



U.S. Department of Energy Hanford Site

MAR 08 2021

21-TF-000784

Mr. David Bowen, Program Manager
Nuclear Waste Program
Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354

Dear Mr. Bowen:

RESPONSE TO WASHINGTON STATE DEPARTMENT OF ECOLOGY DANGEROUS
WASTE COMPLIANCE INSPECTION REPORT NO. 20.699 ALLEGED NON-
COMPLIANCES 1 AND 3

- References:
1. Ecology letter from J. W. Mathey to B. T. Vance, ORP, and J. R. Eschenberg, WRPS, "Dangerous Waste Compliance Inspection on April 20, 2020, at the Double-Shell Tank System and 204-AR Waste Unloading Station, RCRA Site ID: WA7890008967, Nuclear Waste Program (NWP) Compliance Index No.: 20.699," 20-NWP-147, dated September 9, 2020.
 2. Ecology letter from J. W. Mathey to B. T. Vance, ORP, and J. R. Eschenberg, WRPS, "The Department of Ecology (Ecology) Review of Response to Dangerous Waste Compliance Inspection on April 20, 2020, at the Double-Shell Tank System & 204-AR Waste Unloading Station, RCRA Site ID: WA7890008967, Nuclear Waste Program (NWP) Compliance Index No.: 20.699," 20-NWP-179, dated November 10, 2020.

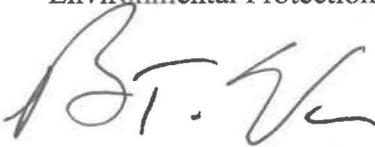
This letter is in response to the Washington State Department of Ecology's (Ecology) inspection report (Reference 1) on the Double-Shell Tank System performed on April 20, 2020. The U.S. Department of Energy, Office of River Protection (ORP) and Washington River Protection Solutions LLC (WRPS) have completed the response actions described in Reference 1 in regards to alleged non-compliance one and three. Actions to close out alleged non-compliance two had already been previously completed and confirmed as complete by Ecology in Reference 2. The Attachment, including the enclosures, describes the activities that satisfy the response actions.

Mr. David Bowen
21-TF-000784

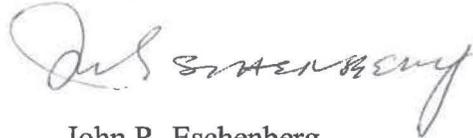
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MAR 08 2021

If you have any questions, please contact us, or your staff may contact Bryan R. Trimberger, Environmental Compliance Division, ORP on (509) 376-2674, or James T. Hamilton, Environmental Protection, WRPS, on (509) 373-1511.



Brian T. Vance
Manager
Office of River Protection



John R. Eschenberg
President and Project Manager
Washington River Protection Solutions LLC

TF:BRT

Attachment

cc w/attach:

J. J. Lyon, Ecology
J. W. Mathey, Ecology
Administrative Record
Environmental Portal
WRPS Correspondence

cc w/o attach:

H. M. Bowers, WRPS
R. E. Gregory, WRPS
J. T. Hartley, WRPS
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T. D. Jarecki, WRPS
M. R. Kembel, WRPS

Attachment
21-TF-000784

Responses to Alleged Non-Compliances One and Three

(71 Pages Including Cover Sheet)

Provided below is the U.S. Department of Energy, Office of River Protection (ORP) and Washington River Protection Solutions LLC (WRPS) responses to the cited Washington State, Department of Ecology (Ecology) "Observation" and "Action Required" numbers 1 and 3 as documented within 20-NWP-147, "Dangerous Waste Compliance Inspection on April 20, 2020, at the Double Shell Tank System and 204-AR Unloading Station, RCRA Site ID: WA7890008967, Nuclear Waste Program (NWP) Compliance Index No.: 20.699."

Please note that where the action required originally said 60 days, Ecology has granted ORP and WRPS a 120 day extension.

Ecology Observation 1:

1) WAC 173-303-400(3), as referenced by the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion Revision 8C - Condition I.A Effect of Permit.

WAC 173-303-320(2) The owner or operator must develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment that help prevent, detect, or respond to hazards to the public health or the environment.

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:

(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;

(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

Observations: During the inspection, I requested fire extinguisher, spill kit, and radio operability check inspection records for all DST Farms for the month of January 2020. I received the following response from WRPS:

There are no monthly spill kit inspections to provide in response to this request item as these items are not routinely stored or present in the DST Tank Farms or associated change trailers. These items are only in these locations when and as needed to support specific work activities. As identified in RPP-16922, Environmental Specification Requirements radios are stored and managed only at 274-AW (AKA the Central Shift Office), and they are checked for operability before use. As has been previously discussed with Ecology, this operability check is not documented in a record, therefore there are no records to provide in response to this request item.

Action Required: Within 60 days of receipt of this compliance report, USDOE and WRPS must conduct, document, and submit to Ecology, records showing inspections of all hand-held two-way radios that would be used for summoning emergency assistance and all emergency spill kits that would ever be used in an emergency for the DST System. If this emergency equipment is centralized for the Hanford Tank Farm Contractor and used for numerous treatment, storage, and disposal unit groups, these inspections of this equipment can be conducted for the same numerous treatment, storage, and disposal facility unit groups operating under Permit Condition I.A. of the Hanford Revision 8C Permit.”

ORP and WRPS Responses:

Operability checks have been conducted on the radios prior to their checkout and use in accordance with RPP-16922, “Environmental Specification Requirements” and WRPS procedure TFC-OPS-OPER-C-31, “Communications Guidelines.” In response to the action required for this observation which requires these operability checks be recorded and copies of the record kept in the RCRA Operating Record, WRPS has revised TFC-OPS-OPER-C-31 to add the use of a new site form, A-6007-984, “Central Shift Office Radio Log.” The procedure change went into effect the end of January 2021. Therefore, starting February 2021, there will now be a record of the radio operability checks performed per this procedure in the Operating Record. A note was also added to the Operating Record documenting that prior to the creation of this new site form and procedure revision, a record of the Operability Checks was not retained in the operating record. Enclosed is a copy of the revised procedure and new site form. Please note that while entries are made on this site form every time a radio is checked out and the required operability test is performed, the site form itself, which is classified as an in process document, is exchanged or collected from the field for completion of the remaining, Federally required records process only on a monthly basis. In short, this form will be entered into the Operating Record on a monthly frequency which means at this time, the form for February 2021 is still in active use in the field and has not been processed into records yet, therefore, it is not yet available to provide as part of this response letter.

RPP-27869, Revision 12, “Building Emergency Plan for Tank Farms” (BEP) was issued on February 4, 2021. RPP-27869 Section 9.5, “Spill Control and Containment Supplies,” the location of spill kits section was revised to include the 2715-AW and 616 buildings. Spill materials are procured by WRPS only when and in the quantity needed with little stored surplus, and they are managed as consumables. All of Tank Farm’s non-work explicit spill kits (which are not used to respond to RCRA emergencies identified in the BEP) are sourced from one of these two starting locations (i.e. 616 for waste generator required spill kits or 2715-AW for the DSTs). In accordance with the action required for this observation, the two source storage buildings for WRPS spill kits was added to the BEP and only spill materials in these buildings will be inspected in accordance with RPP-16922 moving forward. Please note that despite the BEP revision only occurring in February of this year, the spill kit at the 2715-AW Supply Building was already being inspected monthly per RPP-16922 via WRPS procedure

TF-COMS-001, “Tank Farm Emergency Equipment Surveillance and Inspection” as documented in the Operating Record via site form A-6005-933, “WRPS Monthly Inspection of Spill Kits, Hazardous Material Storage Buildings and Flammable Materials Storage Cabinets”. Prior to the recent BEP revision, the spill kit in 2715-AW was already being inspected monthly per RPP-16922. A record copy was of the inspection was provided to Ecology on January 29, 2021, via TOC-RORI-21-002, “Ecology Document Request Insp 20.271 SST System U and T Farm,” in fulfillment of the formal document request made as part of Ecology’s compliance inspection #20.271. As this record demonstrating compliance is already in Ecology’s official records, this should fulfill the part of the action required to submit records to Ecology.

Ecology Observation 3:

3) WAC 173-303-400(3), as referenced by the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion Revision 8C - Condition I.A Effect of Permit.

40 CFR 265.195(a) The owner or operator must inspect, where present, at least once each operating day, data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design.

(b) The owner or operator must inspect at least once each operating day:

(1) Overflow/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order;

(g) The owner or operator must document in the operating record of the facility an inspection of those items in paragraphs (a) and (b) of this section.

Observations: In the records request, I asked to provide all inspections of alarm panels for 241-AZ Tank Farm for January 19, 2020 through January 25, 2020. On May 22, 2020, I received the following response from WRPS:

The only control room and/or instrument building associated with the 241-AZ Tank Farm is 241-AZ-271, which is the main control room for the 241-AZ-702 building. All equipment contained within, and associated with, this control room are Air Operating Permit related. 241-AZ Tank Farm alarms are now electronically transmitted to, and continuously monitored at, the control room in 274-AW. Therefore, there are no longer any daily inspection records to provide in response to this request.

On May 26, 2020, I sent the following to WRPS regarding the above response. Did not send 241-AZ tank farm alarm inspection records from Building 274-AW. Please provide these inspection records.

On June 11, 2020, I received the following response from WRPS:

Please see the original response provided to Agenda Item Number 11. As stated previously, the scope of this document request item was explicitly for inspection records or a specific type of equipment (alarm panels) that are physically located within the 241-AZ Tank Farm. The 274-AW building is neither physically located within, connected to, nor classified by the Permittee or current DST OUG Part A permit, as being part of the 241-AZ Tank Farm. In addition, also as per the original response to Agenda Item Number 11, the alarms from the 241-AZ Tank Farm that used to be inspected daily at the physical alarm panels located at the farm were replaced with wireless, electronically transmitted alarms that are continuously monitored at 274-AW. Therefore, there are no additional documents to provide for this item.

I requested all catch tank and pit leak detection system conductivity probe and level indicator inspections/tests for the week of January 5, 2020 through January 11, 2020. On May 22, 2020, I received the following response from WRPS:

RPP-16922 presently includes a daily visual inspection of the observable parts of the annulus conductivity probe leak detector alarm systems and level indicator or level indicating transmitter alarm systems. These systems have all been converted to remote, electronic monitoring. Data from these systems is now wirelessly transmitted to the central control room at 274-AW, where they are continuously monitored. The only observable parts of these systems that remain inside the actual Tank Farms are the wireless transmitting units, which are now included as an element inspected during the general, daily round conducted to visually inspect a farm for aboveground/damage.

On May 26, 2020, I sent the following request back to WRPS:

Did not send DST farm catch tank and pit leak detection system conductivity probe and level indicator inspection/test records from Building 274-AW. Please provide these inspection records.

On June 11, 2020, I received the following response from WRPS regarding this request:

The scope of this document request item was explicitly for inspection records for two different, visual inspections that are performed inside a DST Tank Farm. As per RPP-16922, Environmental Specification Requirements, these two inspections are to visually look at the observable parts of the specified, physical pieces of equipment and systems. The 274-AW building is neither physically located within, connected to, nor classified by the Permittee or the current DST OUG Part A permit, as being part of any of the DST Tank Farms. 274-AW is an administrative office building, it is not subject to these two inspections as it is not a DST catch tank or pit, nor is it physically connected to any of the identified and defined DST OUG catch tanks, pits, or their associated ancillary pipelines and equipment. As was stated in the original response to this Agenda Item, the visually observable portions of the specified physical equipment and structures subject to the two requested inspections are inspected daily for each DST Tank Farm. Those daily inspection records have already been provided for the specified date range, and for all the DST Tank Farms. Therefore, there are no additional documents to provide.

Provided records related to daily aboveground inspections for AN, AP, AW, AY, AZ, and SY DST Tank Farms from January 5, 2020 through January 11, 2020. I observed the inspection question was the following:

No visible damage to or leaks from above-ground portion of process and support pits and pit coverings.

I observed these inspections complied with the requirement in 40 CFR 265.195(b)(2) for above-ground portions of the tank system, if any, to detect corrosion or releases of waste, but did not meet the requirements in 40 CFR 265.195(a) or 40 CFR 265.195(b)(1).

Action Required: Within 60 days of receipt of this compliance report, USDOE and WRPS must inspect daily, and document in inspection logs, all DST monitoring systems in 274-AW that monitor data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) and all overfill/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems). Provide Ecology with records showing these inspections occurred and an update to the operating record for dates that these inspections did not occur in the past.

ORP and WRPS Responses:

WRPS has upgraded, and continues to upgrade, monitoring equipment in the Tank Farms to be remotely monitored equipment that can be monitored at any frequency, from any computer with the necessary software/access. Electronic monitoring is safer for the workers, and it provides a means by which WRPS can now create, via third party customized software (i.e. software not sold with or as part of the actual monitoring equipment) a way to more frequently and actively monitor not only the physical tank system equipment and alarms, but to also create a compliance buffer via the implementation of new and early warning operator aid warnings, alarms, or notifications. These are additional features and options gained from remote monitoring that are not included or part of the physical tank system equipment and alarms themselves.

Data from tank monitoring equipment and alarms that are part of the DST tank system and had been identified as subject to 40 CFR 265.195(a) and (b)(1) were physically inspected once a day in accordance with the regulatory requirement and RPP-16922. One such daily inspection item identified in RPP-16922 as being required for compliance to the CFR requirement was to physically inspect the alarm panels contained within the various DST instrument control buildings, to verify that the alarms on the panel were operable. The only non-ventilation related tank system alarm that went to these alarm panels that were subject to this inspection were the DST annulus leak detector alarms. Throughout the past several years, these alarms have been converted to also being remote monitored electronically for each DST Tank Farm.

During the process of converting these alarms to being primarily monitored electronically, the original alarm panel inspection in the WRPS Operator daily rounds was modified to indicate only the ventilation alarms in the buildings and on the panels were continuing to be physically checked in person each day as the primary method for checking the annulus leak detector alarms was shifted to being remote, electronic monitoring. This was not identified or considered an issue previously as WRPS had applied the same continuous monitoring interpretation and requirements to these alarms when they went electronic as Ecology Permitting had applied in the Site's RCRA Permit for the same situation that occurs at the 242-A Evaporator and the Effluent Treatment Facility/Liquid Effluent Retention Facility; permit conditions and an interpretation that had been in place for several years. However, during this inspection the Ecology compliance inspector determined that "continuous" monitoring as defined by, and allowed by, the RCRA Permit is not actually compliant with 40 CFR 265.195(a), (b)(1), or WAC 173-303-640(6) unless

WRPS also continues to document daily, the items being monitored and their status as required by the CFR and WAC.

In response to Ecology changing their prior interpretation on the records requirements for continuously monitored equipment, WRPS is revising the relevant daily rounds procedure(s) as well as the inspection plan and schedule for the DSTs contained within RPP-16922 to add back in a daily, recorded inspection for the electronic DST annulus leak detector alarms. In addition, even though the primary tank liquid level alarms did not physically exist on the alarm panels in the instrument control buildings, WRPS and ORP have voluntarily elected to add these alarms to the inspection plan and schedule in RPP-16922. The following, new daily inspection requirement is in the process of being added to RPP-16922;

Primary tank liquid level and annulus leak detector alarms that are electronically reported through TFMCS [Tank Farm Monitoring and Control System] or TMACS [Tank Monitor and Control System], visual confirmation that the tank overview screen(s) demonstrate system communication, including alarm capability, is functional.

WRPS will continue to follow relevant and applicable company alarm response procedures if an actual alarm were to occur, which includes any associated and relevant documentation and records requirements.

The following daily operator rounds procedures are in the revision process to implement this new inspection, TF-OR-DR-AN, “AN Daily Rounds”, TF-OR-DR-AZ, “AZ Daily Rounds”, TF-OR-DR-EV, “EV Daily Rounds”, and TF-OR-DR-ST, “ST Daily Rounds.” Software code changes to implement this new inspection into the electronic version of each of these rounds are in process. The necessary revision to RPP-16922 is being processed for issuance, as are the revisions to the rounds procedures and the associated software changes. These actions are anticipated to reach completion with active use by or before March 31, 2021.

The scope of this observation was to identify inspections conducted per the DST inspection plan and schedule within RPP-16922 identified as being done for compliance with 40 CFR 265.195(a) and (b)(1), and verified by Ecology during inspection not being in full compliance with all the requirements of the CFR (e.g. the inspections were not being documented daily in the Operating Record). The only confirmed inspection that met this criterion that Ecology was able to identify in the inspection report was the singular alarm panel inspection discussed above, which is being corrected as per Ecology’s required action. ORP and WRPS believe that completion of the corrective actions described above to implement daily documentation requirements for the identified and relevant remote monitoring equipment brings us back into full compliance with the CFR.

While discussing and working through the corrective actions for this observation with Ecology, Ecology personnel stated their opinion that there is temperature and pressure monitoring being performed in the DSTs that aren’t currently required to be inspected daily per RPP-16922.

Ecology's opinion is that temperature and pressure equipment is subject to the 40 CFR 265.195(a) requirements, and should therefore also be identified in RPP-16922 for a daily inspection and CFR compliance. Ecology also expressed the opinion that there may even be other remote monitored equipment or alarms that they were presently either unaware of, or not sufficiently familiar with, which may also be subject to the CFR and should therefore be added to RPP-16922 as a daily inspection.

To date, for the history of Tank Farms, the temperature and pressure equipment and all associated monitoring that has been conducted has been done only for compliance with federal nuclear safety requirements as contained within the Tank Farm's Documented Safety Analysis (DSA). This equipment has never been classified as required or subject to 40 CFR 265.195(a) and (b)(1). Discussions on whether or not it should be considered subject to the CFR or similar requirements contained within WAC 173-303-640(6) were conducted between ORP and Ecology as part of resolving responses on the Site's initial Resource Conservation and Recovery Act (RCRA) Permit Revision 9. Continuing efforts to resolve the differences of opinion between the agencies are still actively taking place as part of the RCRA Permit Revision 9 workshops, and processes agreed to between the agencies for those workshops. ORP and WRPS are recommending that the RCRA Permit Revision 9 workshops are therefore the most appropriate regulatory avenue for further discussing Ecology's thoughts on applicability of 40 CFR 265.195(a) and (b)(1) or WAC 173-303-640 on temperature and pressure equipment, or other remote monitored equipment or alarms yet to be identified for discussion.

DOCUMENT RELEASE AND CHANGE FORM			Release Stamp	
Prepared For the U.S. Department of Energy, Assistant Secretary for Environmental Management By Washington River Protection Solutions, LLC., PO Box 850, Richland, WA 99352 Contractor For U.S. Department of Energy, Office of River Protection, under Contract DE-AC27-08RV14800 TRADEMARK DISCLAIMER: Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States government or any agency thereof or its contractors or subcontractors. Printed in the United States of America.			<div style="border: 2px solid red; padding: 10px; display: inline-block;"> <p style="color: red; font-weight: bold; font-size: 1.2em;">DATE:</p> <p style="color: red; font-weight: bold; font-size: 1.5em;">Feb 04,2021</p>  </div>	
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3. Project Number: <input checked="" type="checkbox"/> N/A	4. Design Verification Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
5. USQ Number: <input type="checkbox"/> N/A TF-21-0090-D	6. PrHA Number	Rev. <input checked="" type="checkbox"/> N/A	Clearance Review Restriction Type: public	
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Clearance Review	Ayers, Lynn M	Ayers, Lynn M	02/04/2021	
Document Control Approval	Scales, Anthony	Scales, Anthony	02/04/2021	
Originator	Gray, Paula A	Gray, Paula A	01/28/2021	
Responsible Manager	Hammons, J. Mike	Gray, Paula A for Hammons, J. Mike per telecon	01/26/2021	
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Document Update				
9. TBDs or Holds <input checked="" type="checkbox"/> N/A				
10. Related Structures, Systems, and Components				
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200G				
11. Impacted Documents – Engineering <input checked="" type="checkbox"/> N/A				
Document Number	Rev.	Title		
12. Impacted Documents (Outside SPF):				
N/A				
13. Related Documents <input type="checkbox"/> N/A				
Document Number	Rev.	Title		
HNF-SD-WM-TSR-006	07U	TANK FARMS TECHNICAL SAFETY REQUIREMENTS		
HNF-SD-WM-TSR-006	07V	TANK FARMS TECHNICAL SAFETY REQUIREMENTS		
14. Distribution				
Name		Organization		
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Gray, Paula A		SECURITY & EMERGENCY SERVICES		
Thompson, Suzette A		RCRA PERMITTING		

RPP-27869
Revision 12

BUILDING EMERGENCY PLAN FOR TANK FARMS

Prepared by

Paula Gray
Washington River Protection Solutions, LLC

Date Published
February 4, 2021



Prepared for the U.S. Department of Energy
Office of River Protection

Contract No. DE-AC27-08RV14800

Approved for Public Release;
Further Dissemination Unlimited

RIVER PROTECTION PROJECT**Document: RPP-27869****BUILDING EMERGENCY PLAN
FOR TANK FARMS****Revision: 12****Page 1 of 48****Effective Date: February 4, 2021**

This plan covers the following buildings and structures:

Double-Shell Tank (DST) System, Tank Side Cesium Removal (TSCR), Single-Shell Tank (SST) System, 616 Building, 622-S Lysimeter Test Facility, Inactive Grout Treatment Facility Vaults, and associated tank farm office and support buildings.

Approved:

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Date: 2021.01.26 09:36:24 -08'00'

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Manager, Production Operations

Date

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J. Michael Hammons
Acting Manager, Security and Emergency Services

Date

RIVER PROTECTION PROJECT**Document: RPP-27869****BUILDING EMERGENCY PLAN
FOR TANK FARMS****Revision: 12****Page 2 of 48****Effective Date: February 4, 2021****BUILDING EMERGENCY PLAN****TABLE OF CONTENTS**

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1.0 GENERAL INFORMATION

The Tank Farm facilities are located on the Hanford Site, a 560-square-mile U.S. Department of Energy (DOE) Richland Operations Office (RL) site in southeastern Washington State. The Tank Farm facilities are located in and between the *East and West* 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 173-303-201(9) (for dangerous waste generators locations) and WAC 173-303-350(2) (for TSD facilities) 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 173-303-201, 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
Tank Farms

1.2 Facility Location

Benton County, Washington, within the Hanford Site, 200 Areas.

Buildings/facilities covered by this plan are:

SST System, DST System, TSCR, 616 Building, 622-S Lysimeter Test Facility, inactive Grout Treatment Facility Vaults, Central Accumulation Areas (CAAs) and Satellite Accumulation Areas (SAAs) located throughout the Tank Farms, and associated tank farm office and support buildings.

1.3 Owner

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

Manager

Washington River Protection Solutions (WRPS) LLC
P.O. Box 850
Richland, Washington 99352

1.4 Description of the Facility and Operations

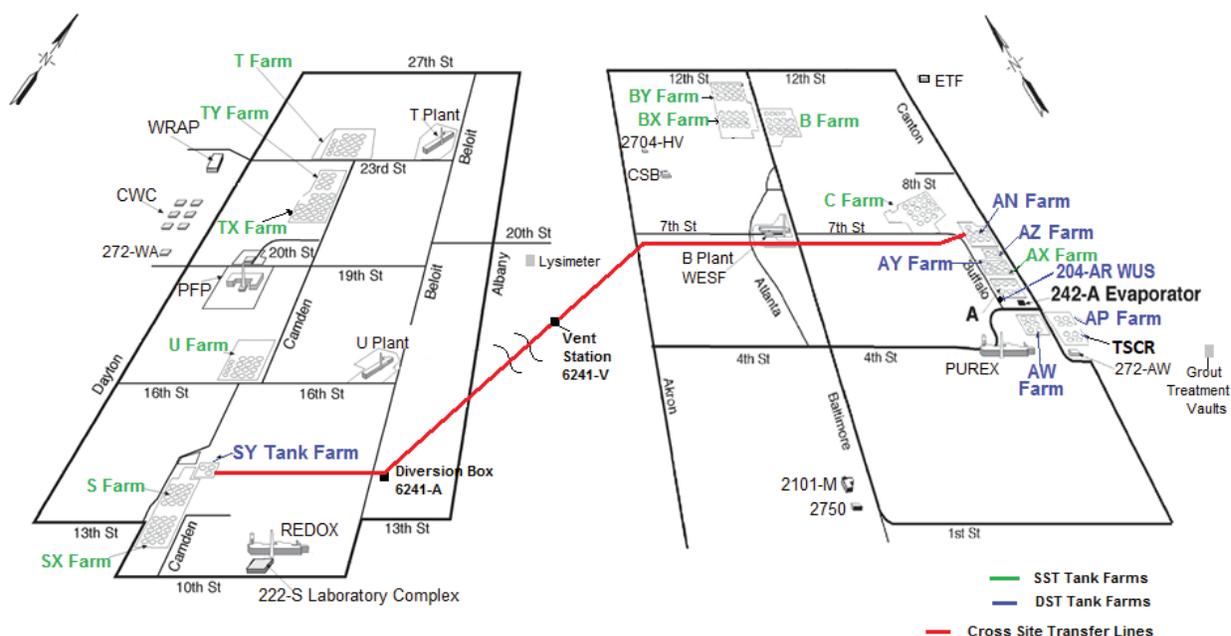
The Tank Farm facilities include the SST System, DST System, TSCR, 616 Building, inactive Grout Treatment Facility Vaults, Lysimeter facility, located throughout the Tank Farms, and associated tank farm office and support buildings. The Tank Farm facilities are comprised of 177 large underground

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storage tanks designed to store approximately 53 million gallons of mixed waste (highly radioactive and chemically hazardous) generated during production of defense-related materials. The 177 underground waste storage tanks are constructed in groups of similarly designed tanks that are called tank farms. Between the 200 East and 200 West areas there are 149-SSTs and 28-DSTs in 18 tank farms connected by a cross-site transfer line to support waste transfers between the 200 East and 200 West (see Figure 1). Operations at the Tank Farms include waste storage, retrieval, pretreatment, immobilization, interim storage, disposal, and performance of operations necessary to support closure of the tanks after removal of the waste. Waste transfer and routing facilities provide the physical means for transporting mixed waste between storage and processing facilities. The Tank Farms also contain control structures such as diversion boxes, valve pits, catch tanks, lift and catch stations, transfer pumps, underground piping, and other inactive facilities.

CAAs and SAAs are located throughout the facilities as needed to support operations.

Figure 1. Tank Farms



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1.4.1 Single-Shell Tank System

The SST System is undergoing Resource Conservation and Recovery Act (RCRA) tank closure. The SST system includes 149 SSTs, 19-Catch Tanks, 45-inactive miscellaneous underground storage tanks [IMUSTs], and support systems such as diversion boxes, valve pits, lift and catch stations, transfer pumps, underground piping, above ground structures, and other mechanical equipment. The 149-SSTs are organized into 12 tank farms; 6 tank farms (C, A, AX, B, BY, and BX) are located in 200 East Area, and 6 tank farms (S, SX, T, TX, TY, and U) are located in 200 West Area.

The SSTs have leaked waste. To reduce the potential for additional leakage, free liquids were removed from the SSTs and pumped to DSTs via a process referred to as interim stabilization. The system cannot receive additional dangerous waste for storage. The current mission includes retrieval of the remaining wastes from SSTs. The SST System is closing; however, it will continue to store mixed waste until more space is available in the DST System.

1.4.2 Double-Shell Tank System

The Double-Shell Tank (DST) System operates as a RCRA tank storage and treatment unit that contains 28-DSTs, 204-AR Waste Unloading Station (Catch Tank 204-AR-TK-1), Catch Tank 241-AZ-151, and support systems such as cross site transfer system, diversion boxes, valve pits, lift and catch stations, transfer pumps, underground piping, above ground structures, and other mechanical equipment. The 28-DSTs are organized into 6-tank farms, 5-tank farms (AN, AP, AW, AY and AZ) in 200 East Area, and SY Tank Farm in 200 West Area. The cross-site transfer system is used to move waste from the 200 West Area (via SY Tank Farm) to 200 East Area (via AP Tank Farm) where the treatment facilities are located. The 6241-A Diversion Box and 6241-V Vent Station are support structures on the cross-site transfer line.

The 204-AR Waste Unloading Station is inactive (isolated from water sources and the fire protection systems are deactivated).

1.4.3 Tank Side Cesium Removal (TSCR)

TSCR operates as a RCRA tank waste pretreatment system, and is located at the southeast corner of the 241-AP Tank Farm. TSCR will pretreat tank waste from the 241-AP Tank Farm and return the pretreated waste back to the 241-AP Tank Farm for subsequent transfer to the Waste Treatment and Immobilization Plant (WTP) for vitrification.

1.4.4 616 Building

The 616 Building is a CAA, SAA for the accumulation of hazardous/mixed wastes generated in Tank Farm facilities, and short-term storage of radiological waste. Other CAAs, SAAs are established within the Tank Farms or in other locations to support operations. Waste can also be accumulated in satellite accumulation containers at or near the point of generation.

1.4.5 Grout Treatment Facility

The Grout Treatment Facility is an out-of-service facility that contains 218-E-16 (Vaults 102-105), and 218-E-16101 (Vault 101). This facility is included for emergency response only.

1.4.6 Lysimeter Test Facility

622-S Lysimeter Test Facility is a small subgrade facility being utilized by PNNL for long-term studies in 200 West.

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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 Tank Farm facilities. 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 all Tank Farm facilities listed in this BEP.

The Tank Farms facility/building ERO is responsible for implementing emergency response actions at all Tank Farm facilities. In the event of an emergency at more than one facility, the BED will utilize a graded approach in accordance with Hanford Incident Command System and assign necessary facility ERO, to implement the on-scene response for each facility in coordination with the Incident Commander (IC) as appropriate. The BED maintains communication with the assigned personnel and/or the IC at each facility to enable the BED to fulfill the BED responsibilities as discussed in Section 3.1 below.

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 173-303-201 (for dangerous waste generator locations) and WAC 173-303-360(1)(for permitted TSD facilities). During events, Tank Farm facilities personnel perform response duties under the direction of the BED. The senior responding Hanford Fire Department official will be the IC. If the event is determined to primarily be a security event, the Hanford Fire Department and Hanford Patrol will operate under a unified command system with Hanford Patrol making decisions pertaining to security. These individuals 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 Tank Farm facilities operations.

The BED position is staffed by tank farm personnel via the Central Shift Office, 24-hours a day, and 7-days a week. The BED primary location is the Central Shift Office (274-AW).

Security & emergency services organization maintains a complete listing of current qualified BEDs. The list is maintained in the Central Shift Office (274-AW), co-located with this plan, and also contained in Permit Attachment 4A.

3.2 Other Members

The BED will utilize the Incident Command System (ICS) supplemented by facility-specific emergency response procedures and DOE-0223, *Emergency Plan Implementing Procedures*, RLEP 1.1, *Hanford Incident Command System and Event Recognition and Classification*. The BED will appoint personnel to fill ERO positions as necessary from the *200 Area Tank Farms Emergency Response Organization* to fill positions listed below.

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- Incident Command Post (ICP) Communicator is responsible for making the classification notification and initiating and maintaining a communication line with the Emergency Operations Center (EOC).
- ICP Hazards Communicator is responsible for communicating data to the EOC for consequence assessment.
- Facility Operations Specialist is responsible for providing facility-specific knowledge to the operations section chief (OSC) and coordinating facility resources for mitigating the incident.
- Chemical Hazard Assessor is responsible for providing technical support for non-radiological hazardous material response.
- Radiological Hazard Assessor is responsible for coordinating and ensuring accomplishment of radiological control functions throughout the incident scene.

The BED will notify other facility/building ERO to support the on-scene response by making contact with the ERO members listed on the *200 Area Tank Farm Emergency Response Organization*.

The complete Facility/Building ERO listing of positions, names of ERO members, work locations, and telephone numbers for the Tank Farms facilities is maintained in a separate location in a format determined appropriate by Tank Farm management. Copies are distributed to appropriate Tank Farm locations and maintained by the security and emergency services organization.

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 509-373-0911 if using a cell phone) must be used to contact the POC and request the desired assistance.

In accordance with WAC 173-303-201(14)(b) or 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 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 173-303-201 or 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. The emergency circumstance poses a threat to human health or the environment.

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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 (WSDOE) 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 direct the environmental organization to make environmental notifications in accordance with WAC 173-303-201(14)(d) or 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 Tank Farm facilities.

5.1 Hazardous Materials

The Tank Farms do not store non-radioactive hazardous materials in bulk quantities (e.g., over 5-gallon capacity containers); except for TSCR operations where two 55-gallon containers of 25% weight sodium hydroxide [NaOH] is stored in the ancillary enclosure. Associated hazards are surface contamination and/or corrosion of equipment, release, and subsequent reactions with other chemicals that may generate toxic gases causing exposure to personnel.

Hazardous materials used in bulk quantities are ordered for a specific activity and added directly to a tank via a caustic addition system or pumped into a tank from the product delivery tanker. Hazardous materials used in the Tank Farms include sodium hydroxide [NaOH], sodium nitrite [NaNO₂], and oxalic acid [C₂H₂O₄]. Sodium hydroxide and sodium nitrite are used to adjust corrosion properties of tank waste. Oxalic acid is occasionally used for dissolving solid or semi-solid tank waste during waste retrieval activities. Associated hazards are surface contamination and/or corrosion of equipment, pressurized mist release, and subsequent reactions with other chemicals that may generate toxic gases causing exposure to personnel.

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.

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5.1.1 Chemical Hazards

Chemical hazards associated with the storage of tank waste include chemical agents (normal paraffin hydrocarbon, ammonia, acetone, butanol, tributyl phosphate, and formic acid) and inorganic chemical agents (nitrogen oxides, hydrogen, nitrates, nitrites, and acid gases).

Exposure to chemical hazards could result if personnel come in contact with gaseous, liquid, or solid materials at the Tank Farms. Some chemical hazards known to exist in waste tanks include normal paraffin hydrocarbon (NPH), ammonia, acetone, butanol, and tributyl phosphate, and formic acid. Personnel shall make every effort to avoid direct contact with tank contents or other hazardous materials.

5.2 Industrial Hazards

Industrial hazards associated with the Tank Farm facilities include hazards such as; chemical, electrical, compressed air, cranes, moving equipment, high temperature equipment and others as described in Sections 5.2.1 through 5.2.6. Industrial hazards are also addressed in the facility safety plan and maintenance programs.

5.2.1 Compressed Air Systems

Compressed air is used for instrumentation, control, and purge air on waste tank instrumentation to prevent radioactive materials from escaping from the waste tank. Purge air flows through the instrument into the waste tank at very low volume and pressure. AW Tank Farm receives compressed air from 242-A Evaporator, TSCR uses an air compressor for system blow-downs and ion exchange column drying. Personnel hazards associated with compressed air are hearing damage from exposure to pressure noises during line or vessel rupture or lifting of a pressure relief valve.

5.2.2 Pressurized Cylinders

Pressurized cylinders are used in maintenance activities and for equipment such as personnel radiation monitors and self-contained breathing apparatus. Pressurized cylinders may become missiles when ruptured and may cause fire or explosions. Health effects consist of poisoning through inhalation and absorption, asphyxiation due to oxygen deficient atmosphere, hearing and eye damage, serious burning of the skin, and even death.

The primary locations for pressurized cylinder storage areas are north of 272-WA, north of 272-AW, and 277-A (construction forces fabrication shop west of Buffalo at 241-AY). The cylinders contain breathing air, argon, P-10 gas, helium, nitrogen, oxygen, and acetylene. Tank Farms also have several SCBA bottles located throughout the facility. TSCR has nitrogen cylinders located in the ancillary enclosure for the fire suppression system.

5.2.3 Confined Spaces

The Tank Farms have several confined spaces that are identified and have strict access control. Entry into a confined space requires approval and a confined space work permit. Some of the confined spaces are vaults, pits, and small buildings with limited access, room, and ventilation capabilities. Personnel hazards associated with a confined space are asphyxiation due to lack of oxygen or presence of an inert or toxic gas, injuries due to limited workspace, and heat exhaustion.

5.2.4 Rotating Equipment

The Tank Farms have numerous pieces of rotating equipment that are either direct or belt-driven, including air compressors, ventilation fans, diesel generators, portable pumps, and electrical motors. Personnel hazards associated with rotating equipment are bodily injuries due to contact with rotating equipment or from objects contacting rotating equipment and creating a missile.

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5.2.5 Cranes

Cranes are used within Tank Farms for cover block removal, maintenance, and construction activities. Overhead cranes are located in the 272-AW shop area, 6241-A Diversion Box, and the 6241-V Vent Station. The cranes in 242-S, 204-AR, and 244-AR facilities are out of service.

Personnel hazards associated with cranes are bodily injuries from accidents involving the crane or its load. Facility hazards associated with cranes is the potential for equipment or structure damage due to improper operation of the crane, which could result in damaged tanks or facilities resulting in confinement integrity and a subsequent release to the environment.

5.2.6 Moving Equipment

Moving equipment such as forklifts, trucks, etc., are used throughout the Tank Farms for movement of materials and supplies. Personnel hazards associated with moving equipment are bodily injuries from accidents involving the equipment or loads.

5.3 Dangerous/Mixed Waste

Dangerous/mixed waste stored in the SSTs, DSTs, and TSCR was generated on the Hanford Site. The mixed waste stored in the SST System was generated by five major chemical reprocessing operations: bismuth phosphate (BiPo) process, reduction-oxidation (REDOX) process, plutonium-uranium extraction (PUREX) process, tributyl phosphate (TBP) process, and B Plant waste fractionation process. These processes are no longer operating.

Historically the DSTs received mixed waste generated during the operation of chemical processing of nuclear facilities, such as the PUREX Plant, B Plant, T-Plant, and Plutonium Finishing Plant. The DSTs receive and store mixed waste from the 242-A Evaporator, 222-S Laboratory, and SST System.

TSCR receives mixed waste from the DST System. Mixed waste from TSCR operations is contained in the spent ion exchange columns that are stored on the ion exchange column storage pad. The storage pad is located immediately east of the TSCR process enclosure.

Dangerous and/or mixed waste is accumulated throughout the Tank Farm facilities in CAAs, SAAs in accordance with the regulations until transferred to the permitted storage areas (see Section 1.4) or other treatment, storage, and disposal facility.

5.4 Radioactive Materials

Tank waste in the DST System and SST System was generated from chemical processing of highly radioactive metals and compounds. Radioactive waste is generated from daily operations, waste transfer activities, waste tank sampling, housekeeping in radiological areas, radiological zone reduction, contaminated personal protective clothing, and miscellaneous materials. All radioactive waste is controlled through policies and procedures and is processed through Waste Management. Hazards associated with radiological materials are from internal and external exposure. Surface or soil contamination may occur from a release of radioactive materials.

5.5 Criticality

Not applicable. Criticality is not a credible event at the Tank Farms because criticality is prevented by the form and distribution of the material.

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)

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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 Tank Farm facilities.

6.1 Facility Operations Emergencies

The following conditions could result in a potential emergency condition or require facility personnel to implement protective actions, and describes the condition and adverse effect to the facility. This information typically is derived from a safety analysis report, hazards evaluation, or risk assessment for the facility.

6.1.1 Loss of Utilities

Under normal conditions, a loss of utilities is not an emergency. A loss of utilities could require precautionary protective actions until the conditions in the tank farm(s) are known.

6.1.1.1 Loss of Water

A loss of water systems in Tank Farm facilities could limit firefighting capabilities and process equipment.

6.1.1.2 Loss of Electricity

A loss of electrical power to Tank Farm facilities results in a loss of instrumentation and control, normal building lighting, loss of ventilation systems, loss of radiological monitoring equipment, etc. Loss of electrical power may necessitate evacuation of nonessential personnel from the Tank Farms until habitability can be established.

6.1.1.3 Loss of Ventilation

A loss of ventilation systems in Tank Farm facilities could result in loss of negative pressure increasing the potential for releasing radioactive and hazardous materials and could result in flammable gas and/or vapor buildup in DSTs.

Loss of ventilation systems may necessitate the evacuation of nonessential personnel from the Tank Farms until habitability can be reestablished.

6.1.1.4 Loss of Compressed Air

A loss of compressed air in Tank Farm facilities results in a loss of level instrumentation in the catch tanks and DCRTs, loss of tank pressurization alarms in 241-AW Farm, loss of pneumatically-operated valves, and some fire protection systems. Loss of compressed air at TSCR results in loss of pneumatically-operated valves, loss of sweep air, and loss of blow-down capability.

6.1.2 Major Process Disruption/Loss of Plant Control

A major process disruption/loss of plant control could be caused by pressurization of a waste tank, transfer line leak, valve or pump pit leak, misrouting of waste, fire and/or explosion, and radiological/hazardous material release.

6.1.3 Pressure Release

Failure of compressed air systems may result in the loss of tank monitoring instrumentation, pneumatically operated valves, and some fire protection systems. Failure of compressed gas bottles may result in personal injury and/or the loss of personnel radiation monitoring systems.

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6.1.4 Fire and/or Explosion

The potential effects of a fire or explosion include building or property damage, the collapse of waste tank domes, combustion of high-efficiency particulate air (HEPA) filters, and the associated release of hazardous materials, toxic fumes, and radiological contamination.

6.1.5 Hazardous Material Spill

The potential effects from a release of hazardous materials are exposure to personnel from failure of chemical piping or containment systems.

6.1.6 Dangerous/Mixed Waste Spill

The potential effects from a dangerous/mixed waste spill could cause a release of mixed waste to the environment as well as personnel exposure. The hazards associated with a spill of dangerous/mixed waste could include potential exposure to radioactive, caustic, corrosive, and/or toxic material.

6.1.7 Transportation and /or Packaging Incidents

The potential hazards associated with transportation of hazardous materials, dangerous or mixed waste, and radioactive material or waste, could include personnel exposure to radioactive, caustic, corrosive, and/or toxic material as well as potential environmental damage by a release to the air or ground (soil).

6.1.8 Radioactive Material Release

Sections 6.1.8.1 and 6.1.8.2 discuss the primary means of radiological release.

6.1.8.1 Airborne Radioactive Material Release

A radiological effluent airborne release associated with the waste tanks could be caused by failure of the ventilation system HEPA filter, tank pressurization, chemical reactions, dome collapse, fires and/or explosions, and transfer line releases.

Response to an airborne plume is related to the duration of the release of radioactive material from the event scene. Significant contamination spreads due to spills or leaks could result in the transport to and contamination of soil, water, and/or air. The hazards involve personnel and environmental exposure to radioactive and toxic materials.

6.1.8.2 Liquid Radioactive Material Release

Liquid can be released from the failure of waste transfer confinement systems or through misrouting of wastes.

Transfer systems and waste storage tanks are equipped with leak detection systems to notify of breach of transfer systems. Transfer pumps are equipped with interlock mechanisms that shut down transfers on activation of alarms.

The TSCR process enclosure and hose-in-hose transfer lines (HIHTLs) are equipped with leak detection systems to notify of a breach of processing and transfer systems. The leak detectors in the AP Farm side of the HIHTL connections have an interlock mechanism that shuts the flow control valve into the TSCR process enclosure.

6.1.9 Criticality

Not applicable. Criticality at the Tank Farm facilities is not a creditable event (refer to Section 5.5).

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6.2 Natural Phenomena

The potential hazards associated with natural phenomena type events are discussed in the following sections.

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 shorts in electrical equipment and plug ventilation system filters. Ash fall could also affect personnel as a respiratory hazard and by reducing visibility.

6.2.3 High Winds/Tornadoes

High winds or tornadoes may cause structural damage to systems containing hazardous materials resulting in a release of the materials to the environment.

6.2.4 Flood

A flood is not a credible event at the Tank Farms because the facility is not within the Columbia River flood plain.

6.2.5 Range Fire

The hazards associated with a range fire are the same as those associated with a building fire plus potential site access restrictions and travel hazards such as poor visibility.

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 Tank Farm facilities is that personnel will need to perform emergency shutdown of the facility 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.

6.3.3 Suspicious Object

If a suspicious object is discovered, the major effect on the Tank Farm facilities is that personnel may need to perform an emergency shutdown of the facility before evacuation.

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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 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 Tank Farms 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 EOC, 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 BED directs the evacuation; if an evacuation is ordered or the evacuation siren sounds (Steady Siren), personnel are to proceed to staging areas. The order to evacuate along with the evacuation route is given via an announcement over the public address system and/or facility radios, and by activating the Evacuation Siren (Steady Siren) by calling the POC using 911 (509-373-0911 from a cellular phone). Routes used for normal ingress and egress are the routes used for evacuation out of work areas. Routes that can be used to exit buildings and the location of staging areas are posted on the Emergency Response Information Boards within each building. Evacuation routes for tank farms are posted on the Emergency Response Information Boards located within each change trailer (see Figures 2 - 14). Evacuation routes are maintained clear of obstructions.

Personnel evacuated to the staging area are grouped by potentially affected personnel (e.g., injured, contaminated, exposed, etc.). Evacuated personnel report accountability status to the BED.

The BED determines the evacuation route based on the event and/or wind conditions. To ensure that evacuations are conducted promptly and safely, all personnel are familiar with the emergency response evacuation procedure. Additional guidance to assist the BED is provided in the Tank Farms emergency response procedure *Take Cover/Personnel Accountability/and Area Evacuation*.

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**BUILDING EMERGENCY PLAN
FOR TANK FARMS**

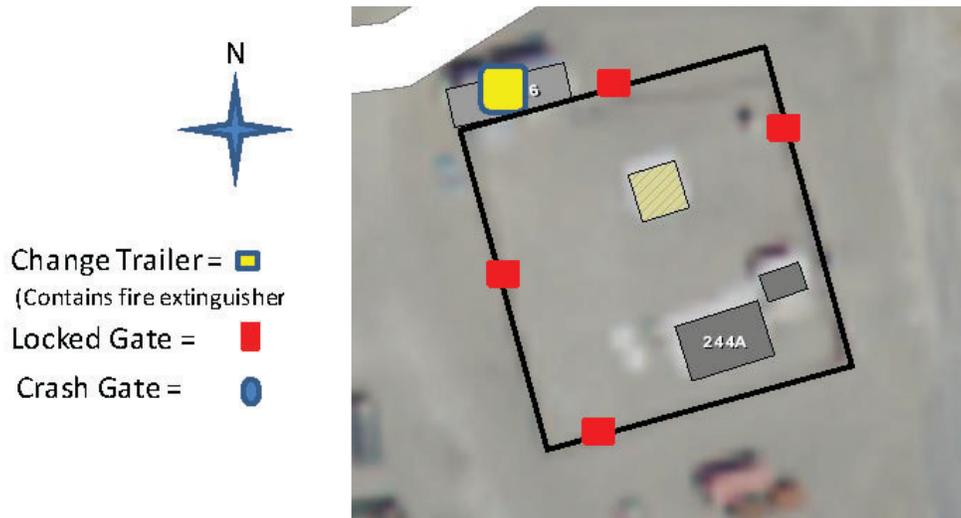
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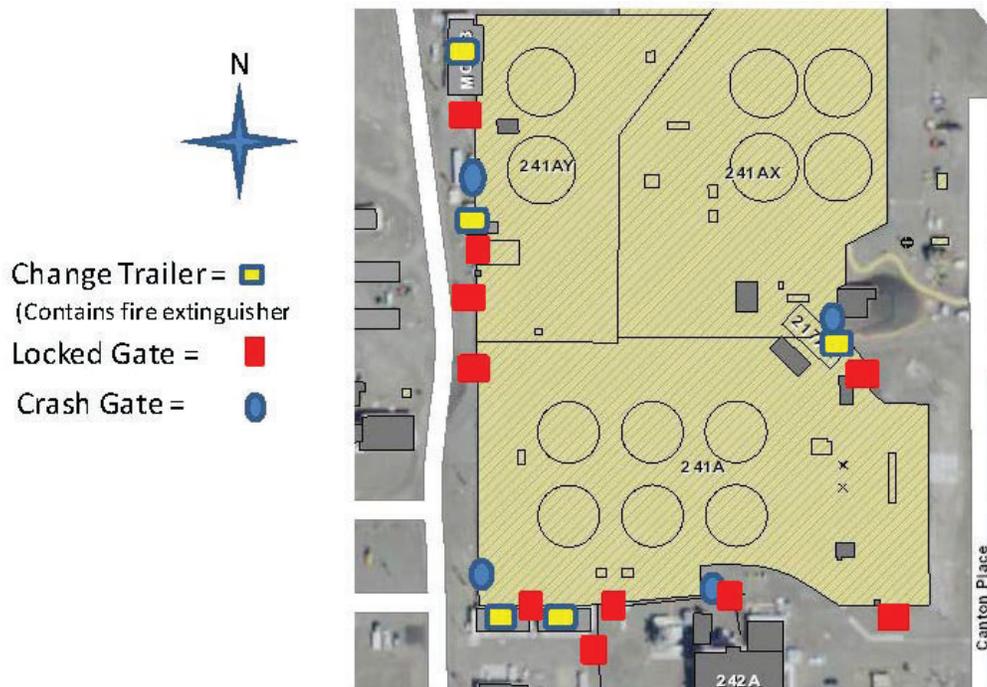
Effective Date: February 4, 2021

Figure 2. 244-A Tank Farm Emergency Evacuation Routes

During an event in 244-A Tank Farm – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).

**Figure 3. A/AX/AY Tank Farms Evacuation Routes**

During an event in 241-A/AX/AY Tank Farms – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).



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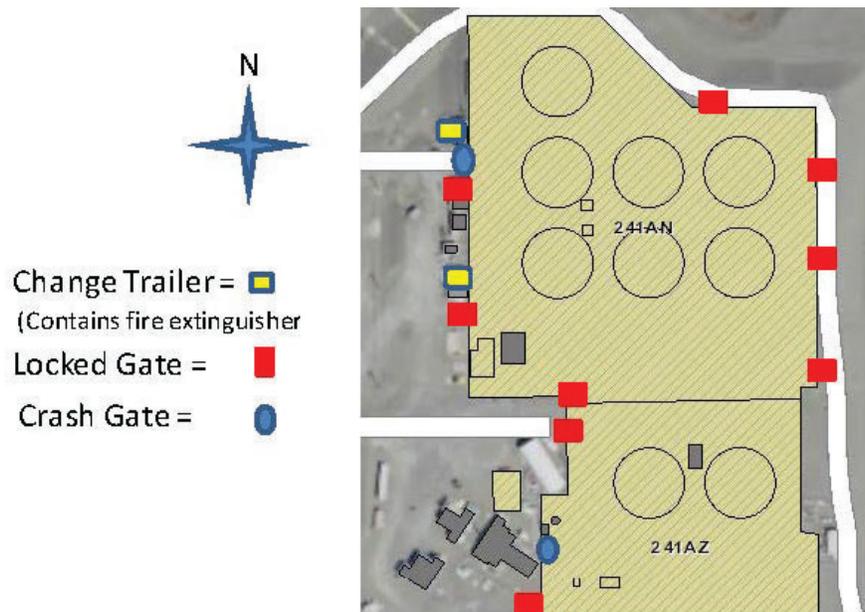
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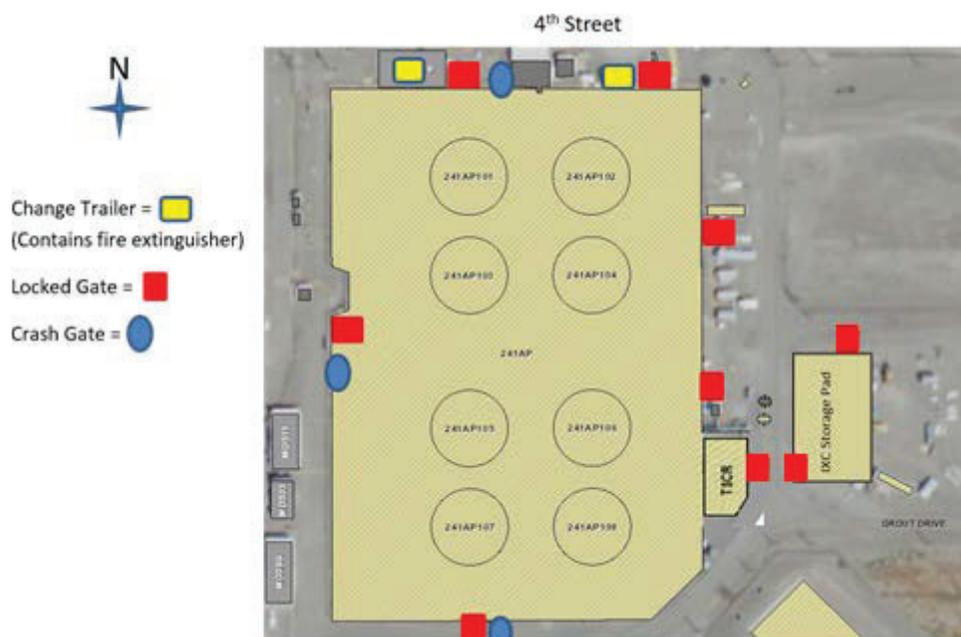
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Figure 4. AN/AZ Tank Farm Evacuation Routes

During an event in 241-AN/AZ Tank Farms – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).

**Figure 5. AP Tank Farm Evacuation Routes**

During an event in 241AP Tank Farm – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).



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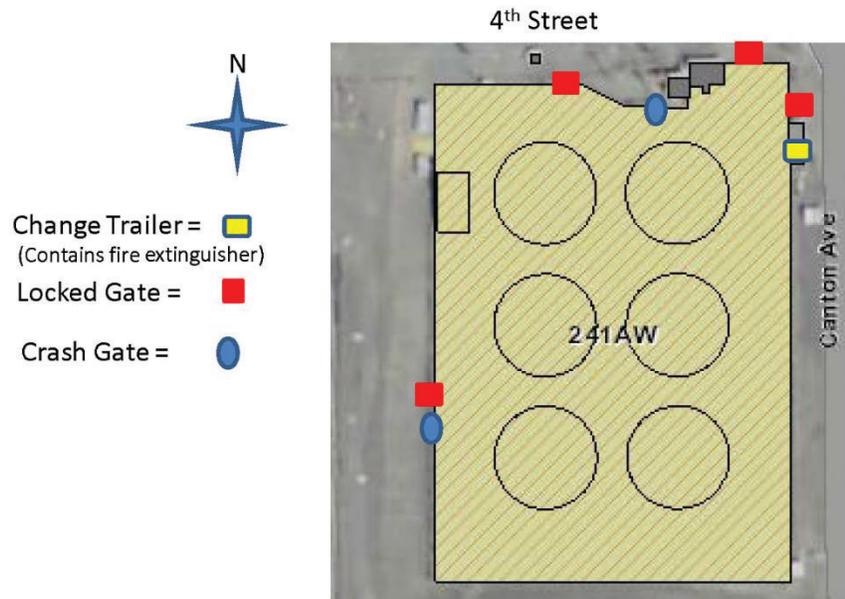
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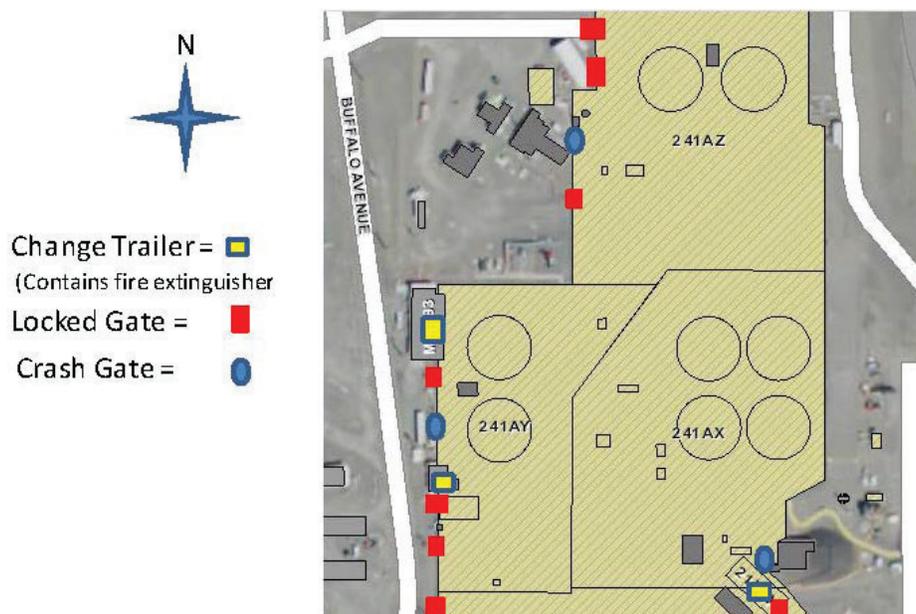
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Figure 6. AW Tank Farm Evacuation Routes

During an event in 241-AW Tank Farm – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).

**Figure 7. AY/AZ/AX Tank Farms Evacuation Routes**

During an event in 241- AY/AZ/AX Tank Farms – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).



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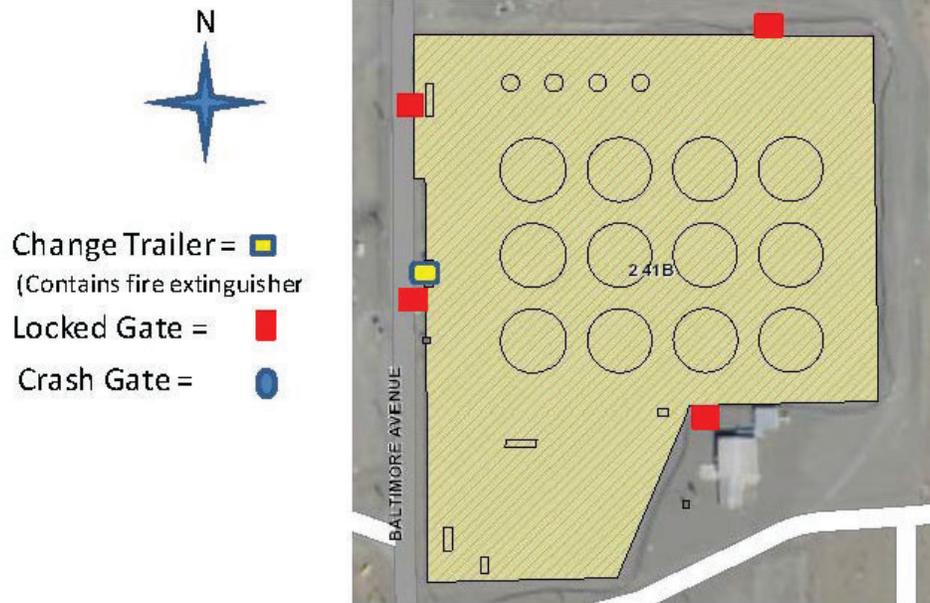
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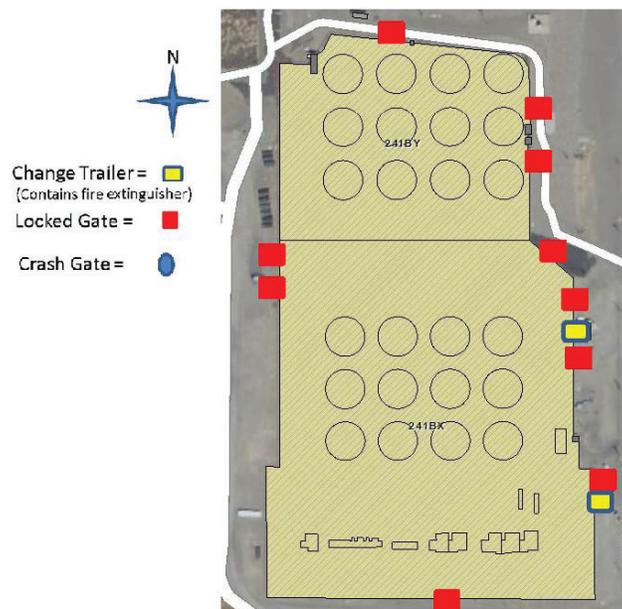
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Figure 8. B Tank Farm Evacuation Routes

During an event in 241-B Tank Farm – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).

**Figure 9. BY/BX Tank Farms Evacuation Routes**

During an event in 241-BY/BX Tank Farms – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).



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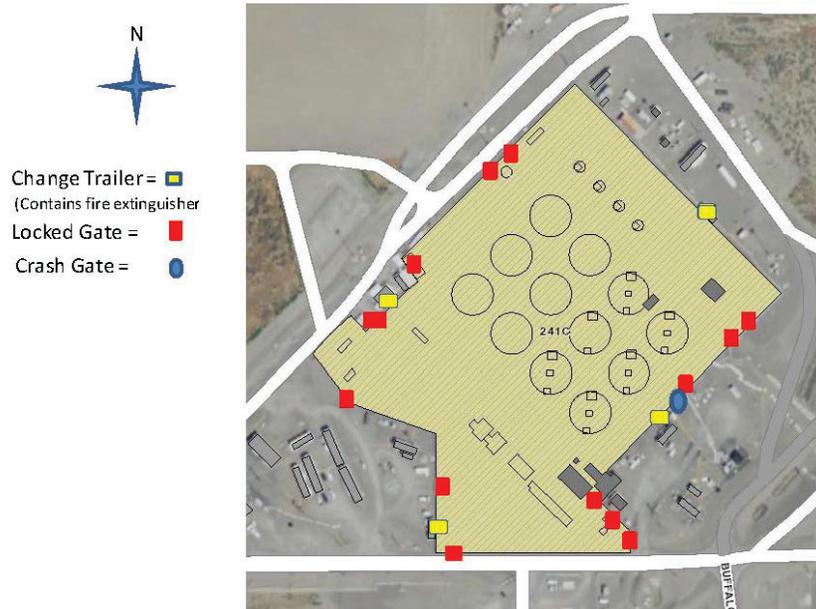
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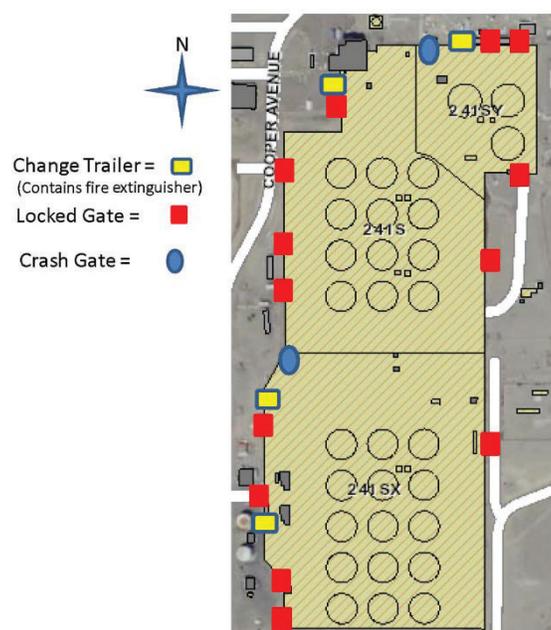
Effective Date: February 4, 2021

Figure 10. C Tank Farm Evacuation Routes

During an event in 241-C Tank Farms – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).

**Figure 11. S/SY/SX Tank Farms Evacuation Routes**

During an event in 241-S/SY/SX Tank Farms – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).



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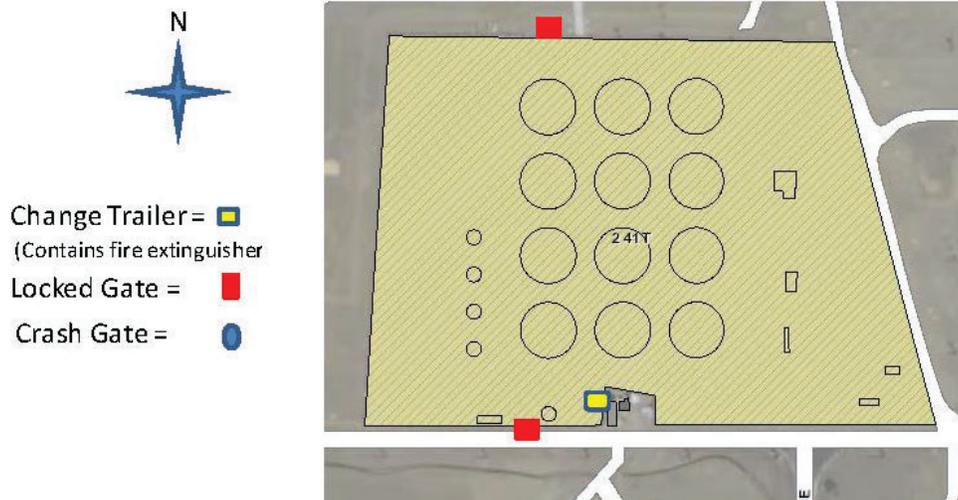
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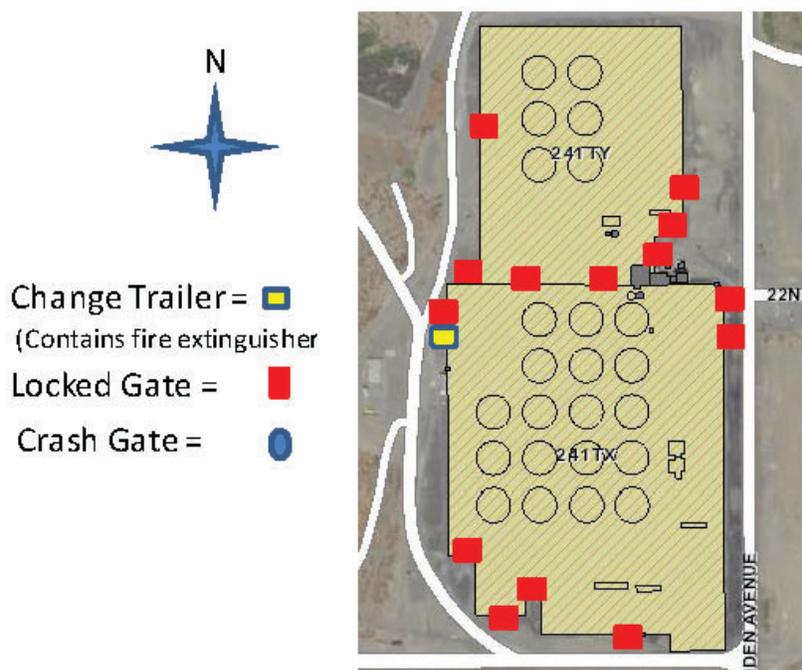
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Figure 12. T Tank Farm Evacuation Routes

During an event in 241-T Tank Farm – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).

**Figure 13. TY/TX Tank Farms Evacuation Routes**

During an event in 241TY/TX Tank Farms – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).



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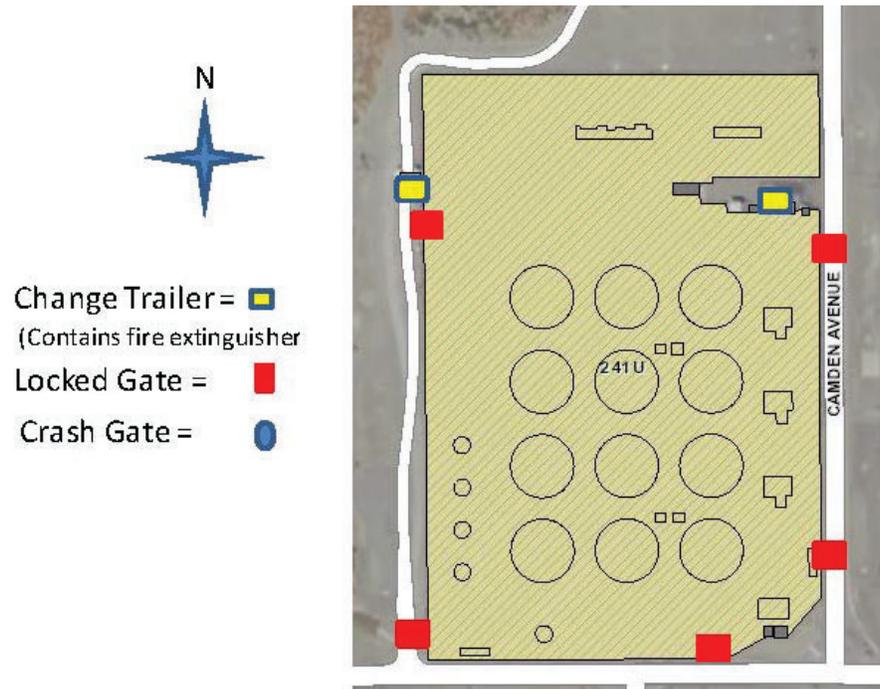
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Figure 14. U Tank Farm Evacuation Routes

During an event in 241-U Tank Farm – immediately evacuate upwind a minimum of 100 meters (330 feet) using any open gate, change trailer, or crash gate; and call the CSM 373-2689 and 911 (509-373-0911 from a cellular phone).

**7.1.2 Take Cover**

The BED initiates the take cover by directing an announcement be made over the facility public address system and/or facility radios, and by activating the Take Cover Alarm (Wavering Siren) by calling the POC using 911 (509-373-0911 from a cellular phone). Actions to complete a facility take cover order are directed by Tank Farms emergency response procedure Take Cover/Personnel Accountability/and Area Evacuation.

Determination of additional take cover actions is based on operating configuration, weather conditions, amount and duration of release, and other conditions, as applicable to the event and associated hazard. As a minimum, personnel exposure to the hazard is minimized. The BED ensures that take cover actions are taken at all occupied buildings identified in Section 1.2.

7.2 Response to Facility Operations Emergencies

Depending on the severity of the event, the BED reviews the site-wide and Tank Farm facilities emergency response procedure(s) and, as required, categorizes and/or classifies the event. If necessary, the BED initiates area protective actions and Hanford Site ERO activation.

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.

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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. Additional guidance to assist the BED is provided in Tank Farms abnormal operating procedure *Response to Unplanned Loss of Electrical Power* and *Response to Loss of Compressed Air*.

7.2.2 Major Process Disruption/Loss of Plant Control

In the event that there is a major disruption in processing operations or loss of plant control information to assist the BED for securing utilities (main electrical, water, and ventilation) are contained in Tank Farms emergency response procedures. Additional guidance to assist the BED is provided in Tank Farms abnormal operating procedure *Response to Electrical, Water, Air, or Pressurized Gas Cylinders High Energy Releases*.

7.2.3 Pressure Release

In the event of a compressed air and/or gas cylinder failure personnel leave the area and notify the BED. Additional guidance to assist the BED is provided in Tank Farms abnormal operating procedure *Response to Electrical, Water, Air, or Pressurized Gas Cylinders High Energy Releases*.

If mixed waste release occurs, perform actions identified in Section 7.2.5.

7.2.4 Fire and/or Explosion

In the event of a fire, the discoverer activates a fire alarm (pull box), calls 911 (509-373-0911 from a cellular phone), or verifies that 911 has been called. Automatic initiation of a fire alarm (through the smoke detectors and sprinkler systems) is also possible.

- Unless otherwise instructed, personnel shall evacuate the area/building by the nearest safe exit and proceed to the designated staging area for accountability.
- On actuation of the fire alarm, ONLY if time permits, personnel should shutdown equipment, secure waste, and lock up classified materials (or hand carry them out). The alarm automatically signals the Hanford Fire Department.
- The BED establishes the initial command post, obtains all necessary information pertaining to the incident, and sends a representative to meet the Hanford Fire Department.
- The BED provides a formal turnover to the IC when the IC arrives at the initial command post.
- The BED informs the Hanford Site ERO as to the extent of the emergency (including estimates of dangerous waste and mixed waste quantities released to the environment).
- If operations are stopped in response to the fire, the BED ensures that systems are monitored for leaks, pressure buildup, gas generation, and ruptures.
- Hanford Fire Department firefighters extinguish the fire as necessary.

NOTE: Following a fire and/or explosion, WAC 173-303-640 (7) will be addressed for the SST System, DST System, and TSCR tanks regarding fitness for use.

7.2.5 Hazardous Material, Dangerous and/or Mixed Waste Spill

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.

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The discoverer notifies the BED and initiates SWIM response:

- **S**tops work.
- **W**arns others in the vicinity.
- **I**solates the area.
- **M**inimizes exposure to the hazards.
 - The BED determines if emergency conditions exist requiring response from the Hanford Fire Department based on classification of the spill and injured personnel, and evaluates the need to perform additional protective actions.
 - If the Hanford Fire Department resources are not needed, the spill is mitigated with resources identified in Section 9.0 of this plan and proper notifications are made.
 - If the Hanford Fire Department resources are needed, the BED calls 911 (509-373-0911 from a cellular phone).
 - The BED sends a representative to meet the Hanford Fire Department.
 - The BED provides a formal turnover to the IC when the IC arrives at the ICP.
 - The BED informs the Hanford Site ERO as to the extent of the emergency (including estimates of dangerous waste and mixed waste quantities released to the environment).
 - If operations are stopped in response to the spill, the BED ensures that systems are monitored for leaks, pressure buildup, gas generation, and ruptures.
 - Hanford Fire Department stabilizes the spill.

NOTE: For response to leaks or spills and disposition of leaking or unfit-for-use tank systems, refer to 40 CFR 265.196 for interim status tanks.

7.2.5.1 Damaged or Unacceptable Shipments

During the course of receiving an onsite transfer of dangerous and/or mixed waste at Tank Farm facilities, an unanticipated event could be discovered resulting in a conformance issue concerning the waste. Damaged or unacceptable shipments resulting from onsite transfers are not subject to WAC 173-303-370; however, conformance issues must be resolved in order to maintain proper records.

The following actions are taken to resolve the conformance issue:

- Operations management is notified of the damaged or unacceptable waste to be received.
- If the conformance issue results in a spill or release, actions described in Section 7.2.5 are taken.
- The generating organization is notified of the conformance issue.

An operations representative, in conjunction with the generating organization, determines the course of action to resolve the conformance issue.

7.2.6 Radioactive Material Release

Section 7.2 addresses the actions for a radiological material release.

7.2.7 Criticality

Not applicable.

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7.3 Response to Natural Phenomena

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

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 EROs' 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 or is reported to 911 (509-373-0911 if using a cell phone).

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

- Coordinating searches for personnel and potential hazardous conditions (e.g., fires, spills).
- Conducting accountability.
- Securing utilities and facility operations.
- Arranging rescue efforts, and notifying 911 (509-373-0911 if using a cell phone) for assistance.
- 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 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 in accordance with Tank Farm abnormal response procedure *Response to Volcanic Ash Fall and Snowfall*.

If other emergency conditions arise as a result of the ash fall (e.g., fires due to electrical shorts or lightning), response will be 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 will be shut down as appropriate to lessen the severity of the impact. Additional guidance to assist the BED is provided in Tank Farm abnormal operating procedure *Response to High Winds and Dust Storms*.

7.3.4 Flood

Not applicable.

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7.3.5 Range Fire

The Hanford Fire Department provides the response to range fires. Responses to range fires are handled by preventive measures (i.e., keeping hazardous material and waste accumulation areas free of combustible materials such as weeds and brush). If a range fire breaches the Tank Farm facilities boundary, the response is described in Section 7.2.4.

7.3.6 Aircraft Crash

The response to an aircraft crash is the same as that 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

Sections 7.4.1.1 through 7.4.3 describe actions to be taken for security contingencies.

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 and Hanford Patrol by calling 911 (do not use wireless communications devices for reporting a bomb threat/explosive device unless beyond 100 feet from the suspected object).

When notified, the BED ensures the Tank Farm specific facility(s) 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. Notify the BED and Hanford Patrol by calling 911 (do not use wireless communications devices for reporting a bomb threat/explosive device unless beyond 100 feet from the suspected object). 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 POC using 911 (509-373-0911 from a cellular phone) and to the BED if possible. Hanford Patrol will determine the remaining response actions.

7.4.3 Suspicious Object

The discoverer of a suspicious object reports this object to the BED and to the POC using 911 (do not use wireless communications devices for reporting a bomb threat/explosive device unless beyond 100 feet from the suspected object), if possible, and ensures that the object is not disturbed.

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

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controlled with local resources or an odor is found to be the result of an action or condition that requires emergency response, the Hanford Fire Department 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 the Tank Farms. 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 Tank Farms 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 Tank Farms 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.

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Emergency resources and equipment for the Tank Farm facilities are presented in this section in accordance with WAC 173-303-340(1) and WAC 173-303-201(3); and WAC 173-303-350(3)(e); and WAC 173-303-201(9)(b). 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 Tank Farm facilities to allow access of personnel and equipment responding to fires, spills, or other emergencies in accordance with WAC 173-303-340(3) and WAC 173-303-201(6). 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 and to meet the requirements of WAC 173-303-340(3) and/or WAC 173-303-201(6). Exit (egress) paths in the rooms containing dangerous waste are checked daily to ensure the walkways have not been obstructed.

9.1 Fixed Emergency Equipment

Fixed Emergency Equipment		
Type	Location	Capability
Radiological decontamination station ¹	272-AW	Radiological decontamination of personnel
Radiological decontamination trailers ¹	MO-2244 MO-2172	Radiological decontamination of personnel
Safety showers/eyewash stations	616 Building ² TSCR	Assist in flushing chemicals/ materials from the eyes, body, and face of personnel
Water Supply	Throughout the facility	Adequate volume and pressure to support fire suppression
Wet pipe sprinkler system	616 Building ²	Support fire suppression
Dry pipe sprinkler system	TSCR process enclosure	Support fire suppression
Emergency lights	TSCR process enclosure	Emergency lighting

¹ This equipment is for radiological emergency response purposes only

² This equipment is for generator response purposes only.

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Portable Emergency Equipment		
Type	Location	Capability
Radiological vehicle ¹	Mobile	Assists with radiological control
Safety showers/eyewash stations	Staged as needed for special evolutions and maintenance	Assist in decontamination/ flushing of chemicals/ materials from the eyes, body, and face of personnel
Fire Extinguishers	Change Trailers (see Figures 2 through 11) and various support facilities TSCR process enclosure	Support fire suppression

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 telephone, portable radio or fire alarm pull box, capable of summoning emergency assistance.

Communications Equipment		
Type	Location	Capability
Fire alarm/pull boxes	Throughout facility	Activate the building fire alarm and notifies the Hanford Fire Department
Public address (PAX)	Various Tank Farms	Provides communication and public address capability
2-Way Portable radios	274AW Central Shift Office	Provides communication to the 274AW Central Shift Office
Telephone	274AW Central Shift Office	Internal and external communication capable of summoning emergency assistance

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
Personal protective clothing	Staged as needed for special evolutions and maintenance	Provides personnel protection against exposures

¹ This equipment is for radiological emergency response purposes only.

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Spill Kits and Spill Control Equipment		
Type	Location	Capability
Spill Response Kit (PPE and absorbents)	<ul style="list-style-type: none"> 616, Hazardous Waste Storage Facility¹ 2715-AW, Tank Farm Storage/Staging Facility 	Support containment and cleanup of hazardous material spills

10.0 INCIDENT COMMAND POST

The IC determines the location of the ICP based on the event and may use the Hanford Fire Department Mobile Command Unit if necessary. 274-AW maybe used by the BED for initial response management and may be used as the formal ICP as determined by the IC. Emergency resource materials are stored at 274-AW in the ICP.

11.0 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.

12.0 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 173-303-201(14)(k) or WAC 173-303-360(2)(k).

13.0 PLAN LOCATION AND AMENDMENTS

Copies of this plan are maintained at the following location:

- Central Shift Office/ICP, located in 200 East Area.

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

¹ This equipment is for generator response purposes only.

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14.0 REFERENCES

40 CFR 265.196, Interim Status Standards for Owners and Operators of Hazardous Waste Treatment Storage and Disposal Facilities,

DOE/RL-94-02, *Hanford Emergency Management Plan*, U.S. Department of Energy Richland Operations Office.

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.

RPP-23226, *Tank Farms Emergency Planning Hazards Assessment*, Washington River Protection Solutions, LLC, Richland, Washington.

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

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ATTACHMENT A**LISTING OF PROCEDURES**

DOE-0223, *Emergency Plan Implementing Procedures*, RLEP 1.0, “Recognizing and Classifying Emergencies”, Appendix 1-2.A, 200 Area Tank Waste, 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”, U.S. Department of Energy Richland Operations Office.

200 Area Tank Farm Emergency Response Organization, Washington River Protection Solutions, LLC, Richland, WA.

TFC-OPS-OPER-C-24, *Occurrence Reporting*, Washington River Protection Solutions, LLC, Richland, Washington

Tank Farms Emergency Response Procedures

- TF-ERP-001, *Take Cover/Personnel Accountability/and Area Evacuation*
- TF-ERP-004, *Bomb Threat/Suspicious Object Management Plan*
- TF-ERP-005, *Radiological Release*
- TF-ERP-006, *Facility Fire Response*
- TF-ERP-008, *Seismic Event Response*
- TF-ERP-013, *Tank Farm Worker Emergency Response*
- TF-ERP-014, *Event Scene Response and Setup*

Tank Farms Abnormal Operating Procedures

- TF-AOP-001, *Relocation of Personnel*
- TF-AOP-002, *Response to Loss of Compressed Air*
- TF-AOP-005, *Response to Unexpected Tank Temperature, or Flammable Gas Increase or Level Change*
- TF-AOP-007, *Response to Hanford Site Range Fire*
- TF-AOP-008, *Response to High Winds and Dust Storms*
- TF-AOP-010, *Response to Flooding Conditions*
- TF-AOP-011, *Response to Chemical and/or Radiological Events*
- TF-AOP-012, *Response to Unplanned Loss of Electrical Power*
- TF-AOP-013, *Response to Volcanic Ashfall and Snowfall*
- TF-AOP-014, *Response to Lightning*
- TF-AOP-015, *Response to Reported Odors or Unexpected Changes to Vapor Conditions*
- TF-AOP-016, *Response to Criticality Safety Nonconformance*
- TF-AOP-017, *Response to Winter Hazards (Snow, Freezing Rain and Freezing Fog)*

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- TF-AOP-018, *Response to Electrical, Water, Air, or Pressurized Gas Cylinders High Energy Releases*
- TF-AOP-019, *Response to Loss of Radio Communication*
- TF-AOP-020, *Response for Placing Personnel and Equipment in a Safe Condition*
- TF-AOP-021, *Response to Tank Farm Ventilation Upset*

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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 nonsudden release of dangerous waste or dangerous waste constituents to air, soil, or surface or groundwater 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.	FRP Section 8.3. 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.	FRP Section 8.3. BEP section 9.3. Units summons 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.	FRP Section 8.1, 8.2, 8.5 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.	FRP Section 8.1 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.	FRP Section 8.0 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	FRP Section 8.3. BEP section 9.3.
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	FRP Section 8.3. BEP section 9.3.

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REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
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.	The process information chapters of Parts III, V, and VI of the Hanford Facility Dangerous Waste Permit (WA7890008967) describe how each unit meets this requirement. For CAAs, FRP Section 8.0. For CAAs, 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 and 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 arrangements, 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.

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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 any emergency event, including, but not limited to, a fire, natural disaster, explosion, or unplanned sudden or nonsudden release of dangerous waste, hazardous substance, or dangerous waste constituents to air, soil, surface water, or groundwater by a facility. A contingency plan must be developed to lessen the potential impacts of such emergency event, and the plan must be implemented immediately whenever such an emergency event occurs.	DOE/RL-94-02, Sections 1.1 and 1.2.	FRP Section 1.0. 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 their facility for use in emergencies or any sudden or nonsudden 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 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"). When modifications are made to nondangerous waste (non-Hazardous Waste Management Act or nondangerous 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).	FRP Section 1.0. 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 .	FRP Section 6.1 and subsections and Section 6.2, 6.2.1, 6.2.2, 6.2.3, 6.2.4, 6.2.5, 6.2.5.1 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
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(6) , Manifest system, reasons for not accepting dangerous waste shipments;	Requirement is met at the unit level.	FRP Section 6.2.5.1 BEP Section 7.2.5.1

¹ Site-wide and facility/activity-specific emergency procedures are described and in some cases identified in this plan (DOE/RL 94-02) and in facility/activity-specific plans/procedures. The descriptions of actions in this plan and in facility/activity plans/procedures 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 I.C.3 simply because they are described or referenced in this plan or in a facility/activity-specific plan/procedure. 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 I.C.3.

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REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
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 required to have an emergency coordinator is maintained in Permit Attachment 4A. Changing BEDs/BWs is a Class 1 modification, self-implemented.	FRP Sections 3.1 BEP Sections 3.1 The BEP/FRP includes a list of qualified BEDs/BWs or clearly describes the location where the list is maintained at the unit. The BEP/FRP also includes the location where the current or "on-call" BED/BW list is maintained at the unit.
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; and	DOE/RL-94-02, Sections 11.2 and 11.2.8, and Appendix C.	FRP Sections 8.1, 8.2, 8.3, 8.4, 8.5 BEP Sections 9.1, 9.2, 9.3, 9.4, and 9.5
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.	FRP Section 6.1.1 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 must 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.	FRP Section 10.0 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.	Requirement is met at the site level. DOE is responsible for offering documents to offsite entities.
WAC 173-303-350(5)	Amendments. The owner or operator must 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.

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REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-350(5)(a)	(a) Applicable regulations or the facility permit are revised;	DOE/RL-94-02, Section 14.3.1.1.	FRP Section 10.0 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.	FRP Section 10.0 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.	FRP Section 10.0 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.	FRP Section 10.0 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.	FRP Section 10.0 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 173-303-350 , 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 modelling efforts.	DOE/RL-94-02, Sections 2.2.2.1.4, 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 (that is, available to respond to an emergency by reaching the facility within a short period of time) 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, 2.2.1, and 2.2.1.1.	FRP Section 3.1 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 any emergency event identified in WAC 173-303-350 .	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 their 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.	FRP Section 6.1 and subsections, and 6.2 and subsections BEP Section 7.1 and subsections, and 7.2 and subsections

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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 summons assistance by calling the Hanford Patrol emergency number. No offsite assistance is requested by the unit itself.	FRP Section 4.0 BEP Section 4.0
WAC 173-303-360(2)(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.	FRP Section 4.0 BEP Section 4.0
WAC 173-303-360(2)(c)	Concurrently, the emergency coordinator must 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, Sections 4.2 and 2.2.2.1.4.	FRP Section 4.0 BEP Section 4.0
WAC 173-303-360(2)(d)	If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment, they must report their 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 their assessment indicates that evacuation of local areas may be advisable, they must immediately notify appropriate local authorities. They 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.	FRP Section 6.1 BEP Section 7.1
WAC 173-303-360(2)(d)(ii)	(ii) They 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.	FRP Section 4.0 BEP Section 4.0
WAC 173-303-360(2)(e)	(e) Their 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.	FRP Section 4.0 BEP Section 4.0
WAC 173-303-360(2)(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).	FRP Section 6.6 BEP Section 7.6
WAC 173-303-360(2)(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).	FRP Sections 6.2.4 and 6.2.5 BEP Sections 7.2.4 and 7.2.5
WAC 173-303-360(2)(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.	FRP Section 7.2 BEP Section 8.2

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REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-360(2)(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.	FRP Section 7.2.1 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.	FRP Section 7.2.2 BEP Section 8.2.2
WAC 173-303-360(2)(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.	FRP Section 7.2 BEP Section 8.2
WAC 173-303-360(2)(k)	<p>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, they must submit a written report on the incident to the department. The report must include:</p> <ul style="list-style-type: none"> (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.	FRP Section 9.0 BEP Section 11.0

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REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201	Preparedness, prevention, emergency procedures and contingency plans for large quantity generators.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(1)	Applicability. The regulations of this section apply to those areas of a large quantity generator's facility where dangerous waste is generated or accumulated on site.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(2)	A large quantity generator facility must be designed, constructed, maintained and operated to minimize the possibility of fire, explosion, or any unplanned sudden or nonsudden release of dangerous waste, hazardous substance or dangerous waste constituents to air, soil, or surface or groundwater 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 173-303-201(3)	Required equipment. All areas deemed applicable by subsection (1) of this section must be equipped with the following, unless it can be demonstrated to the department that none of the hazards posed by waste or hazardous substance handled at the facility could require a particular kind of equipment specified below. A large quantity generator may determine the most appropriate locations within its facility to locate equipment necessary to prepare for and respond to emergencies:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(3)(a)	(a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;	DOE/RL-94-02, Section 5.2.5.	FRP Section 8.3 BEP Section 9.3.
WAC 173-303-201(3)(b)	(b) A device, such as a telephone (immediately available at the scene of operations) 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.	FRP Section 8.3 BEP Section 9.3 Units summon assistance by calling the Hanford Patrol emergency number. No offsite assistance is requested by the unit itself.
WAC 173-303-201(3)(c)	(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as those 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.	FRP Section 8.1, 8.2, 8.5 BEP Section 9.1, 9.2, 9.5
WAC 173-303-201(3)(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.	FRP Section 8.1 BEP Section 9.1
WAC 173-303-201(4)	Testing and maintenance of equipment. 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.	FRP Section 8.0 BEP Section 8.0
WAC 173-303-201(5)	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.

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REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(5)(a)	(a) Whenever dangerous waste is being poured, mixed, spread, or otherwise handled, all personnel involved must have immediate access (e.g., direct or unimpeded 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 (3) of this section;	DOE/RL-94-02, Section 5.2.12	FRP Section 8.3 BEP Section 9.3
WAC 173-303-201(5)(b)	(b) If there is ever just one employee on the premises while the facility is operating, they must have immediate access (e.g., direct or unimpeded access) to a device, such as a telephone (immediately available at the scene of operation) or a hand-held, two-way radio, capable of summoning external emergency assistance, unless such a device is not required in subsection (3) of this section.	DOE/RL-94-02, Section 5.2.12	FRP Section 8.3 BEP Section 9.3
WAC 173-303-201(6)	Aisle space. The generator 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.	The process information chapters of Parts III, V, and VI of the Hanford Facility Dangerous Waste Permit (WA7890008967) describe how each unit meets this requirement. For CAAs, FRP Section 8.0. For CAAs, BEP section 9.0
WAC 173-303-201(7)	Arrangements with local authorities. The large quantity generator must attempt to make the following arrangements, as appropriate for the type of waste handled at its 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 173-303-201(7)(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 and 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 173-303-201(7)(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 173-303-201(7)(c)	(c) Agreements with state emergency response teams, emergency response contractors, and equipment suppliers;	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 173-303-201(7)(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.

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REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(7)(e)	(e) Where state or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record; and	If authorities decline, the documentation will be maintained in the Hanford Facility Operating Record.	Requirement is met at the site level.
WAC 173-303-201(7)(f)	(f) A facility possessing twenty-four-hour response capabilities may seek a waiver from the authority having jurisdiction (AHJ) over the fire code with the facility's locality as far as needing to make arrangements with the local fire department as well as any other organization necessary to respond to an emergency, provided that the waiver is documented in the generator's operating record.	Since the Hanford Site has its own Fire Department and its own Fire Marshal this requirement does not apply. Also, Hanford has long standing, Mutual Aid Agreements with the local fire departments. The Mutual Aid Agreements are provided in Appendix B to DOE/RL 94-02.	Since the Hanford Site has its own Fire Department and its own Fire Marshal this requirement does not apply. Also, Hanford has long standing, Mutual Aid Agreements with the local fire departments. The Mutual Aid Agreements are provided in Appendix B to DOE/RL 94-02.
WAC 173-303-201(8)	Contingency plan purpose and implementation.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(8)(a)	(a) The large quantity generator must have a contingency plan for the facility. The purpose of a contingency plan and emergency procedures is to lessen the potential impact on the public health and the environment due to any emergency event such as, but not limited to, a fire, natural disaster, explosion, or any unplanned sudden or nonsudden release of dangerous waste, hazardous substance or dangerous waste constituents to air, soil, surface water, or groundwater.	DOE/RL-94-02, Sections 1.1 and 1.2.	FRP Section 1.0 BEP Section 1.0 Identified sections of the BEP/FRP are part of the contingency plan.
WAC 173-303-201(8)(b)	(b) A contingency plan must be developed to lessen the potential impacts of such emergency events, and the plan must be implemented immediately when such emergency events occur.	DOE/RL-94-02, Sections 1.1 and 1.2.	FRP Section 1.0 BEP Section 1.0 Identified sections of the BEP/FRP are part of the contingency plan.
WAC 173-303-201(9)	Contents of a contingency plan.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(9)(a)	(a) Each large quantity generator must have a contingency plan at their facility for use in emergencies or any sudden or nonsudden releases which threaten human health and the environment. If the generator has already prepared a spill prevention control and countermeasures (SPCC) plan in accordance with 40 C.F.R. Part 112, 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. The large quantity generator 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").	DOE/RL-94-02, Sections 1.1 and 1.2. Portions of the Hanford emergency response program are used to meet requirements of WAC 173-303-201(8) through 201(14) under the provision of -201(9).	FRP Section 1.0 BEP Section 1.0 Identified sections of the BEP/FRP are part of the contingency plan.
WAC 173-303-201(9)(b)	(b) The contingency plan must contain the following:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.

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REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(9)(b)(i)	(i) A description of the actions which facility personnel must take to comply with this section and WAC 173-303-145 ;	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 are identified in those sections of this matrix. Actions to comply with WAC 173-303-145 are addressed in DOE/RL-94-02, Section 5.1.2.	FRP Section 6.1 and subsections and Section 6.2, 6.2.1, 6.2.2, 6.2.3, 6.2.4, 6.2.5, 6.2.5.1 BEP Section 7.1 and subsections and Section 7.2, 7.2.1, 7.2.2, 7.2.3, 7.2.4, 7.2.5, 7.2.5.1
WAC 173-303-201(9)(b)(ii)	(ii) 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 large quantity generator, but cannot be transported, pursuant to the requirements of WAC 173-303-370(6) , manifest system, reasons for not accepting dangerous waste shipments;	Requirement is met at the unit level.	FRP Section 6.2.5.1 BEP Section 7.2.5.1
WAC 173-303-201(9)(b)(iii)	(iii) 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 subsection (7) of this section;	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 173-303-201(9)(b)(iv)	(iv) A current list of names and emergency telephone numbers of all persons qualified to act as the emergency coordinator required in this section and this list must be kept up to date. 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. In situations where the large quantity generator facility has an emergency coordinator continuously on duty because it operates twenty-four hours per day, every day of the year, the plan may list the staffed position (e.g., operations manager, shift coordinator, shift operations supervisor) as well as an emergency telephone number that can be guaranteed to be answered at all times;	DOE/RL-94-02, Sections 2.2 and 2.2.1.1 discusses personnel job titles, which will fill duties and responsibilities of the Emergency Coordinator, described in WAC173-303-201(13). 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 central accumulation areas and satellite accumulation areas is maintained in Permit Attachment 4A. Changing BEDs/BWs on this list is not subject to permit modification requirements. Updates to the list will be provided to Ecology per II.A.4.a.	FRP Sections 3.1 BEP Sections 3.1 The list of BEDs/BWs for CAAs and SAAs is maintained and collocated with the BEP/FRP
WAC 173-303-201(9)(b)(v)	(v) 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; and	DOE/RL-94-02, Sections 11.2 and 11.2.8, and Appendix C.	FRP Sections 8.1, 8.2, 8.3, 8.4, 8.5 BEP Sections 9.1, 9.2, 9.3, 9.4, 9.5

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REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(9)(b)(vi)	(vi) 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 (in cases where the primary routes could be blocked by releases of materials or fires).	DOE/RL-94-02, Figure 7-3, and Table 5-1.	FRP Section 6.1.1 BEP Section 7.1.1
WAC 173-303-201(10)	Copies of contingency plan. A copy of the contingency plan and all revisions to the plan must be:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(10)(a)	(a) Maintained at the large quantity generator's facility; and	DOE/RL-94-02, Section 14.3.7.	FRP Section 10.0 BEP Section 12.0
WAC 173-303-201(10)(b)	(b) Submitted by the large quantity generator to all local emergency responders (i.e., 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.	Requirement is met at the site level. DOE is responsible for offering documents to offsite entities.
WAC 173-303-201(11)	<p>Quick reference guide.</p> <p>(a) A large quantity generator who first becomes subject to these provisions and any current large quantity generator who is amending its contingency plan must at that time submit a quick reference guide of the contingency plan to the local emergency responders identified in subsection (10) of this section.</p> <p>(b) Contents of the quick reference guide. This quick reference guide must include the following elements:</p> <ul style="list-style-type: none"> (i) The types and names of dangerous waste in layman's terms and the associated hazards associated with each dangerous waste present at any one time (e.g., toxic paint waste, spent ignitable solvent, corrosive acid); (ii) The estimated maximum amount of each dangerous waste that may be present at any one time; (iii) The identification of any dangerous waste where exposure would require unique or special treatment by medical or hospital staff; (iv) A map of the facility showing where dangerous wastes are generated, accumulated, recycled and treated and routes for accessing these wastes; (v) A street map of the facility in relation to surrounding businesses, schools and residential areas to understand how best to get to the facility and also evacuate citizens and workers; (vi) The locations of water supply (e.g., fire hydrant and its flow rate); (vii) The identification of on-site notification systems (e.g., a fire alarm that rings off site, smoke alarms); and (viii) The name of the emergency coordinator(s) and seven days/twenty-four-hours emergency telephone number(s) or, in the case of a facility where an emergency coordinator is continuously on duty, the emergency telephone number for the emergency coordinator. <p>(c) Generators must update, if necessary, their quick reference guides, whenever the contingency plan is amended and submit these documents to the local emergency responders identified in this section.</p>	Permit Condition II.A.7 and Permit Attachment 9	Requirement is met at the site level.
WAC 173-303-201(12)	Amendments of a contingency plan. The large quantity generator must 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.

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REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(12)(a)	(a) Applicable regulations are revised;	DOE/RL-94-02, Section 14.3.1.1.	FRP Section 10.0 BEP Section 12.0
WAC 173-303-201(12)(b)	(b) The plan fails in an emergency;	DOE/RL-94-02, Section 14.3.1.1.	FRP Section 10.0 BEP Section 12.0
WAC 173-303-201(12)(c)	(c) The generator's 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.	FRP Section 10.0 BEP Section 12.0
WAC 173-303-201(12)(d)	(d) The list of emergency coordinators changes; or	DOE/RL-94-02, Section 14.3.1.1.	FRP Section 10.0 BEP Section 12.0
WAC 173-303-201(12)(e)	(e) The list of emergency equipment changes.	DOE/RL-94-02, Section 14.3.1.1.	FRP Section 10.0 BEP Section 12.0
WAC 173-303-201(13)	Emergency coordinator. At all times, there must be at least one employee either on the facility premises or on call (that is, available to respond to an emergency by reaching the facility within a short period of time) 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 subsection (9) of this section, 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 and to implement the necessary emergency procedures outlined in subsection (14) of this section.	DOE/RL-94-02, Sections 2.2 and 2.2.1.1.	FRP Section 3.1 BEP Section 3.1 Permit Attachment 4A lists the BED/BW for each unit.
WAC 173-303-201(14)	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 173-303-201(14)(a)	(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or 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 173-303-201(14)(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.	FRP Section 6.1 and subsections, and 6.2 and subsections BEP Section 7.1 and subsections, and 7.2 and subsections
WAC 173-303-201(14)(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.	FRP Section 4.0 BEP Section 4.0
WAC 173-303-201(14)(b)	(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.	FRP Section 4.0 BEP Section 4.0
WAC 173-303-201(14)(c)	(c) Concurrently, the emergency coordinator must 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.	FRP Section 4.0 BEP Section 4.0

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REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(14)(d)	(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment, they must report their findings as follows:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(14)(d)(i)	(i) If their assessment indicates that evacuation of local areas may be advisable, they must immediately notify appropriate local authorities. They 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.	FRP Section 6.1 BEP Section 7.1
WAC 173-303-201(14)(d)(ii)	(ii) They must immediately notify the department and either the government official designated as the on-scene coordinator, or the National Response Center (using their twenty-four-hour toll free number 1-800-424-8802).	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.	FRP Section 4.0 BEP Section 4.0
WAC 173-303-201(14)(e)	(e) Their 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.	FRP Section 4.0 BEP Section 4.0
WAC 173-303-201(14)(f)	(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).	FRP Section 6.6 BEP Section 7.6
WAC 173-303-201(14)(g)	(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).	FRP Sections 6.2.4 and 6.2.5 BEP Sections 7.2.4 and 7.2.5
WAC 173-303-201(14)(h)	(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.	FRP Section 7.2 BEP Section 8.2
WAC 173-303-201(14)(i)	(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 173-303-201(14)(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.	FRP Section 7.2.1 BEP Section 8.2.1
WAC 173-303-201(14)(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.	FRP Section 7.2.2 BEP Section 8.2.2
WAC 173-303-201(14)(j)	(j) The large quantity generator must notify the department, and appropriate local authorities, that the facility is in compliance with this subsection (14)(i) of this section before operations are resumed in the affected area(s) of the facility.	DOE/RL-94-02, Section 5.1.2.2.	FRP Section 7.2 BEP Section 8.2

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REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(14)(k)	<p>(k) The large quantity generator 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, they must submit a written report on the incident to the department. The report must include:</p> <ul style="list-style-type: none"> (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.	FRP Section 9.0 BEP Section 11.0

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1.0 PURPOSE AND SCOPE

This procedure provides specific requirements and guidelines for conducting accurate, reliable, and uniform routine and emergency communications through the use of the Hanford Site Emergency Alerting System, Shift Office Event Notification (SOEN) system, local sirens and alarms, and general plant telephone systems.

This procedure implements communications requirements from DOE O 422.1, “Conduct of Operations,” as delineated in TFC-PLN-05. This procedure applies to all personnel using face-to-face communication or electronic communication equipment (e.g., radios, telephone, etc.) within tank farm facilities.

2.0 IMPLEMENTATION

This procedure is effective on the date shown in the header.

3.0 RESPONSIBILITIES

Responsibilities are contained within Section 4.0.

4.0 PROCEDURE

4.1 Emergency and Normal Operation Communications

Phonetic alphabet during critical communications is recommended, though not required, to ensure verbal communication is understood. The phonetic alphabet is provided in Table 1.

Commonly used operations radio base stations and areas of responsibility are provided in Table 2.

Information for Emergency Communications is intended as general reference. It is not anticipated that this procedure be actively used during an emergency event.

The Shift Manager:

1. Ensures communication system(s) are available that can transmit emergency and normal operational information quickly to all affected personnel. (7.1.1)
2. Ensures radios, are available to on-duty shift crews and that the following communication expectations are understood: (7.1.1, 7.1.3)
 - Radios are the primary communication device for tank farms work crews so they can be quickly contacted by the shift manager during emergencies and to form a communication link with the control area, where applicable. (7.1.1)
 - Work teams entering a tank farm boundary must be equipped with at least one radio per work group.
 - A “radio check” shall be performed to confirm transmit and receive functionality after first turning the radio on and any time the radio’s operability is in doubt. (7.1.1)

Central Shift Manager will use the “ALL CALL” function radios whenever time urgent communication is needed to all personnel.

3. Activates the following emergency communication system(s), as appropriate for the emergency. (7.1.1)
 - **Hanford Site Emergency Alerting System** – Provides a means to contact personnel on the site regardless of their location using outdoor warning sirens, message reader boards, computer emergency messaging, the telephone notification system, tone alert radios, and local radio transmission (530 AM). Activated through contact with the Hanford Emergency Operations Center Shift Office.
 - **Telephone Notification System** – Transmits emergency or other pertinent information to Hanford site land phone lines and cellular telephones. Activated through contact with Patrol Operations Center (POC).
 - **Local Alarms & Sirens** – Used to notify personnel of fire, airborne radiological contamination, waste tank pressurization; any event requiring take cover or evacuation response. These local alarms are activated manually or by an automated system.
 - **General Plant Telephone System** - Emergency/Important Telephone Numbers.
 - Fire, First Aid, Patrol 911 or 373-0911
 - Central Shift Office 373-2689
 - TMACS 373-6985
 - **Public Address System (PAX)** – Used to notify personnel where PAX systems are available and appropriate for use. Control areas, as defined in TFC-OPS-OPER-C-59, should have the capability to override normal PAX communications for emergency announcements in areas where both are used (in some applications, this responsibility may not be limited to the Shift Manager). (7.1.1)
 - **Radio** – Contact Hanford Patrol by depressing the orange button to engage the Emergency Channel. Press the transmit to talk button and wait for transmit initiation tone. Release the button and wait for acknowledgement by Hanford Patrol, and then state the type of emergency and location.
4. Provides a means to receive emergency communications to personnel working in areas where standard communication means are not reliable (e.g., dedicated personnel, etc.). (7.1.1)
5. Ensures personnel working where dangerous waste is poured, mixed, spread, or handled have access to an emergency communication device. (7.1.1)
6. Supports periodic alarm testing to ensure functionality and ability to contact personnel quickly. These tests occur via: (7.1.1)
 - Site emergency preparedness siren testing

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- Fire systems maintenance tests fire alarms
- Work Management System work orders are created to test continuous air monitor and pressurization alarms.

4.2 Operational Communication Requirements

1. Operations personnel:

- When performing work within the boundaries of a tank farm:
 - Hand held radios shall be the primary communication device.
 - Ensure there is at least one radio per work group.
- A “radio check” shall be performed to confirm transmit and receive functionality after first turning the radio on and any time the radio’s operability is in doubt. (7.1.1)
 - Performance of the operational check required for radios specified in the Building Emergency Plan shall be documented to satisfy environmental requirements. The documented check is required for only radios checked out from the Central Shift Office in 274AW and shall be documented on the Central Shift Office Radio Log (A-6007-984)(7.1.3)
 - The check-in / check-out process used by facilities other than the Central Shift Office at 274AW may be documented as a best management tracking tool (not using the Central Shift Office Radio Log). Format for these may vary and are not required to be submitted as records.
 - Radios with an “unsat” operational check shall be returned to the radio issuer who will initiate corrective actions. When using site form A-6007-984, the “unsat” condition and any corrective actions needed or taken to address the condition shall be recorded on the Site Form comment page.
 - Comments documented on site form A-6007-984 may be consolidated on as few forms as needed for the month. If no comments are made or required for the reporting period, one comment page shall be included in the record with indication there were no comments (for example, diagonal line the page, enter “N/A”, “None” or “No Comments”, etc.).
- Perform formal operational communications using standard terminology and the guidelines given in this procedure.
- Use of the phonetic alphabet (see Table 1) is recommended to ensure verbal communication is understood.
- Verbatim repeat back is required for the clear transmission of all operational direction and data.

- Three-way communication is required for the clear transmission of operational direction and data through remote means such as:
 - Radio
 - Telephone.
- Three-way communication is required when identified by the supervisor at the pre-job brief for specific steps in the procedure or work package, such as critical steps.
- Only abbreviations and acronyms obtained from the approved list should be used in facility communications (located on the Procedures web page). (7.1.1)
- Use clear and concise instructions and communications. Keep the message as short as possible while still effectively communicating the information. (7.1.1)
- The sender and receiver of communications shall identify themselves to each other. (7.1.1)
- Observe postings for areas or equipment where portable radio use is prohibited or may otherwise affect equipment operation. (7.1.1)
- Turn in radios to the proper location at the end of each shift.
- Report defective equipment to management.

2. Central Shift Managers:

NOTE: The SOEN system can send event notification to recipient's cell phone, e-mail, reader boards, IH communication boards, HLAN computers, public address (PA) system. Users' access to the SOEN web application is through the following URL address:
<http://soen.wrps.rl.gov/app>

- Issue **Shift Office Event Notification** (SOEN) messages to relay operational information to selected personnel as needed.
- Ensure personnel use appropriate communications equipment: (7.1.2)
 - Hand-held radios shall be the primary communication device for work within the boundaries of a tank farm.
 - Ensure there is at least one radio per work group.
- Use the "ALLCALL" function on radios whenever time urgent communication is needed to all personnel.
- Identify the radio channels available for use by personnel. (7.1.1)
- Ensure verbal communications are conducted in accordance with this procedure.

- Post areas with signs identifying radio limitations (such as “Radio Usage is Prohibited”) where it has been determined that radio use may electronically interfere with the equipment in the area. (7.1.1)
- Where PAX/PA systems are in use, reserve the majority of the PAX/PA system use for announcements during major evolutions. Use of the PAX/PA system for general announcements or paging personnel as a last resort, when all of routine means of communication (general plant telephone, portable radios) have failed to communicate the message. (7.1.1)

3. Line managers:

- Ensure defective equipment is repaired or discarded.
- Ensure verbal communications are conducted in accordance with this procedure.

4.3 Preferred Practices and Three-Way Communications

- | | |
|-----------------|--|
| Sender/Receiver | <ol style="list-style-type: none"> 1. Communicate emergency and plant operating directions, requests, and reports in concise and impersonal terminology. (7.1.1) <ul style="list-style-type: none"> • Use simple, clear and concise messages. • Avoid giving multiple actions in a single communication. • Avoid informal slang terms. 2. Give detailed, understandable, and complete directions using 3-way communications. (7.1.1) |
|-----------------|--|

EXAMPLE:

[Shift Manager] “Shift Manager to A-3 Operator”

[A-3 Operator] “A-3 Operator”

[Shift Manager] “A-3 Operator take AN103 level reading and report the reading back to the shift manager.”

[A-3 Operator] “Understand, take AN103 level reading and report the reading back to the shift manager.”

[Shift Manager] “That is correct.”

3. Avoid using words that sound similar when used over a communication system:

EXAMPLE:

Preferred: RAISE and LOWER.
Discouraged: INCREASE and DECREASE

4. Give wind directions in terms of “from” and “to.”
5. Express the referenced system when discussing a system that operates at a vacuum or pressure:

EXAMPLE:

Preferred: “Adjust vacuum or pressure to 2 inches water gauge.”

Discouraged: “Increase vacuum.” Avoid phrases that could either mean take the vacuum to the more negative state or make the vacuum more positive.

6. Use units when communicating numerical measurements:

EXAMPLE:

Preferred: “2 inches water gauge vacuum.”

Discouraged: “2.” Include the units when reporting radiation contamination readings (millirem per hour, disintegrations per minute, etc.).

Sender/Receiver

7. Identify clearly who the sender and intended receiver are. (7.1.1)

EXAMPLE:

[Shift Manager] “Shift manager to A-3 Operator”

[A-3 Operator] “A-3 Operator”

[Shift Manager] “A-3 Operator take AN 103 level reading and report the reading back to the shift manager.”

[A-3 Operator] “Understand, take AN103 level reading and report the reading back to the shift manager.”

[Shift Manager] “That is correct.”

Table 1. Phonetic Alphabet.

A	Alpha	N	November
B	Bravo	O	Oscar
C	Charlie	P	Papa
D	Delta	Q	Quebec
E	Echo	R	Romeo
F	Foxtrot	S	Sierra
G	Golf	T	Tango
H	Hotel	U	Uniform
I	India	V	Victor
J	Juliett	W	Whiskey
K	Kilo	X	X Ray
L	Lima	Y	Yankee
M	Mike	Z	Zulu

Table 2. Commonly Used Operations Radio Base Stations.

RADIO CALL STATION	RESPONSIBILITY
STATION 20	ST TEAM AREA DAYSHIFT MANAGER
STATION 22	CENTRAL SHIFT OFFICE
STATION 25	242-A CONTROL ROOM
STATION 29	CENTRAL CONTROL ROOM
STATION 69	702AZ CONTROL ROOM
CAR 11	PROD OPS HPT (EMERGENCY RESPONSE)
CAR 54	WEST AREA HPT
ER-1	AW/AY/AZ NCO (EMERGENCY RESPONSE)
ER-2	AP/AN/SY NCO (EMERGENCY RESPONSE)
NOTE: This table is for example only and is not intended to be all-inclusive.	

CENTRAL SHIFT OFFICE RADIO LOG

Radio ID	Operation Radio Check		Print First and Last Name	Signature	Date	Time	Return Date
	Sat	Unsat					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					
	<input type="checkbox"/>	<input type="checkbox"/> Return To Issuer					

Radios not passing operational check should be returned to issuer.

