ADDENDUM F

PREPAREDNESS AND PREVENTION
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# ADDENDUM F

## PREPAREDNESS AND PREVENTION

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F  PREPAREDNESS AND PREVENTION

This Addendum discusses preparedness and prevention requirements; preventive procedures, structures, and equipment; and prevention of reaction of ignitable, reactive, and incompatible waste as related to the T Plant Complex (T Plant) Operating Unit Group.

F.1  Preparedness and Prevention Requirements

The following sections describe the preparedness and prevention measures to be taken at the T Plant Operating Unit Group.

F.1.1  Equipment Requirements

The following sections describe the internal and external communications systems, emergency equipment, and water for fire control required that could be activated by the T Plant Operating Unit Group Contingency Plan (Addendum J).

F.1.1.1  Internal Communications

The T Plant Operating Unit Group is equipped with an internal communication system to provide immediate emergency instructions to personnel. The communication system includes telephones, computers, public address system, and alarm systems. Telephones throughout the T Plant Operating Unit Group provide internal and external communication. Alarm systems exist to allow personnel to respond appropriately to various emergencies, including building evacuations, takeover events, and fire and/or explosion.

Immediate emergency instruction to personnel will be provided by a public address system using speaker horns and ceiling mounted speakers located throughout the T Plant Operating Unit Group.

F.1.1.2  External Communications

The T Plant will be equipped with devices for summoning emergency assistance from the Hanford Fire Department, the Hazardous Materials Response Team, and/or local emergency response teams as necessary. External communication will be made through the normal telephone system and/or two-way hand-held and vehicle mounted radios. In addition, the following external communication systems will be available for notifying persons assigned to emergency response organizations:

- Fire alarm pull boxes and fire sprinkler flow monitoring devices, connected to a system monitored around the clock by the Hanford Fire Department.
- Telephone number 911 from site offices phones/373-0911 from cellular phones, are the emergency contact points for the Hanford Facility; on notification, the Hanford Patrol Operations Center notifies and/or dispatches required emergency responders.
- Telephone number 373-3800, single point of contact for the emergency duty officer; this number can be dialed from any Hanford Facility telephone.
- Two-way radio system consisting of hand-held or vehicle radios; the system accesses the Hanford Site emergency network and can summon the Hanford Fire Department, Hanford Patrol, and/or any other assistance requested to handle emergencies.

F.1.1.3  Emergency Equipment

Emergency equipment will be available for use at the T Plant Operating Unit Group as required by WAC 173-303-340(1). A list of emergency equipment can be found in Addendum J, Contingency Plan. Addendum I, Inspection Requirements, details the inspections performed and the frequency of performance for emergency equipment.

F.1.1.4  Water for Fire Control

Water for fire protection will be supplied from a combination of the 200 West Area raw water and potable water system. The water distribution system is sized to provide adequate volume and pressure to supply...
fire-fighting needs under normal and emergency conditions. In the event that water pressure is lost, the Hanford Fire Department will provide equipment as described in Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02).

### F.1.2 Aisle Space Requirement

Aisle spacing in waste storage areas will be sufficient to allow the movement of personnel and fire protection equipment in and around the containers. This storage arrangement also meets the requirements of the International Fire Code for the protection of human health and the environment. A minimum 30-inch aisle space will be maintained between rows of containers as required by WAC 173-303-630(5)(c) and WAC 173-303-340(3).

### F.2 PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT

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

#### F.2.1 Unloading Operations

Methods are used to minimize the potential for puncturing or opening containers during waste unloading and are followed during packaging of the waste as well as during unloading. Qualified operators ensure that the following methods are carried out before waste is unloaded.

- Containers will be inspected for damage before being unloaded.
- Containers will be handled by appropriate equipment such as a forklift or crane during unloading.
- Waste will not be unloaded without the approval of operations supervision during inclement weather.
- Path to the storage area will be clear of obstructions.

#### F.2.2 Waste Transfer Lines

The 2706-T Tank System is a standalone liquid waste management system described in Addendum C, Process Information. Liquid mixed waste generated in the 2706-T Building and in 2706-TA Building drains to the 2706-T and 2706-TA sumps. This waste will be pumped through stainless steel transfer lines via sump pumps to containers.

#### F.2.3 Runoff

Addendum C, Process Information, contains information on run-off and run-on of liquids at the T Plant Operating Unit Group.

#### F.2.4 Water Supplies

Raw water will be supplied to the T Plant Operating Unit Group from the Columbia River by way of underground (export) water lines. Sanitary (potable) water that is used at the T Plant Operating Unit Group will be derived from the Columbia River and is filtered and treated at a 200 Area water treatment facility before being distributed for use.

Potential contamination of the potable water supply at the T Plant Operating Unit Group will be prevented with reduced pressure backflow devices that are installed on all potable water lines.

#### F.2.5 Equipment and Power Failure

A loss of electrical power could result in the loss of air balance affecting contamination control and the loss of alarms. The associated potential hazards are exposure to mixed and/or dangerous waste and isolation in areas of darkness. Although dangerous and mixed waste remains contained, measures will be taken to ensure that any affected buildings will be kept closed until ventilation is restored to control the potential for radiological contamination spread. Emergency lamps will be available to provide emergency lighting throughout various locations in the 221-T Building (galleries, stairwells, and canyon), and in the 2706-T Building, 2706-TA Building, and 2706-TB Building. The public address system will be equipped
with an uninterruptable power supply, which allows for use during a power failure. Portable generator(s) will be available to power emergency lighting that could be set up as necessary. Loss of power could make it necessary for personnel to evacuate affected areas. Steps to place utilities in a safe and secure condition when an emergency has been declared and to deal with the loss of power are identified in Addendum E (Security).

In the event of a loss of electricity, waste treatment, storage, and movement activities will be stopped with waste containers and equipment placed in a safe condition. If transfer of liquid waste is in progress, the tank level gauges will be monitored to confirm that transfer operations will be halted unless personnel safety is jeopardized.

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

F.2.6 Personnel Protection Equipment

Refer to Addendum J, Contingency Plan for information regarding required personnel protection equipment at the T-Plant Operating Unit Group.

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

Based on the waste characteristics identified by the onsite generating unit or offsite generator, specific packaging instructions will be provided by the T-Plant operating organization. Liquids are transferred to the CWC Operating Unit Group for storage until treatment is available at the T-Plant Operating Unit Group. Incompatible waste will not be packaged within the same container.

The following general precautions will be taken at the T-Plant Operating Unit Group for handling ignitable or reactive waste and mixing of incompatible waste.

- No smoking will be allowed in the T-Plant Operating Unit Group dangerous waste management units.
- No open flames, sparking devices, cutting or welding, hot surfaces, or heat sparks are allowed while ignitable or reactive waste is present, unless a hot work permit has been approved.
- Compatibility testing will be conducted before mixing any two wastes (refer to, Addendum B, Waste Analysis Plan for details).
- Incompatible waste will be segregated by dikes, walls, berms or other Ecology approved device. (refer to Addendum B, Waste Analysis Plan and Addendum C, Process Information).
- At least yearly, the areas where ignitable or reactive waste is stored shall be inspected in accordance with WAC 173-303-395(1)(d) by facility personnel in the presence of a professional person who is familiar with the International Fire Code or in the presence of the Hanford Fire Marshal.
- Containers with ignitable or reactive waste will be stored in covered dangerous waste management units.

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

The T Plant receives waste containers that contain ignitable, reactive, and incompatible wastes that require treatment and/or repackaging. Ignitable or reactive waste and incompatible waste will be managed pursuant to WAC 173-303-395(1). At the T-Plant, waste will be managed to prevent the reaction of ignitable or reactive waste in the following ways:
For ignitable and reactive waste the requirements of WAC 173-303-640(9) will be met.

- The fire protection system will be designed to prevent or detect the occurrence of fires and explosions and to minimize their effect.
- Structures, systems, and components will be protected to ensure that emergency response activities are not hindered during a credible fire or explosion.
- In all cases, noncombustible or fire-resistant materials will be used throughout T-Plant wherever practicable.
- Fire detection, alarm, and suppression systems (e.g., extinguishers) will be compatible with the radiation, chemical, and temperature environments in which the systems are used.

It is possible to accidently mix certain reagents together, either before use or during application that might react with each other to produce toxic or noxious fumes. The hazards presented to the operator by these fumes will be mitigated by various means that include engineered ventilation systems, the use of T-Plant operations/management requirements, and/or protective equipment. The possibility of inadvertent mixing will be minimized by requiring that all containers or tanks used to mix or store these reagents be flushed before reusing and by only using one mixture at a time when decontaminating equipment.

At the T-Plant, incompatible waste will be managed pursuant to WAC 173-303-630(9) in that:

- Waste will be packaged in containers in accordance with the overpack container requirements of WAC 173-303-161. Incompatible waste, as defined in WAC 173-303-040, will not be placed within the same outer container.
- Containers of incompatible wastes will be segregated within the building or otherwise separated by the use of devices meeting the requirements of WAC 173-303-630(9).

No smoking is permitted in these storage areas and "NO SMOKING" signs are posted.