Changes “Other Than Inconsequential” Require These Additional Reviews:

Radiological Controls
Lee Livesey’s Organization

USQ # TF-18-1615-S, Rev. 0

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-7</td>
<td>10/03/2018</td>
<td>Operations request</td>
<td>Removed content and addenda from the procedure that has now been added to TF-ERP-014.</td>
</tr>
<tr>
<td>P-6</td>
<td>12/14/2017</td>
<td>Operations request</td>
<td>Attachment 1: added new rows for AX Farm POR-126 &amp; PR-127. Added new row for T Farm POR-06. Struck out row for C Farm POR-008</td>
</tr>
<tr>
<td>P-5</td>
<td>10/10/2017</td>
<td>Inconsequential change</td>
<td>Deleted a blank page at end of procedure that gave improper page count.</td>
</tr>
<tr>
<td>P-4</td>
<td>10/09/2017</td>
<td>Address WRPS-PER-2017-1985</td>
<td>Steps 2.1.18.1 and 2.1.18.2 modified PPE statement. Attachment #4 Note was modified and added condition to Step 16. Modified the briefing steps in Attachment 5.</td>
</tr>
<tr>
<td>P-3</td>
<td>08/31/2017</td>
<td>Operations request</td>
<td>Increased clarity of Attachment 4 and PPE.</td>
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Reference

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NOTE - Actions in this procedure can be performed in any logical order as directed by Central Shift Manager (CSM)/Building Emergency Director (BED).

- This procedure is designed to be used by the CSM/BED or members of the Emergency Response Organization.

- This procedure is not designed to be used as a stand-alone procedure. It is designed to augment DOE-0223, RLEP 1.1, Section 3.1 to provide information for evaluation of Emergency Action Levels (EALs) and coordinating emergency response actions.

- This procedure applies to WRPS personnel and subcontractors doing work in 200 East Area, 200 West Area (excluding the 222-S Laboratory Complex), and the portion of 600 Area controlled by WRPS. This procedure also applies to all equipment in these areas controlled by WRPS.

1.0 INITIATING CONDITIONS
The initiating conditions below are pre-identified EALs which should be reviewed for classification prior to proceeding further in this procedure.

- DST/SST/DCRT active ventilation system release
- Waste Transfer System release
- Contamination spread control
- Waste tank fire/explosion or hazardous facility fire/explosion
- Waste confinement barrier dose rate exceeds 250 mR/hr general area (open window) upon approach to a waste transfer system.
2.0 ACTIONS

2.1 Initial Actions

NOTE - Actions in this procedure can be performed simultaneously or in any logical order as directed by CSM/BED.

- Medical treatment of injuries takes precedence over radiological considerations. This means the treatment or transport of potentially serious injuries should not be delayed to perform radiological surveys of the individual.

2.1.1 CONFIRM the following:

- SWIM (Stop, Warn, Isolate, and Minimize) actions have been performed at the event scene, in accordance with TF-ERP-013
- Workers have relocated a minimum of 100 meters (~330 feet) upwind of the release point.

2.1.2 PERFORM take cover protective actions in accordance with TF-ERP-001.

2.1.3 CALL HFD (911 or 373-0911 from a cell phone) AND PROVIDE all information available.

2.1.4 IF personnel have come into contact with radiological hazards, PERFORM OR ENSURE the following:

2.1.4.1 SEGREGATE potentially contaminated personnel from presumed non-contaminated personnel.

2.1.4.2 PROVIDE first aid to injured AND ENSURE seriously injured are promptly attended to, including transport to medical facilities as appropriate.

2.1.4.3 ENSURE Radiological Control personnel are performing appropriate decontamination of contaminated workers using decontamination facilities in safe locations or field decontamination for minor contamination events as required.

2.1.4.4 NOTIFY RadCon First Line Management/Radiological Hazard Assessor.
2.1 Initial Actions (Cont.)

2.1.5 **ENSURE** all personnel who were in or near the radiological event receive medical surveillance. (See TFC-ESHQ-S_CMLI-C-02, for guidance.)

2.1.6 **IF** the event involves radiological hazards, **EVALUATE** the need for special bioassay in accordance with TFC-ESHQ-RP_DOS-C-04 Internal Dosimetry, Section 4.3.

2.1.7 **CONSIDER** implementation of the Resource Conservation And Recovery Act Contingency Plan, **IF** the following three conditions exist:

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

**AND**

2a.) 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),

**OR**

2b.) The unplanned fire or explosion occurred at a facility or transportation activity subject to RCRA contingency plan requirements;

**AND**

3.) Time-urgent response from an emergency services organization was required to mitigate the event, or a threat to human health or the environment exists.

2.1.8 **IMPLEMENT** BED Check-Listed duties from DOE-0223, RLEP 1.1, Section 3.1.
2.1 Initial Actions (Cont.)

WARNING
A release involving a waste tank fire/explosion or a transfer line leak to the environment may result in high concentrations of radiological/toxicological releases including sodium hydroxide (caustic) or ammonia.

2.1.9 IMMEDIATELY REPORT event to Environmental On-Call per Environmental On-Call List in accordance with TF-REC-001.

2.1.10 REVIEW hazard assessment information from event scene.

2.1.11 DIRECT the following personnel establish event scene operations a minimum of 100 meters (~330 feet) upwind from the release point in accordance with TF-ERP-014:
- Facility Operations Specialist (FOS)
- Radiological Hazards Assessor (RHA)
- Chemical Hazards Assessor (CHA)
- Operations Section Chief (OSC).

2.1.12 DIRECT RHA, FOS, and CHA to perform the following:

2.1.12.1 REQUEST IHT and HPT support to obtain monitoring data at the event scene.

2.1.12.2 REVIEW applicable transfer/process memo to obtain waste tank content information for potential hazards (e.g., radiological, mercury, sodium hydroxide, ammonia, etc.).

2.1.12.3 DETERMINE best estimate for worse case concentrations that may be present at event scene.

2.1.12.4 REVIEW DOE-0223, RLEP 3.8 “Protective Actions” (Appendices L, M, N) for determination of emergency exposure limits.

2.1.13 PROVIDE information from Step 2.1.12 to all responders, HFD and Hanford Patrol (HP).
2.1 Initial Actions (Cont.)

2.1.14 DIRECT the FOS to coordinate establishing event scene boundary control zones for hot, warm, and cold zones with the OSC in accordance with TF-ERP-014.

2.1.15 INITIATE actions to stabilize release by implementing Section 2.1 for Condition 1 through Condition 5 as appropriate to the situation.

2.1.16 IF mitigating actions are to be performed by non-HFD, Hazardous Materials Response Team, or Patrol personnel, PERFORM the following:

2.1.16.1 REVIEW appropriate sections of this procedure (Condition 1 through Condition 5) for recommendations on event mitigation AND

DETERMINE appropriate steps to mitigate event.

2.1.16.2 CONFER with HFD Incident Commander (IC) and HP Shift Commander AND

OBTAIN their concurrence for mitigation objectives.

2.1.16.3 PERFORM chosen mitigating actions.
2.1 **Initial Actions (Cont.)**

**Condition 1 - Initial Actions for DST/SST/DCRT Active Ventilation System Release**

**NOTE** - Actions in this Condition may be performed in any logical order as directed by CSM/BED.

2.1.17 **IF** operating DST/SST/DCRT ventilation system has breached HEPA filters, or damaged duct work, **SECURE** affected ventilation system.

2.1.18 **DIRECT** appropriate personnel to shut down the operating ventilation system using one of the following methods:

- Remotely from HMI or MCS (when possible)

  OR

- Local disconnect switch

  OR

- Remotely using electrical disconnect switch and PPE specified in Attachment 1. (Electrical disconnect switches should be manipulated by an electrician, if immediately available.)

  OR

- Remotely by requesting Hanford Site Utilities at 373-2321 to isolate power to the affected farm.

2.1.19 **SECURE** open confinement/containment systems from outside environment by any of the following:

- Cover opening with plastic
- Cover with insulating foam
- Cover with tape, etc.

2.1.20 **INITIATE** actions to prevent contamination spread (including wind dispersion of soil) using any of the following (Release mitigation must address re-suspension of soil contamination to be compliant with Authorization Basis accident analysis assumptions):

- Chemical sealant (fixative)
- Sand, dirt, gravel, plastics, etc.
- Water spray or sprinklers
- Other appropriate measures.
2.1 Initial Actions (Cont.)

Condition 2 - Initial Actions for Waste Transfer System Release

2.1.21 IF a waste transfer is in progress, SHUT DOWN transfer pump using normal control switch.

2.1.21.1 IF the 242-A Evaporator is in Operation Mode and slurrying out, SHUT DOWN P-B-2 pump AND PLACE the following valves in Block Flow position.
- HV-CA1-2 and
- HV-CA1-2A.

2.1.21.2 IF unable to shut down transfer pump(s) using control switch, ISOLATE electrical power to transfer pump using electrical breakers.

2.1.21.3 IF unable to safely reach transfer pump main electrical breaker, PERFORM the following:
   a. CONTACT Site Electrical Utilities at 373-2321.
   b. REQUEST assistance in isolating electrical power to transfer pump.
   c. ISOLATE electrical power to impacted tank farm.

NOTE - Waste leaks into transfer system structures (e.g., process pits, diversion boxes, vault pits, cleanout boxes, double-contained receiver tanks, catch tanks, and DST annuli) may result in unfavorable flammable gas conditions within the structure.

2.1.22 IF waste leaks into transfer system structures (e.g., process pits, diversion boxes, vault pits, cleanout boxes, double-contained receiver tanks, catch tanks, and DST annuli) and waste level is > 10% of a waste transfer-associated structure volume, TAKE actions to address potential flammable gas hazards (e.g., flammable gas monitoring, removal of waste).
2.1 Initial Actions (Cont.)

Condition 2 - Initial Actions for Waste Transfer System Release (Cont.)

2.1.23 **INITIATE** actions to prevent contamination spread (including wind dispersion of soil) using any of the following (Release mitigation must address re-suspension of soil contamination to be compliant with Authorization Basis accident analysis assumptions):

- Chemical sealant (fixative)
- Sand, dirt, gravel, plastics, etc.
- Water spray or sprinklers
- Cover blocks or plastic
- Other appropriate measures.
2.1 Initial Actions (Cont.)

Condition 3 - Initial Actions for DST/SST/DCRT Tank Pressurization

NOTE - Actions in this Condition may be performed in any logical order as directed by CSM/BED.

2.1.24 EVALUATE applicable energy source(s) causing pressurization.

2.1.24.1 IF pressurization is due to high temperature caused by thermal reaction, GO TO Step 2.1.25.

2.1.24.2 IF pressurization is due to a gas release event or other phenomena, GO TO Step 2.1.27.

High Temperature by Thermal Reaction

2.1.25 DEVELOP action plan for cooling waste tank.

2.1.25.1 IF assistance is required in development of an action plan, CONTACT Engineering.

2.1.26 GO TO Step 2.1.27.
2.1 Initial Actions (Cont.)

Condition 4 - Initial Actions for Contamination Spread Control

2.1.27 **INITIATE** actions to prevent contamination spread (including wind dispersion of soil) using any of the following (Release mitigation must address re-suspension of soil contamination to be compliant with Authorization Basis accident analysis assumptions):

- Chemical sealant (fixative)
- Sand, dirt, gravel, plastics, etc.
- Water spray or sprinklers
- Other appropriate measures.
2.1 Initial Actions (Cont.)

Condition 5 - Initial Actions for Waste Tank Fire/Explosion or Hazardous Facility Fire/Explosion

NOTE - Actions in this Condition may be performed in any logical order as directed by CSM/BED.

2.1.28 **INITIATE** actions to prevent contamination spread (including wind dispersion of soil) using any of the following (Release mitigation must address re-suspension of soil contamination to be compliant with Authorization Basis accident analysis assumptions):

- Chemical sealant (fixative)
- Sand, dirt, gravel, plastics, etc.
- Water spray or sprinklers
- Other appropriate measures.
3.0 RECOVERY

3.1 Termination/Exit Criteria

Declared emergency has been terminated in accordance with RLEP 3.4, Event Termination, Reentry, and Recovery “Attachment A”

OR

Applicable actions from this procedure have been completed and the radiological release has been mitigated.

3.2 Re-Entry and Recovery

3.2.1 IF an emergency has been declared, DEVELOP AND IMPLEMENT a recovery plan per DOE-0223, RLEP 3.4. (Hanford Emergency Operations Center (EOC) performs this step with input from IC and BED.)

3.2.2 IF this procedure directs you to other documentation that requires filling in attachments or records, RETAIN original completed copies of all attachments for record retention in accordance with TFC-BSM-IRM_DC-C-02.

4.0 RECORDS

The performance of this procedure generates no records.

The record custodian identified in the Company Level Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.
### Attachment 1 - Electrical Disconnect Switches and PPE for Step 2.1.18

<table>
<thead>
<tr>
<th>Farm</th>
<th>Affected Primary Exhauster</th>
<th>Circuit Breaker/Disconnect Switch No.</th>
<th>Location (Building)</th>
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<tbody>
<tr>
<td>AN</td>
<td>A and B</td>
<td>AN271-EDS-DS-127</td>
<td>241-AN-271 (Southeast exterior wall)</td>
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<td>AP</td>
<td>A and B</td>
<td>AP241-EDS-MTS-001 (OFF POSITION)</td>
<td>Normal Power AP241-EDS-BKR-100</td>
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<td></td>
<td></td>
<td>Alternate Power AP241-EDS-DS-002</td>
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<td>East of 271 Building on pole</td>
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<tr>
<td>AW</td>
<td>A and B</td>
<td>AW271-EDS-BKR-115</td>
<td>241-AW-271 (West interior wall)</td>
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<td>MCC AW271-EDS-MCC-001</td>
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<td>Compartment D-1</td>
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<td>A701-EDS-MCC-003</td>
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<td>AY/AZ</td>
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<td>Filter Room B 102</td>
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<td>SY</td>
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<td>241 SY-272 (Northeast wall)</td>
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<td>T241-EDS-DS-120</td>
<td>Inside T Farm, South side near</td>
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<tr>
<td></td>
<td></td>
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<td>change trailer</td>
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</table>

### SPECIAL INSTRUCTIONS:

1 Use of an alternative disconnect switch is allowed if authorized by CSM.

**PPE**

Operation of electrical disconnect switches with doors closed and covers in place shall require as a minimum:

- Hearing protection
- Non-melting (untreated natural fiber) pants and long sleeve shirt
- Safety glasses
- Leather gloves.