This plan covers the WTP buildings and facilities which are defined in section 1.2.

Content Approved:

_____	_____
Plant Management	Date
_____	_____
Environmental Organization	Date
_____	_____
Emergency Preparedness Manager	Date

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1.0 GENERAL INFORMATION

The Hanford Tank Waste Treatment and Immobilization Plant (WTP) is located on the Hanford Site, a 560-square-mile (1,450-square kilometer) U.S. Department of Energy (DOE) Richland Operations Office (RL) site in southeastern Washington State. The WTP is located in the east portion of the 200 Area near the center of the Hanford Site.

This plan contains a description of facility specific emergency planning and response and is used in conjunction with portions of the DOE/RL-94-02, *Hanford Emergency Management Plan*, to meet contingency plan requirements of Washington Administrative Code (WAC) 173-303. Pursuant to WAC 173-303 Dangerous Waste Regulations, DOE-RL as the owner or operator of the Hanford Facility, is required to have a "contingency plan" for use in emergencies or sudden or non-sudden releases that threaten human health and the environment. Additionally, WAC 173-303-350(2) allows the owner or operator to use documentation, other than a "contingency plan," so long as the other documentation incorporates dangerous waste management provisions sufficient to comply with the requirements of WAC 173-303-350 and WAC 173-303-360. This approach is used at Hanford. There is no specific document titled "Contingency Plan" for the Hanford Facility. Rather, specific portions of this plan combined with portions of contractor facility/activity-specific documentation (e.g., emergency plans/procedures) are maintained to meet the contingency plan requirements of WAC 173-303.

1.1 Facility Name

U.S. Department of Energy
Hanford Site
Hanford Tank Waste Treatment and Immobilization Plant (WTP)

1.2 Facility Location

Benton County, Washington within the 200 East Area.

Buildings/facilities covered by this plan are

Treatment, Storage, and Disposal Facilities:
Pretreatment Facility – Building 10
High-Level Waste Facility – Building 30
Low-Activity Waste Facility – Building 20
Low-Activity Waste Effluent Management Facility Building 25A, 25B, 26, and 27
Analytical Laboratory (LAB) – Building 60

Balance of Facilities:
Outlying work areas outside the WTP facility:
T-46 and T-47, Electrical Warehouse and laydown yard
Boneyard, laydown yard
Pit 30, gravel pit

1.3 Owner

U.S. Department of Energy
Richland Operations Office
PO Box 550
Richland, Washington 99352

Manager
Bechtel National Inc.
2435 Stevens Center Place
Richland, Washington 99354

1.4 Description of the Facility and Operations

The Hanford Tank Waste Treatment and Immobilization Plant (WTP) is a Treatment, Storage, and Disposal Facility. The WTP includes six major facilities. These facilities are the Low-Activity Waste (LAW) Vitrification Facility, the High-Level Waste (HLW) Vitrification Facility, the Pretreatment Facility, the Analytical Laboratory (Lab), the Direct-Feed Low-Activity Waste Effluent Management Facility (EMF), and the Balance of Facilities (BOF). The WTP manages mixed and dangerous wastes using tank systems, containment miscellaneous units, container storage areas, and miscellaneous unit systems.
The WTP uses two separate waste process system configurations during mixed waste treatment operations. These configurations are the Baseline configuration (future use), and the Direct Feed Low-Activity Waste (DFLAW) configuration.
In the DFLAW configuration, treated low-activity waste from the Hanford Tank Farms Tank Operations Contractor is transferred to the LAW Vitrification Facility via an underground waste transfer line. The Tank Operations Contractor is permitted as a separate TSD Facility under the Hanford Site-Wide Dangerous Waste Permit (Site-wide DWP). The DFLAW configuration consists of the EMF, which includes the Direct Feed LAW EMF Process System (DEP), a dedicated ventilation system, and dedicated utilities, and underground waste transfer lines that allow for the transfer of waste to and from the LAW Vitrification Facility, Lab, and other TSD Facilities. The facilities that comprise the DFLAW configuration will be the active portion of WTP. The DFLAW configuration is independent of the Baseline configuration and is only used prior to Pretreatment Facility startup and in the event of a prolonged Pretreatment Facility outage. The EMF uses tank systems and miscellaneous treatment unit sub-systems and equipment.

Container Storage Areas: (storage in containers)
WTP has permitted container storage areas throughout the six facilities.

Tanks: (tank storage and treatment)
All six facilities at the WTP contain tanks for treatment and storage of dangerous/mixed waste.

Containment miscellaneous units and Containment buildings:
WTP has combination of permitted containment miscellaneous units and permitted containment buildings throughout the six facilities. The LAW facility is comprised of permitted containment miscellaneous units. EMF does not have any containment building areas.

Treatment units: (vitrification)
A total of four (4) treatment units will be used to treat mixed waste through vitrification. The LAW Facility will have two (2) tanks (melters) and the HLW Facility will have (2) tanks (melters) permitted to treat the mixed waste via vitrification.

Miscellaneous units: (other processes)
A total of eighteen (18) miscellaneous units (MUs) will be permitted to manage the dangerous/mixed waste in EMF.

2.0 PURPOSE

This plan describes the facility hazards and the actions that will be taken in response to upset and/or emergency conditions within the WTP. These events may include spills or releases caused by processing, fires and explosions, transportation activities, movement of materials, packaging, storage of hazardous materials, and natural and security contingencies. Sections 1.0, 3.1, 4.0, 7.1, 7.1.1, 7.1.2, 7.2, 7.2.1, 7.2.2, 7.2.3, 7.2.4, 7.2.5, 7.2.5.1, 7.3 and subsections, 7.6, 8.2, 8.2.1, 8.2.2, 9.0, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 11.0, 12.0, of the Building Emergency Plan (BEP) are enforceable sections meeting RCRA contingency planning requirements. Enforceable sections cannot be changed without coordinating the change with the Permit modification process. Attachment B of this BEP provides a crosswalk listing applicable WAC 173-303 requirements and how/where the requirement is met.

3.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

The facility/building emergency response organization (ERO) includes the Building Emergency Director (BED), facility subject-matter experts, and other operations personnel who are responsible for implementing emergency response actions at the WTP.

3.1 Building Emergency Director

Emergency response will be directed by the BED until the IC arrives. The BED, supported by facility/building ERO personnel, fulfills the role and meets the requirements of the "Emergency Coordinator" as defined in WAC 173-303-360. During events, WTP personnel perform response duties under the direction of the BED. The Incident Command Organization is managed by the senior Hanford Fire Department official, unless the event is determined to primarily be a security event, in which case the Hanford Fire Department and Hanford Patrol will operate under a unified command system with Hanford Patrol making all decisions pertaining to security. These individuals are designated as the IC, and as such, have the authority to request and obtain any resources necessary for protecting people and the environment.

The BED becomes a member of the Incident Command Organization and functions under the direction of the IC. In this role, the BED continues to manage and direct WTP operations.

A BED is available at the WTP 24 hours a day. Names and telephone numbers of the BEDs are posted on the Emergency Information Boards.

Emergency Preparedness maintains a complete listing of current, qualified BEDs. The list is maintained in the LAW Annex ICP, co-located with this plan and also contained in Permit Attachment 4A.

3.2 Other Members

Other Members of the Facility Emergency Response Organization (FERO) include:

Incident Command Post (ICP) Communicator
The ICP Communicator is responsible for making the classification notification to the Hanford Patrol Operations Center (POC) and EOC Shift Office and for initiating and maintaining a communication line with the Event Scene Liaison in the Hanford EOC throughout the incident. The ICP Communicator ensures the IC and BED are aware of all transmitted and received information.

Incident Command Post (ICP) Hazards Communicator
The ICP Hazards Communicator is a facility or process knowledgeable individual responsible for communicating data to the Hanford EOC Unified Dose Assessment Center (UDAC) for further consequence assessment. This individual maintains a communication line with the UDAC during Hazardous Material Operational Emergencies and ensures that the IC and BED are aware of all transmitted and received information.

Facility Operations Specialist (FOS)
The Facility Operations Specialist (FOS) reports to the Operations Section Chief (OSC) and is responsible for providing facility specific knowledge to the OSC and coordinating facility resources directly applicable to mitigation of the incident. The FOS is responsible for activating and supervising facility elements and technical support teams, implementing operational plans, and requesting or releasing personnel and resources, as necessary in coordination with the OSC.

Radiological Hazards Assessor
The Radiological Hazards Assessor reports to the OSC and is responsible for coordinating and ensuring accomplishment of radiological control functions throughout the incident scene.

Chemical Hazards Assessor
The Chemical Hazards Assessor reports to the OSC and provides technical support for non-radiological hazardous material response.

Other Emergency Response Support Personnel
Some emergency situations may require facility or site support personnel to be used for emergency response at the event scene that are not assigned positions within the Hanford ERO. These emergency response support personnel – termed either as Skilled Support Personnel or Specialist Employees – are not trained to operate within the Hanford Incident Command System and must only be used for specific tasks

The BED will notify other FERO to support the on-scene response. The BED will provide response direction to other needed FERO members using the WTP public address system or hand-held radios. During off-shift hours the BED will provide response direction to other needed FERO members using the WTP Emergency Response on-call roster.

The complete facility/building ERO listing of positions, names of ERO members, work locations, and telephone numbers for the WTP is maintained in a separate location in a format determined appropriate by WTP management. Copies are distributed to appropriate WTP locations and maintained by Emergency Preparedness.

4.0 IMPLEMENTATION OF THE PLAN

The BED must assess each incident to determine the response necessary to protect the personnel, facility, and the environment. If assistance from Hanford Patrol or Hanford Fire Department is required, the Hanford Emergency Response Number (911 or 373-0911 if using a cell phone) must be used to contact the POC and request the desired assistance.

In accordance with WAC 173-303-360(2)(b), whenever there is a release, fire or explosion, the BED ensures that personnel identify the character, source, amount, and areal extent of any released materials. Identification can be made by activities that can include, but are not limited to, visual inspection of involved containers, dangerous waste, dangerous/mixed waste, sampling activities in the field, reference to inventory records, or by consulting with facility personnel. Samples of materials involved in an emergency might be taken and analyzed as appropriate. These activities must be performed with a sense of immediacy and shall include available information.

The BED shall use the following steps to determine if an emergency circumstance is subject to the contingency plan implementation and notification requirements of WAC 173-303-350 and WAC 173-303-360:

1. **The event involved an unplanned spill, release, fire, or explosion.**

AND

2. **a. The unplanned spill or release involved a dangerous waste, or the material involved became a dangerous waste as a result of the event (e.g., product that is not recoverable for reuse without processing).**

OR

2. **b. The unplanned fire or explosion occurred at a facility or transportation activity subject to RCRA contingency planning requirements.**

AND

3. **A threat to human health or the environment exists.**

Additional guidance to assist the BED in determining the applicability of the requirements is maintained in DOE-0223, *DOE-RL Emergency Plan Implementing Procedures (RLEPs)*. This guidance is derived from Washington State Department of Ecology Dangerous Waste Permit application guidelines for implementation of the contingency plan and notifications to Washington State Department of Ecology (Ecology). Contractor environmental single points-of-contact are also available to assist the BED in determining the applicability of requirements.
If assessment of an event does not allow a definitive determination of the threat to human health and the environment, then the BED shall continue to implement the emergency procedures for the event, and through that process continue the assessment of the event.

If the BED determines that the event response requires contingency plan implementation, the BED must ensure that the environmental organization is directed to notify the Washington State Department of Ecology in accordance with WAC 173-303-360(2).

The following information must be included in the assessment report:

- **The name and telephone number of reporter.**
- **The name and address of facility.**
- **The time and type of incident (e.g., release, fire).**
- **The name and quantity of material(s) involved, to the extent known.**
- **The extent of injuries, if any.**
- **The possible hazards to human health or the environment outside the facility.**

5.0 FACILITY HAZARDS

This section is intended to provide an overview of hazardous materials, processes, and/or operations that may be encountered at the WTP. Hazardous Materials

Hazardous materials are used for normal operations, maintenance, and support functions at the WTP. These materials could include acids, caustics, oils, diesel fuel, and solvents.

The WTP maintains a specific list of hazardous materials in accordance with chemical management program and utilizes the chemical inventory tracking system for current quantities. Copies of Safety Data Sheets (SDS)/Material Safety Data Sheets (MSDS) can be accessed on line through the contractor safety and health programs web page link.

5.1 Industrial Hazards

Industrial hazards are found throughout the WTP. These hazards include chemical, steam, electrical, pressurized equipment, high temperature equipment, rotating equipment, confined spaces, compressed gas cylinders, noise, and elevated walking surfaces.

5.2 Dangerous/Mixed Waste

Safe design of the plant, Job Safety Analysis, Job Control System Work Packages, and SDSs provide the basis for safe handling of radioactive, dangerous, and mixed waste. The Field Environmental Compliance and Waste organization manages the hazardous wastes at the WTP.

Dangerous waste categories treated at the WTP will be identical to the Double-Shell Tank Farms. Categories include characteristic, listed, and state-only wastes, two of which are designated as extremely hazardous waste (WT01 and WP01). The following summarizes the dangerous waste numbers for the WTP.

Characteristic Waste Numbers			
D001	D002	D003	D004
D005	D006	D007	D008
D009	D010	D011	D018
D019	D022	D028	D029
D030	D033	D034	D035
D036	D038	D039	D040
D041	D043		
Environmental Performance Demonstration Test Waste Numbers			
U037	U165		
Listed Waste Numbers			
F001	F002	F003	F004
F005			
State-only Waste[a] Numbers			
WT01	WT02	WP01	WP02

a Washington State criteria

The WTP will use the following four types of permitted dangerous waste management units:

- Storage in containers
- Treatment and storage in tanks
- Treatment in miscellaneous units (the melters)
- Containment miscellaneous units

Solid Form

Radioactive, dangerous, and mixed wastes will be generated at the WTP during sampling, decontamination, and maintenance activities. This waste will be accumulated in a designated accumulation area(s) and transported to a permitted storage area.

Liquid Form

Radioactive mixed waste solutions and slurries will be processed at the WTP and stored in the facility for further treatment.

Gaseous Form

Airborne effluent streams will be produced through the following:

- Radiological control area Heating Ventilation Air Conditioning (HVAC) system – exhaust from radiological controlled areas.
- Vessel offgas systems – vapors and gases from tanks and process equipment including the melters.

The off-gas systems will remove particulate, condensate NOx and organic vapors from the air stream before discharging them to the radiological controlled area HVAC system. The combined air stream will pass through HEPA filtration and will be monitored for radioactivity and chemicals.

5.3 Radioactive Materials

Radioactive materials are found in various processes throughout the Lab, LAW and EMF facilities.

5.4 Criticality

Analyses have shown that there is no credible criticality event that can be postulated to occur at the WTP (BNI 2001b).

6.0 POTENTIAL EMERGENCY CONDITIONS

Potential emergency conditions, under both WAC 173-303 and DOE requirements fall into three basic categories: (1) operations (process upsets, fires, explosions, loss of utilities, spills, and releases); (2) natural phenomena (e.g., earthquakes); and (3) security contingencies (e.g., bomb threat, hostage situation). The following are conditions that may lead to an emergency at the WTP.

6.1 Facility Operations Emergencies

6.1.1 Loss of Utilities

6.1.1.1 Loss of Electrical Power

A loss of electrical power to the WTP is possible. Electrical power is provided to the WTP by two independent 230 kV transmission lines that feed two electrical transformers. These transformers will deliver a 13.8 kV secondary voltage for internal distribution at the plant. The plant loads will be divided into two load groups, normal and alternate (Load Groups A and B). Loss of electrical power could lead to loss of process controls.

6.1.1.2 Loss of Water

A loss of water, potable, raw or fire suppressant will not likely result in a plant emergency or evacuation of the WTP. Operations may be limited in order to minimize impact from the loss of water. A loss of water to the fire suppression system could result in a plant emergency, if a fire should develop.

6.1.1.3 Loss of Ventilation

A loss of ventilation could cause a change to plant operation and could require local evacuation of personnel if a loss of contamination control is suspected.

6.1.1.4 Loss of Process Air or Instrument Air

A loss of process air or instrument air could cause a change to plant systems but would not require implementation of personnel-protective actions.

6.1.2 Major Process Disruption/Loss of Plant Control

A major process disruption could be caused by a failure of the Process Control System (PCS). A loss of the PCS could cause plant abnormalities that would lead to increased radiological challenges to the WTP's protection systems.

6.1.3 Pressure Release

The WTP will have high pressure steam and low pressure compressed air and steam systems. Loss of the compressed air or steam system or systems could result in loss of plant control or a process disruption. Process disruption or loss of plant control could interrupt the treatment processes. However, it is not likely that this event would be classified as an emergency.

Pressurized gases will be used throughout the WTP. Additionally, compressed gas cylinders will be stored in the compressed gas storage area. The inventory of gases includes flammable and nonflammable gases. These gases pose a hazard in the immediate storage area, or in the immediate area of the location being used. Failure of compressed gas bottles could cause flying debris hazards. This condition is addressed in section 6.1.4.

6.1.4 Fire and/or Explosion

A fire or explosion could generate highly toxic or corrosive fumes, or release of radioactive material. Flying debris might result from explosions or compressed gas cylinder failure. Process system disruption, loss of plant control, and breach of process system boundaries could result from the flying debris. In addition, heavy smoke could disrupt the operation of the ventilation system.

6.1.5 Hazardous Material Spill

Hazards associated with these types of spills include the potential exposure to corrosive and/or toxic materials, as well as potential environmental damage by a release to the air or ground.

Hazardous materials that are stored at the WTP include, but are not limited to the following;

- Anhydrous Ammonia
- Diesel Fuel Oil
- Nitric Acid
- Propane
- Sodium Hydroxide
- Various commercially available chemicals used in daily operations and maintenance of the WTP facilities.

6.1.6 Dangerous/Mixed Waste Spill

Dangerous waste or mixed waste could spill, due to equipment failure or operator error. The severity of the event would be dependent on the nature and quantity of the spill.

6.1.7 Transportation and /or Packaging Incidents

A transportation or packaging event involving hazardous chemicals, samples or radioactive material could result in personnel exposure to hazardous materials. Potential environmental damage could occur due to the release of hazardous or radioactive materials.

6.1.8 Radioactive Material Release

The WTP processes include large quantities of radioactive liquids and slurries. Radioactive waste could accumulate in various treatment systems. The plant has the potential for concentrating radioactive waste; therefore, responses for abnormal radiation levels and radioactive waste releases are included in the scope of emergency planning. The release could come as a result of either failure of the ventilation system or a catastrophic leak of mixed waste.

6.1.9 Criticality

Analyses have shown that there is no credible criticality event that can be postulated to occur at the WTP (BNI 2001b).

6.2 Natural Phenomena

The WTP is designed such that it will not fail under a design basis event. Therefore, natural phenomena events are not expected to cause structural damage to the WTP, which would constitute an emergency, or cause a release to the environment. However, the following natural phenomena that have the potential to cause conditions which are beyond the facility design basis are discussed: a beyond design basis seismic event, high winds, volcanic eruption and ashfall, a flood, a range fire, and an aircraft crash.

6.2.1 Seismic Event

Depending on the magnitude of the event, severe structural damage can occur resulting in serious injuries or fatalities and the release of hazardous materials to the environment. Damaged electrical circuits and wiring could result in the initiation of fires.

6.2.2 Volcanic Eruption/Ash Fall

Though not expected to cause structural damage, the ash resulting from a volcanic eruption could cause a shortage in electrical equipment and plug ventilation system filters.

6.2.3 High Winds/Tornadoes

High winds which are defined as sustained winds above a threshold that would potentially or actually cause significant structural damage to the facility, are not expected to occur. (Significant structural damage is interpreted to mean a breach of facility containment/confinement systems sufficient to cause an actual or potential release of hazardous material to the environment). However, dirt and dust from windstorms could cause a shortage in electrical equipment or could plug ventilation system filters. Disruption of normal operations is possible.

6.2.4 Flood

The 200 Area is well above projected flood elevations for the Columbia and Yakima Rivers, therefore, a flood is not considered a credible natural event for the WTP. The grading and drainage features that are provided ensures that precipitation, even from a downpour, would infiltrate the ground or drain off toward the Columbia River without significant flooding. The WTP is not sited in a wetlands or coastal high hazard area.

6.2.5 Range Fire

The hazards associated with a range fire are similar to those associated with a building fire plus potential site access restrictions and travel hazards such as poor visibility. Smoke and ash from a range fire can also cause a shortage in electrical equipment or plug ventilation system filters. Disruption of normal operations is possible.

6.2.6 Aircraft Crash

In addition to the potential for serious injuries or fatalities, an aircraft crash could result in the direct release of hazardous materials to the environment or cause a fire that could lead to the release.

6.3 Security Contingencies

Security contingencies are discussed in the following sections.

6.3.1 Bomb Threat/Explosive Device

A bomb threat may be received by anyone who answers the telephone or receives mail. The major effect on the WTP is that personnel will need to initiate emergency shutdown before evacuation. If an explosive device detonates, the effects are the same as those discussed under fire and explosion.

6.3.2 Hostage Situation/Armed Intruder

A hostage situation or the entry of an armed hostile intruder(s) can pose an emergency if either of these conditions has the potential to adversely affect facility operations. This could result in a loss of facility control or the coercion of an employee to take some malevolent action. The severity of the emergency would be based on actual or potential damage to the WTP or release of hazardous material or radioactive, dangerous, or mixed waste.

6.3.3 Suspicious Object

If a suspicious device were to detonate, the effects would be the same as those discussed under fire and explosion. The response to a suspicious device with the potential to contain a bomb would be the same as a bomb threat discussed in section 6.3.1 above.

6.4 Unexpected/Unidentified Odors

Unexpected or unidentified odors have the potential to cause health effects and could be indicative of other events.

7.0 INCIDENT RESPONSE

The initial response to any emergency is to immediately protect the health and safety of persons in the affected area. Identification of released material is essential to determine appropriate protective actions. Containment, treatment, and disposal assessment are secondary responses.

The basic employee response to an emergency is as follows.

The discoverer initiates SWIM response:

- Stops work
- Warns others in the vicinity
- Isolates the area
- Minimizes exposure to the hazards

The following sections describe the process for implementing basic protective actions as well as descriptions of response actions for the events listed in Section 6.0 of this plan. In addition, a section addressing prevention of secondary release, fires or explosions is provided. Attachment A provides a list of applicable procedures.

7.1 Protective Action Responses

Protective action responses are discussed in the following sections. The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events.

In addition to the facility protective actions described below, the BED also reviews the site-wide and WTP emergency response procedure(s) for categorization and/or classification of the event and if necessary, initiates area protective actions and Hanford Site ERO activation. Operational Emergency categorization and/or classification is reported to the Hanford Emergency Operations Center (EOC) Shift Office, triggering notification to offsite officials that includes planned recommendations for protective actions if needed. Hanford EOC staff are responsible to coordinate protective action recommendations with offsite officials.

7.1.1 Evacuation Plan

The WTP may need to be evacuated when conditions warrant (such as fire, explosion, release of hazardous material, etc.) or due to an emergency at a neighboring facility. Evacuation will be initiated by automatic site evacuation sirens or directed by the BED

The BED may initiate the evacuation of a building(s) or the entire WTP site with a public address system (PA) announcement and/or use of the WTP Alert. The BED will determine if an alternate staging area should be used based on the location of the event, wind direction, and WTP emergency procedures. As conditions warrant, the Hanford Site Emergency Alerting System (HSEAS) Siren will be activated by calling the POC at 373-0911.

Evacuation routes out of WTP buildings will be provided on Emergency Information Boards. These routes will be based on providing simple egress and all employees are trained on evacuation routes and procedures.

For an immediate evacuation, accountability will be performed at the staging area(s). Personnel Accountability Aides (PAAs) and Staging Area Managers (SAMs) will ensure evacuation actions are taken at all applicable WTP buildings. When evacuation actions are complete, the PAAs will report accountability to the SAMs. The SAMs will communicate that information to the BED.

Personnel in radiological control areas will exit immediately, removing protective clothing per normal exit procedures if safe to do so. Personnel unable to remove protective clothing will remain segregated and report to the contaminated personnel staging area. These personnel will notify the SAM that they need radiological surveys.

In the event that an emergency situation requires the evacuation of the WTP or Hanford Site, the evacuation is coordinated by the Hanford EOC. Evacuation instructions may be provided via the Hanford Site Emergency Alerting System. Personnel will use their privately-owned vehicles and may be asked to accommodate other personnel who are without transportation. Government vehicles may be used for evacuation.

Temporary or permanently disabled personnel will have a person assigned to assist them to the staging area to ensure they are safely evacuated.

7.1.2 Take Cover

The BED will initiate a take cover notice for the WTP using the facility PA system and/or WTP Alert. When Hanford Site personnel outside the WTP could be affected, the BED initiates the take cover siren by calling the POC at 373-0911 and requesting the appropriate Hanford Site area(s) be put in a take cover.

When the take cover siren is activated, personnel shall stop work, place equipment in a safe condition, and take cover in the nearest designated take cover location appropriate for providing shelter from an airborne hazard. Exterior doors and windows will be closed and HVAC systems will be secured. Personnel in radiological control areas will exit immediately, removing protective clothing per normal exit procedures. Personnel Accountability Aides (PAAs) and Staging Area Managers (SAMs) will ensure take cover actions are taken at all applicable WTP buildings. When take cover actions are complete, the BED will be informed.

7.2 Response to Facility Operations Emergencies

Depending on the severity of the event, the BED reviews the site-wide and WTP response procedure(s) and, as required, categorizes the event. If necessary, the BED initiates area protective actions and Hanford Site Emergency Response Organization activation.

Emergency signals are described in the applicable sections. The discoverer of an operations emergency is expected to initiate SWIM actions and make appropriate notifications.

The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events.

7.2.1 Loss of Utilities

A case-by-case evaluation is required for each event to determine loss of utility impacts. When a BED determines a loss of utility impact, actions are taken to ensure dangerous and/or mixed waste is being properly managed, to the extent possible given event circumstances. As necessary, the BED will stop operations and take appropriate actions until the utility is restored.

7.2.1.1 Loss of Electrical Power

Should there be a partial or total loss of electrical power to the WTP, automatic measures ensure the plant is maintained in a safe operational configuration through use of a standby diesel generator (SDG). The principal function of the SDG is to provide an onsite (standby) power supply for the operation of required systems in the absence of offsite power supplies.

On loss of normal power, the SDG will start automatically and provide non-safety standby power to the medium voltage electrical system for selected WTP loads, whose continuous operation is intended for investment protection. Selected loads are picked up without any operator action.

The SDG is a 13.8kV, 3-phase, 60 Hz, 1800 RPM, synchronous generator with a continuous duty of 2813kVA @ 0.8 PF (2250kW), and a standby duty of 3375kVA@ 0.8 PF (2700kW). The SDG is skid mounted in a weatherproof, walk-in enclosure that is located directly north of the main switchgear building 87. The SDG is maintained in standby, ready to automatically start in the event of a loss of normal power. On a loss of normal power signal, the SDG automatically starts, accelerates to rated speed, and upon reaching rated voltage, is ready to receive loads.

7.2.1.2 Loss of Water

Upon loss of the raw water system, operations will be restricted at affected facilities. Upon loss of potable water chemical operations will be terminated until safety showers and eyewash stations are available. Upon loss of the fire suppression system, the plant will be placed in a safe configuration, and corrective actions will be implemented at affected facilities.

7.2.1.3 Loss of Ventilation

A cascade ventilation system is used at the LAW and LAB facilities in conjunction with physical building containment features to confine transferable radioactive contamination in the event of an accidental release, spill, or system failure. The ventilation system is designed to maintain building differential pressures so air will flow from areas of lessor contamination potential to areas of greater contamination potential through containment boundary penetrations such as engineered air gaps and air in-bleed ductwork.

These facilities are divided into numbered zones with the higher number indicating the greater hazard potential and therefore the greater degree of control/restriction required. Radiation (R1 to R5) and contamination (C1 to C5) zones are classified independently in order to differentiate between the need for shielding or confinement.

Supply air in C2 areas flows via C3 to the C5 areas, where it will be discharged by the C5 exhaust fans. In some instances, the airflow will flow from the C2 areas to the C3 areas, where it will be discharged by the C3 exhaust fans. Some C2 air flow will be directly exhausted. Upon loss of the ventilation system, restoration of the C3 and C5 exhaust fans will be immediately attempted. If the C3 and C5 exhaust fans cannot be restored immediately, the C2 supply fans are automatically stopped, and personnel may be notified to evacuate C3 areas, as a precautionary measure.

7.2.1.4 Loss of Process or Instrument Air

The process air system will use redundant air compressors. One will be in operation and the other(s) will be in auto-start mode. If the standby compressor fails to start on loss of the operating compressor, a backup compressor will be started locally.

7.2.2 Major Process Disruption/Loss of Plant Control

If there is a major process disruption, the BED will be notified while an attempt is made to return the system to service. The BED will compare the situation to criteria provided in the facility categorization/classification procedure to determine if an Operational Emergency is occurring. If it is determined that an Operational Emergency is in progress, the BED will make the appropriate categorization/classification, initiate protective actions, begin the notification process, and

request that the FERO be activated. The system condition will be assessed, and mitigative/corrective actions will be implemented.

7.2.3 Pressure Release

Pressure hazards in plant buildings associated with pressurized gases or compressed gas bottles could require changes to the plant operation and may require local evacuation. A fire or explosion caused by a release of pressurized gas will be responded to in accordance with section 7.2.4. If a mixed waste release occurs, actions identified in section 7.2.5 will be performed.

7.2.4 Fire and/or Explosion

In the event of a fire, the discoverer activates a fire alarm (pull box) if available and notifies the BED. Automatic initiation of a fire alarm (through the smoke detectors and sprinkler systems) is also possible. Activation of a fire alarm automatically signals the HFD and will be audible in the LAW Annex Control Room and affected building.

Upon notification of a fire (verbally or by fire alarm activation), personnel will immediately shut down equipment, secure systems and secure waste if safe to do so. Personnel will exit the building by the nearest safe exit, proceed to the nearest staging area upwind of the area/building, report personnel accountability and follow the instructions of responding personnel.

Trained and certified operations personnel may initiate appropriate response actions in the affected facility depending on the location and severity of the fire, and the location and type of hazards in the affected area. The BED will interface with the appropriate agencies of the Hanford Site Emergency Response Organization and may perform the following:

- proceed directly to the ICP, obtain all necessary information pertaining to the incident and ensure that a flagger is sent to meet Hanford Fire Department (HFD).
- provide a formal turnover to the IC, when the IC arrives at the ICP.
- If operations are stopped in response to the fire, ensure that systems are monitored for leaks, pressure buildup, gas generation, and ruptures.

The following is representative of the type of information that the BED may be asked to provide to the IC or other response agencies:

- Accountability and health of personnel and possible locations for fire fighters to search for any personnel unaccounted for
- Location and severity of fire, including the character and source, as well as the amount, area, and extent of any released materials
- Known hazardous conditions (such as, radiological, non-radiological, electrical, thermal, flammable materials, pressurized cylinders, toxic gas, pressure systems, batteries, radiation areas)
- Plant operating status
- Utility systems status
- Support from WTP radiological control

- WTP layout
- Support for firefighter activities as required
- Notifications as required in accordance with plant procedures and DOE/RL-94-02, section 5.1.1

Following a fire and/or explosion, WAC 173-303-640(7) will be addressed for the WTP tank systems which may have been affected regarding fitness for use.

7.2.5 Hazardous Material, Dangerous and/or Mixed Waste Spill

The WTP has engineering controls to contain or minimize spills. These controls include containment berms, dedicated spill control sumps, remote leak detection systems, remote gauges and level indicators as well as shielding on chemical pipe flanges. WTP procedures provide alarm response and maintenance actions for leak detection equipment, surveillance of possible leak locations, and response actions for detected spills.

Spills can result from many sources including process leaks, container spills or leaks, damaged packages or shipments, or personnel error. Spills of mixed waste are complicated by the need to deal with the extra hazards posed by the presence of radioactive materials.

The following actions will be taken in response to a spill or release of hazardous material, dangerous and/or mixed waste:

The discoverer notifies the BED and initiates SWIM response:

- **Stops work**
- **Warns others in the vicinity**
- **Isolates the area**
- **Minimize exposure**

    - The BED determines if emergency conditions exist requiring response from the HFD based on classification of the spill and injured personnel and evaluates need to perform additional protective actions.
    - If the HFD resources are needed, the BED calls 373-0911.
    - If the HFD resources are not needed, the spill is mitigated with resources identified in section 9.0 of this plan and proper notifications are made.
    - The BED ensures a flagger is sent to meet the HFD.
    - The BED provides a formal turnover to the IC when the IC arrives at the ICP.
    - If operations are stopped in response to the spill, the BED ensures that systems are monitored for leaks, pressure buildup, gas generation, and ruptures.
    - HFD stabilizes the spill.

NOTE: For response to leaks or spills and disposition of leaking or unfit-for-use tank systems, refer to WAC 173-303-640(7).

7.2.5.1 Damaged or Unacceptable Shipments

The WTP does not receive onsite or off-site shipments of dangerous and/or mixed waste.

7.2.6 Radioactive Material Release

7.2.6.1 C2, C3 or C5 Ventilation System Release

If continuous air monitor (CAM) alarms indicate a radiological material release from the C2, C3 or C5 ventilation system the operating ventilation system can be immediately switched over to the standby HEPA filtration system. Contamination surveys, air monitoring and additional assessment making use of on-line instruments will be performed to determine the extent of the radiological material released. The actions described in section 7.2.1.3 will be performed.

7.2.6.2 Release of Mixed Waste into the Plant

If a release of mixed waste occurs, Appropriate response actions for the affected facilities will be initiated. The actions described in section 7.2.5 will be performed.

If the release causes a CAM alarm on the C5 or C3 ventilation systems, the standby systems will be started, and actions described in section 7.2.1.3 will be performed.

7.2.7 Criticality

Not applicable.

7.3 Response to Natural Phenomena

The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events.

7.3.1 Seismic Event

The Hanford Site Emergency Response Organization's primary role in a seismic event is coordinating the initial response to injuries, fires, fire hazards and acting to contain or control radioactive and/or hazardous material releases.

Individuals should remain calm and stay away from windows, steam lines, and hazardous material storage locations. Once the shaking has subsided, individuals should evacuate carefully and assist personnel needing help. The location of any trapped individuals should be reported to the BED.

The BED takes whatever actions are necessary to minimize damage and personnel injuries. Responsibilities include the following:

- Ensuring that the HFD has been notified for assistance.

- Status of personnel accountability.
- Ensuring that utilities and facility operations are secured.
- Determining if hazardous materials were released.
- Determining current local meteorological conditions.
- Warning other facilities and implementing protective actions if release of hazardous materials poses an immediate danger.
- Providing personnel and resource assistance to other facilities, if required and if possible.

7.3.2 Volcanic Eruption/Ash Fall

When notified of an impending ash fall, the BED will implement measures to minimize the impact of the ash fall. BED actions may include the following:

- Installing filter media over building ventilation intakes.
- Installing filter media or protective coverings on outdoors equipment that may be adversely affected by the ash (e.g., diesel generators, equipment rooms).
- Initiating appropriate response actions for all operations and processes.
- Sealing exterior doors as necessary.

If other emergency conditions arise as a result of the ash fall (e.g., fires due to electrical shorts), response is as described in other sections of this plan.

7.3.3 High Winds/Tornadoes

Upon notification of impending high winds, the BED takes steps necessary to secure all outdoor waste and hazardous material containers and storage locations. All doors and windows are shut, and personnel are warned to use extreme caution when entering or exiting the building. Ventilation, utilities, and operations may be secured as appropriate to lessen the severity of the impact.

7.3.4 Flood

Not applicable.

7.3.5 Range Fire

Responses to range fires are handled by preventive measures (e.g, keeping hazardous material and waste accumulation areas free of combustible materials such as weeds and brush). If a range fire breaches the WTP boundary, the response is as described in Section 7.2.4.

7.3.6 Aircraft Crash

The response to an aircraft crash is the same as for a fire and/or explosion (Section 7.2.4).

7.4 Security Contingencies

The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events. Attachment A provides a list of procedures.

7.4.1 Bomb Threat/Explosive Device

Response to a bomb threat/explosive device is discussed in the following sections.

7.4.1.1 Telephone Threat

Individuals receiving telephoned threats attempt to get as much information as possible from the caller (using the bomb threat checklist if available). Upon conclusion of the call, or during the call if possible, notify the BED.

When notified, the BED ensures the WTP protective actions have been taken and questions personnel at the staging area regarding any suspicious objects. When Hanford Patrol personnel arrive, follow their instructions.

7.4.1.2 Written Threat

Receivers of written threats handle the letter as little as possible and notify the BED. Depending on the content of the letter, the BED might evacuate the affected locations. The letter is turned over to Hanford Patrol and their instructions are followed.

7.4.2 Hostage Situation/Armed Intruder

The discoverer of a hostage situation or armed intruder reports the incident to the BED if possible. Personnel follow directions from the BED or Hanford Patrol. Hanford Patrol will determine the remaining response actions and will activate the Hostage Negotiating Team, if necessary.

7.4.3 Suspicious Object

The discoverer of a suspicious object reports this object to the BED. The BED then contacts WTP Security personnel for further evaluation of the object in question.

If the identity/ownership of the object cannot be determined, WTP Security then contacts Hanford Patrol. Upon arrival, Hanford Patrol will assume command of the incident. The canine unit will be used to determine if the package contains explosives. If there is a positive indication of explosives or it cannot be assured that there are no explosives, then an Explosive Ordnance Disposal Team will be dispatched to properly dispose of the object.

The BED may evacuate the affected facilities. Personnel will be questioned at the staging area to attempt to identify the owner of the object.

7.5 Response to Unexpected/Unidentified Odors

Unexpected and unidentified odors should be investigated by the facility or project safety and health personnel. If the odor can be traced to an identifiable source and controlled safely with local resources, it can be resolved at the facility level. Air monitoring may aid in identification of a source and help determine if the odor is indicative of a health threat or is merely a nuisance. If facility or project safety and health personnel concur that the odor may be indicative of a health threat and cannot be safely controlled with local resources or an odor is found to be the result of an action or condition that requires emergency response, the HFD would be notified and respond accordingly.

7.6 Prevention of Recurrence or Spread of Fires, Explosions, or Releases

The BED, as part of the Incident Command Organization, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The BED will take measures, where applicable, to stop processes and operations; collect and contain released wastes and remove or isolate containers. The BED shall also monitor for leaks, pressure buildups, gas generation, or ruptures in valves, pipes or other equipment, whenever this is appropriate.

8.0 TERMINATION OF EVENT, INCIDENT RECOVERY, AND RESTART OF OPERATIONS

DOE/RL-94-02, Section 9.0, describes actions for event termination, incident recovery, restart of operations, and incompatible waste.

8.1 Termination of Event

For events where the Hanford EOC is activated, the Site Emergency Director has the authority to declare event termination. This decision is based on input from the BED, IC, and other ERO members. For events where the Hanford EOC is not activated, the IC and staff will declare event termination.

8.2 Incident Recovery and Restart of Operations

Immediately after an emergency, the BED must provide for treating, storing or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at WTP. A recovery plan is developed when necessary in accordance with DOE/RL-94-02, Section 9.2.

If this plan was implemented according to Section 4.0 of this plan, Ecology is notified that the WTP is in compliance with cleanup activities, as described in DOE/RL-94-02, Section 5.1.2.2, before operations can resume.

8.2.1 Incompatible Waste

After an event, the BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Clean up actions are taken by WTP personnel or other assigned personnel. DOE/RL-94-02, Section 9.2.3, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility is performed before storage, as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in approved storage areas appropriate for their compatibility class.

If incompatibility of waste was a factor in the incident, the BED or the onsite recovery organization ensures that the cause is corrected.

8.2.2 Post Emergency Equipment Maintenance and Decontamination

All equipment used during an incident is decontaminated (if practicable) or disposed of as spill debris. Decontaminated equipment is checked for proper operation before storage for subsequent use. Consumable and disposed materials are restocked.

The BED ensures that all equipment is cleaned and fit for its intended use before operations are resumed. Depleted stocks of neutralizing and absorbing materials are replenished, protective clothing is cleaned or disposed of and restocked.

9.0 EMERGENCY EQUIPMENT

Emergency resources and equipment for the WTP are presented in this section. Emergency equipment must be tested and maintained to assure its proper operation in time of emergency.

Sufficient space is maintained on the exterior of the WTP to allow access of personnel and equipment responding to fires, spills, or other emergencies. Unobstructed fire lanes run from main entrance to allow emergency vehicle access to the main entrance and the nearby fire hydrant. The interior space is designed to allow access by emergency response personnel while maintaining barriers to contain releases of gaseous or liquid waste and hazardous substances as defined in WAC 173-303-040.

9.1 Fixed Emergency Equipment

FIXED EMERGENCY EQUIPMENT		
Type	**Location**	**Capability**
Safety shower/eye wash station	Throughout the WTP in locations designated by facility procedures.	Assist in flushing chemicals/materials from body or eyes and face
Automatic sprinkler system	Located throughout the WTP	Assist in the control of fire
Fire alarm pull boxes	Located throughout the WTP	Activates the audible building fire alarm and notifies HFD.
Fire hose connections (water)	Throughout the WTP in locations designated by facility procedures.	Allow for connection of fire hoses to site water system for manual fire suppression. The system is maintained at adequate volume and pressure to support fire suppression
Personnel Decontamination rooms	LAW, Lab	Personnel decontamination

9.2 Portable Emergency Equipment

PORTABLE EMERGENCY EQUIPMENT		
Type	**Location**	**Capability**
General purpose fire extinguishers	Located throughout the WTP	Fire suppression for class A, B, and C fires

9.3 Communications Equipment/Warning Systems

Whenever dangerous waste is being poured, mixed, spread, or otherwise handled, or if there is ever just a single employee on the premises while the facility is operating, the employee or employees involved must have immediate access to a device such as a telephone, cellular telephone, radio, or other emergency communication means available at the facility capable of summoning emergency assistance.

COMMUNICATIONS EQUIPMENT/WARNING SYSTEMS		
Type	**Location**	**Capability**
Fire tone signal	Throughout the WTP	Alert facility personnel of emergency conditions.
PA System	Throughout the WTP	Provides for information dissemination to facility personnel.
Fire alarm pull boxes	Throughout the WTP	Activates the audible building fire alarm and notifies HFD.
Telephone system	Throughout the WTP	Internal and external communications.
Portable two-way radios	Throughout the WTP	Communications to the LAW Annex Control Room.
WTP Alert	Throughout the WTP	Alert facility personnel of emergency conditions and response actions

NOTE: Site-wide communications and warning systems are identified in DOE/RL-94-02, Section 5.2.5.

9.4 Personal Protective Equipment

PERSONAL PROTECTIVE EQUIPMENT		
Type	**Location**	**Capability**
Anti-Contamination clothing, Respirators	Throughout the WTP in locations designated by facility procedures.	Protection from various radiological and chemical inhalation and skin contact hazards

9.5 Spill Control and Containment Supplies

SPILL CONTROL AND CONTAINMENT SUPPLIES		
Type	Location	Capability
Spill Kit	Throughout WTP	Control and mitigation of radioactive and chemical spills.

9.6 Incident Command Post

The IC determines the location of the ICP based on the event and may use the HFD Mobile Command Unit if necessary. The WTP primary ICP is located in the LAW annex. Alternate locations will be determined at the time of the emergency, if necessary. The location may be inside a building or outside, and may change depending on the weather, wind direction, and location and severity of the event.

10.0 COORDINATION AGREEMENTS

RL has established a number of coordination agreements or memoranda of understanding (MOU) with various agencies to ensure proper response resource availability for incidents involving the Hanford Site. A description of the agreements is contained in DOE/RL-94-02, Section 3.0, Table 3-1.

11.0 REQUIRED REPORTS

Post incident written reports are required for certain incidents on the Hanford Site. The reports are described in DOE/RL-94-02, Sections 5.1.1.2.4 and 5.1.2.2.

Facility management must note in the TSD-unit operating record, the time, date and details of any incident that requires implementation of the contingency plan (refer to Section 4.0 of this plan). Within 15 days after the incident, a written report must be submitted to Ecology. The report must include the elements specified in WAC 173-303-360(2)(k).

12.0 PLAN LOCATION AND AMENDMENTS

Copies of this plan are maintained at the following locations:

- iDocs
- WTP ICP

This plan will be reviewed and immediately amended as necessary, in accordance with DOE/RL-94-02, Section 14.3.1.1.

13.0 REFERENCES

DOE/RL-94-02, Hanford Emergency Management Plan

Washington Administrative Code 173-303, *Washington State Dangerous Waste Regulations,* Washington State Department of Ecology, Olympia, Washington

Hanford Facility Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste, Permit Number WA7890008967, Washington State Department of Ecology, Olympia, Washington.

ATTACHMENT A

Listing of Procedures

U.S. Department of Energy Richland Operations Office DOE-0223, Emergency Plan Implementing Procedures, RLEP 1.0, Recognizing and Classifying Emergencies, Appendix 1-X.X (Facility Emergency Action Level Table).

U.S. Department of Energy Richland Operations Office DOE-0223, Emergency Plan Implementing Procedures, RLEP 1.1, Hanford Incident Command System and Event Recognition and Classification.

U.S. Department of Energy Richland Operations Office DOE-0223, Emergency Plan Implementing Procedures, RLEP 3.24, Notification, Reporting, and Processing of Operations Information.

U.S. Department of Energy Richland Operations Office DOE-0223, Emergency Plan Implementing Procedures, RLEP 3.4, Emergency Termination, Reentry, and Recovery.

DOE Order 232.1, Occurrence Reporting and Processing of Operations Information, US Department of Energy, Washington D.C.
DOE/RL-94-02, Hanford Emergency Management Plan, as amended

WAC 173-303, *Washington State Dangerous Waste Regulations*, *Washington Administrative Code*, Washington State Department of Ecology, Olympia, Washington, as amended

Ecology, 1994, Dangerous Waste Portion of the Hanford Facility Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste, Permit Number WA7890008967, Washington State Department of Ecology, Olympia, Washington, as amended

ATTACHMENT B

RCRA APPLICABILITY MATRIX

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-340	Preparedness and prevention. Facilities must be designed, constructed, maintained, and operated to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of dangerous waste or dangerous waste constituents to air, soil, or surface or ground water, which could threaten the public health or the environment. This Section describes preparations and preventive measures, which help avoid or mitigate such situations.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-340(1)	Required equipment. All facilities must be equipped with the following, unless it can be demonstrated to the department that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-340(1)(a)	(a) An internal communications or alarm system capable of providing immediate emergency instruction to facility personnel;	DOE/RL-94-02, Section 5.2.5.	BEP section 9.3.
WAC 173-303-340(1)(b)	(b) A device, such as a telephone or a hand-held, two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;	DOE/RL-94-02, Section 5.2.12.	BEP section 9.3 Units summon assistance by calling the Hanford Patrol emergency number. No offsite assistance is requested by the unit itself.
WAC 173-303-340(1)(c)	(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and	DOE/RL-94-02, Sections 11.2.2, 11.2.3, 11.2.4, 11.2.8 and Appendix C.	BEP section 9.1, 9.2, 9.5
WAC 173-303-340(1)(d)	(d) Water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems.	DOE/RL-94-02, Sections 11.2.2 and 11.2.8.	BEP section 9.1
WAC 173-303-340(1)(end)	All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.	DOE/RL-94-02, Sections 11.2, 11.2.8, and 11.3.	BEP section 9.0
WAC 173-303-340(2)	Access to communications or alarms. Personnel must have immediate access to the signaling devices described in the situations below:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-340(2)(a)	(a) Whenever dangerous waste is being poured, mixed, spread, or otherwise handled, all personnel involved must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required in subsection (1) of this Section;	DOE/RL-94-02, Section 5.2.12	BEP section 9.3

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-340(2)(b)	(b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone or a hand-held, two-way radio, capable of summoning external emergency assistance, unless such a device is not required in subsection (1) of this Section.	DOE/RL-94-02, Section 5.2.12	BEP section 9.3
WAC 173-303-340(3)	Aisle space. The owner or operator must maintain aisle space to allow the unobstructed movement of personnel. Fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the department that aisle space is not needed for any of these purposes.	Requirement is met at the unit level.	Parts III, V, and VI of the Hanford Facility Dangerous Waste Permit (WA7890008967) include description of how each unit meets this requirement. For 90-day areas, BEP section 9.0
WAC 173-303-340(4)	Arrangements with local authorities. The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations, unless the hazards posed by wastes handled at the facility would not require these arrangements:	Introductory statement of requirement – requirements are in sections below.	Requirement is met at the site level.
WAC 173-303-340(4)(a)	(a) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of dangerous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;	The arrangements agreed to by local police, fire departments emergency response teams to coordinate emergency services are located in DOE/RL-94-02, Sections 3.4, 3.4.1.1, 3.4.1.2, 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-340(4)(b)	(b) Arrangements to familiarize local hospitals with the properties of dangerous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility;	The arrangements agreed to by local hospitals to coordinate emergency services are located in DOE/RL-94-02, Sections 3.4.1.3, 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-340(4)(c)	(c) Agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and	The arrangements agreed to by state emergency response teams to coordinate emergency services are located in DOE/RL-94-02, Sections 3.3.1, 3.3.2, 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-340(4)(d)	(d) Where more than one party might respond to an emergency, agreements designating primary emergency authority and agreements with any others to provide support to the primary emergency authority.	Discussed in the Tri-County Mutual Aid Agreement MOU and Mutual Law Enforcement Assistance MOUs. DOE/RL-94-02, Section 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-340(5)	Where state or local authorities decline to enter into such agreements, the owner, or operator must document the refusal in the operating record.	If authorities decline, the documentation will be maintained in the Hanford Facility Operating Record.	Requirement is met at the site level.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-350(1)	Purpose. The purpose of this Section and WAC 173-303-360 is to lessen the potential impact on the public health and the environment in the event of an emergency circumstance, including a fire, explosion, or unplanned sudden or non-sudden release of dangerous waste or dangerous waste constituents to air, soil, surface water, or ground water by a facility. A contingency plan must be developed to lessen the potential impacts of such emergency circumstances, and the plan must be implemented immediately in such emergency circumstances.	DOE/RL-94-02, Sections 1.1 and 1.2.	BEP section 1.0. Identified sections of the BEP/FRP are part of the contingency plan.
WAC 173-303-350(2)	(2) Contingency plan. Each owner or operator must have a contingency plan at his facility for use in emergencies or sudden or non-sudden releases which threaten human health and the environment. If the owner or operator has already prepared a spill prevention control and countermeasures (SPCC) plan in accordance with Part 112 of Title 40 C.F.R. or Part 1510 of chapter V, or some other emergency or contingency plan, they need only amend that plan to incorporate dangerous waste management provisions that are sufficient to comply with the requirements of this section and WAC 173-303-360. The owner or operator may develop one contingency plan that meets all regulatory requirements. Ecology recommends that the plan be based on the National Response Team's Integrated Contingency Plan Guidance ("One Plan") as found at www.nrt.org. When modifications are made to non-dangerous waste (non-Hazardous Waste Management Act or non-dangerous waste regulation) provisions in an integrated contingency plan, the changes do not trigger the need for a dangerous waste permit modification.	DOE/RL-94-02, Sections 1.1 and 1.2. Portions of the Hanford emergency response program are used to meet requirements of WAC 173-303-350 and -360 under the provision of -350(2).	BEP section 1.0 Identified sections of the BEP/FRP are part of the contingency plan.
WAC 173-303-350(3)(a)	The contingency plan must contain the following: (a) A description of the actions which facility personnel must take to comply with this Section and WAC 173-303-360;	DOE/RL-94-02, Section 1.3.4 provides an overview of how the Hanford Site responds to emergency events. More specific descriptions of actions to meet other requirements of this section and WAC 173-303-360 are identified in those sections of this matrix. The relationship of emergency procedures and description of actions is in footnote[1].	BEP Section 7.1 and subsections and Sections 7.2, 7.2.1, 7.2.2, 7.2.3, 7.2.4, 7.2.5, 7.2.5.1, 7.3 and subsections

[1] Site-wide and facility/activity-specific emergency procedures are described and in some cases identified in this plan. The descriptions of actions in this plan are required to accurately describe the emergency procedures. Unless specifically incorporated into the RCRA Permit, these emergency procedures are not subject to permit modification requirements of permit condition 1.C.3 simply because they are described or referenced in this plan. If the emergency procedures change and the description is no longer accurate, the revision of the description is subject to permit modification requirements of permit condition 1.C.3.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-350(3)(b)	The contingency plan must contain the following: (b) A description of the actions which will be taken in the event that a dangerous waste shipment, which is damaged or otherwise presents a hazard to the public health and the environment, arrives at the facility, and is not acceptable to the owner or operator, but cannot be transported, pursuant to the requirements of WAC 173-303-370(5), Manifest system, reasons for not accepting dangerous waste shipments;	Requirement is met at the unit level.	BEP Section 7.2.5.1
WAC 173-303-350(3)(c)	The contingency plan must contain the following: (c) A description of the arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services as required in WAC 173-303-340(4);	The arrangements agreed to by state emergency response teams to coordinate emergency services are located in DOE/RL-94-02, Sections 3.2.3, 3.3.1, 3.3.2, 3.4, 3.4.1.1, 3.4.1.2, 3.4.1.3, 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-350(3)(d)	The contingency plan must contain the following: (d) A current list of names, addresses, and phone numbers (office and home) of all persons qualified to act as the emergency coordinator required under WAC 173-303-360(1). Where more than one person is listed, one must be named as primary emergency coordinator, and others must be listed in the order in which they will assume responsibility as alternates. For new facilities only, this list may be provided to the department at the time of facility certification (as required by WAC 173-303-810(14)(a)(i)), rather than as part of the permit application;	DOE/RL-94-02, Sections 2.2 and 2.2.1.1 discuss personnel job titles, which will fill duties and responsibilities of the Emergency Coordinator, described in WAC 173-303-360.A list of current assigned or "on-call" BEDs/BWs is maintained at the Patrol Operations Center per II.A.4. A list of BEDs/BWs for each Hanford TSD unit group is maintained in Permit Attachment 4A. Changing BEDs/BWs on this list is a class 1 mod, self-implemented.	BEP Sections 3.1
WAC 173-303-350(3)(e)	The contingency plan must contain the following: (e) A list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.	DOE/RL-94-02, Sections 11.2 and 11.2.8, and Appendix C.	BEP Sections 9.1, 9.2, 9.3, 9.4, 9.5 and 9.6
WAC 173-303-350(3)(f)	The contingency plan must contain the following: (f) An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe the signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.	DOE/RL-94-02, Figure 7-3, and Table 5-1.	BEP Section 7.1.1
WAC 173-303-350(4)	Copies of contingency plan. A copy of the contingency plan and all revisions to the plan shall be:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-350(4)(a)	(a) Maintained at the facility; and	DOE/RL-94-02, Section 14.3.7.	BEP Section 12.0
WAC 173-303-350(4)(b)	(b) Submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.	DOE/RL-94-02, Section 14.3.7.	Not applicable at the unit level. DOE is responsible for offering documents to offsite entities.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-350(5)	Amendments. The owner or operator shall review and immediately amend the contingency plan, if necessary, whenever:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-350(5)(a)	(a) Applicable regulations or the facility permit are revised;	DOE/RL-94-02, Section 14.3.1.1.	BEP Section 12.0
WAC 173-303-350(5)(b)	(b) The plan fails in an emergency;	DOE/RL-94-02, Section 14.3.1.1.	BEP Section 12.0
WAC 173-303-350(5)(c)	(c) The facility changes (in its design, construction, operation, maintenance, or other circumstances) in a way that materially increases the potential for fires, explosions, or releases of dangerous waste or dangerous waste constituents, or in a way that changes the response necessary in an emergency;	DOE/RL-94-02, Section 14.3.1.1.	BEP Section 12.0
WAC 173-303-350(5)(d)	(d) The list of emergency coordinators changes; or	DOE/RL-94-02, Section 14.3.1.1.	BEP Section 12.0
WAC 173-303-350(5)(e)	(e) The list of emergency equipment changes.	DOE/RL-94-02, Section 14.3.1.1.	BEP Section 12.0
WAC 173-303-355(1)	Owners or operators must coordinate preparedness and prevention planning and contingency planning efforts, conducted under WAC 173-303-340 and -350 with local emergency planning committees established pursuant to Title III of the 1986 Superfund Amendments and Reauthorization Act.	DOE/RL-94-02, Sections 3.1, 3.1.1, and 3.4.	Requirement is met at the site level.
WAC 173-303-355(2)	Appropriate and generally accepted computer models should be utilized to determine the impacts of a potential catastrophic air release due to fire, explosion, or other accidental releases of hazardous constituents. Evacuation plans prepared pursuant to WAC 173-303-350(3)(d) must include those effected persons and areas identified through these modeling efforts.	DOE/RL-94-02, Sections 2.2.2.2.4, and 1.3.3.2.	Requirement is met at the site level.
WAC 173-303-360(1)	Emergency coordinator. At all times, there must be at least one employee either on the facility premises or on call with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, required by WAC 173-303-350(2), all operations and activities at the facility, the location and properties of all wastes handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.	DOE/RL-94-02, Sections 2.2 and 2.2.1.1.	BEP Section 3.1 Permit Attachment 4A lists the BED/BW for each unit.
WAC 173-303-360(2)	Emergency procedures. The following procedures must be implemented in the event of an emergency.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-360(2)(a)	(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-360(2)(a)(i)	(i) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and	DOE/RL-94-02, Sections 2.2.1.1.2(b), 2.2.1.1.3(b), and 5.2.5.	BEP Section 7.1 and subsections, and 7.2 and subsections

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-360(2)(a)(ii)	(ii) Notify appropriate state or local agencies with designated response roles if their help is needed.	DOE/RL-94-02, Sections 1.3.4, and 5.2.1. Units summon assistance by calling the Hanford Patrol emergency number. No offsite assistance is requested by the unit itself.	BEP Section 4.0
WAC 173-303-360(2)(b)	Emergency procedures. (b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials.	DOE/RL-94-02, Sections 2.2.1.1.2(f), 2.2.1.1.3(g), and 4.2.	BEP Section 4.0
WAC 173-303-360(2)(c)	Emergency procedures. (c) Concurrently, the emergency coordinator shall assess possible hazards to human health and the environment (considering direct, indirect, immediate, and long-term effects) that may result from the release, fire, or explosion.	DOE/RL-94-02, Section 4.2, and 2.2.2.2.4.	BEP Section 4.0
WAC 173-303-360(2)(d)	Emergency procedures. (d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment, he must report his findings as follows:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-360(2)(d)(i)	(i) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and	DOE/RL-94-02, Sections 2.2.1.1.2(a) & (d), 2.2.1.1.3 (a) & (e), 5.1.1, 5.1.1.2, and 5.1.2.1.	BEP Section 7.1
WAC 173-303-360(2)(d)(ii)	(ii) He must immediately notify the department and either the government official designated as the on-scene coordinator, or the National Response Center (using their 24-hour toll free number (800) 424-8802).	DOE/RL-94-02, Sections 2.2.1.1.2(a) & (d), 2.2.1.1.3 (a) & (e), 5.1.1, 5.1.1.2, 5.1.2.1, and 5.1.2.2.	BEP Section 4.0
WAC 173-303-360(2)(e)	Emergency procedures. (e) His assessment report must include: (i) Name and telephone number of reporter; (ii) Name and address of facility; (iii) Time and type of incident (e.g., release, fire); (iv) Name and quantity of material(s) involved, to the extent known; (v) The extent of injuries, if any; and (vi) The possible hazards to human health or the environment outside the facility.	DOE/RL-94-02, Sections 2.2.1.1.2(d), 2.2.1.1.3(e), 5.1.1, 5.1.1.2, 5.1.2.1, and 5.1.2.2.	BEP Section 4.0
WAC 173-303-360(2)(f)	Emergency procedures. (f) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other dangerous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting, and containing released waste, and removing or isolating containers.	DOE/RL-94-02, Sections 2.2.1.1, 2.2.1.1.2(f) and 2.2.1.1.3(g).	BEP Section 7.6
WAC 173-303-360(2)(g)	Emergency procedures. (g) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.	DOE/RL-94-02, Sections 2.2.1.1.2(f) and 2.2.1.1.3(g).	BEP Sections 7.2.4 and 7.2.5
WAC 173-303-360(2)(h)	Emergency procedures. (h) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.	DOE/RL-94-02, Section 9.2.3.	BEP Section 8.2

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-360(2)(i)	Emergency procedures. (i) The emergency coordinator must ensure that, in the affected area(s) of the facility:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-360(2)(i)(i)	(i) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and	DOE/RL-94-02, Section 9.2.3.	BEP Section 8.2.1
WAC 173-303-360(2)(i)(ii)	(ii) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.	DOE/RL-94-02, Section 11.2.	BEP Section 8.2.2
WAC 173-303-360(2)(j)	Emergency procedures. (j) The owner or operator must notify the department, and appropriate local authorities, that the facility is in compliance with (i) of this subsection before operations are resumed in the affected area(s) of the facility.	DOE/RL-94-02, Section 5.1.2.2.	BEP Section 8.2
WAC 173-303-360(2)(k)	Emergency procedures. (k) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within fifteen days after the incident, he must submit a written report on the incident to the department. The report must include: (i) Name, address, and telephone number of the owner or operator; (ii) Name, address, and telephone number of the facility; (iii) Date, time, and type of incident (e.g., fire, explosion); (iv) Name and quantity of material(s) involved; (v) The extent of injuries, if any; (vi) An assessment of actual or potential hazards to human health or the environment, where this is applicable; (vii) Estimated quantity and disposition of recovered material that resulted from the incident; (viii) Cause of incident; and (ix) Description of corrective action taken to prevent reoccurrence of the incident.	DOE/RL-94-02, Sections 5.1.2.1 and 5.1.2.2.	BEP Section 11.0

ATTACHMENT C
Evacuation Routes
This Attachment will contain figures of:

- The site plot plan showing the position of the staging areas.
- The site plot plan showing the location of take cover building

These figures will be provided prior to the introduction of bulk quantities of hazardous chemicals into the WTP.