generated from FFTF. This waste, which is a mixed waste, exhibits the characteristics of ignitability and reactivity due to the metallic sodium. It is also designated as a corrosive waste, as it may generate sodium hydroxide if it comes into contact with water vapor in the air.

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

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