Tank Farm Abnormal Operating Procedure

Response to Electrical, Water, Air, or Pressurized Gas Cylinders High Energy Releases

Changes “Other Than Inconsequential” Require These Additional Reviews:

Radiological Controls:
Central Radiological Controls Organization

USQ # TF-18-1917-D, 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>G-1</td>
<td>12/12/2018</td>
<td>Periodic Review/ Field Change</td>
<td>Added a section within the procedure that involves actions pertaining to responding to the loss of air pressure. Corrected typo in Paragraph 3.1.8. Modified Stamp on page one.</td>
</tr>
<tr>
<td>G-0</td>
<td>10/12/2016</td>
<td>Periodic Review</td>
<td>The changes made during periodic review cycle are considered to be inconsequential so applied GCX-2.</td>
</tr>
<tr>
<td>F-0</td>
<td>01/05/2015</td>
<td>Periodic review</td>
<td>The procedure is covered by a General Hazards Analysis so deleted the Warning. Clarified when to contact Utilities. Modified Step 4.1.1 to add Action verb per TFC-OPS-OPER-STD-01.</td>
</tr>
<tr>
<td>E-3</td>
<td>09/18/2014</td>
<td>Operations request</td>
<td>Changed how you send SOEN messages to standardize the process</td>
</tr>
<tr>
<td>E-2</td>
<td>07/18/2014</td>
<td>Reference Update</td>
<td>Update reference from TFC-OPS-OPER-C-56 to TF-REC-001</td>
</tr>
</tbody>
</table>
1.0 AFFECTED PERSONNEL, FACILITIES, EQUIPMENT, OR AREAS

This procedure applies to WRPS personnel and subcontractors doing work in 200 East Area, 200 West Area, and 600 Area controlled by WRPS and equipment in these areas.

242-A Evaporator and the 222-S Laboratory are excluded from the scope of this procedure.

2.0 ENTRY CONDITIONS

Uncontrolled release of high energy from the following sources:
- Electrical systems
- Water systems
- Air systems
- Pressurized gas cylinders.

3.0 ACTIONS

3.1 Immediate Actions

3.1.1 STOP work in affected area AND

CONFIRM personnel in immediate area have been moved to a safe, upwind location.

3.1.2 WARN others to remain clear of affected area.

3.1.3 ANNOUNCE entering TF-AOP-018 over Tank Farm radio channel(s) AND

SEND SOEN message that includes the following:
- Entry into TF-AOP-018
- Event and location
- Required actions for affected personnel/protective actions as applicable
- Access approval and authority as applicable.

3.1.4 ISOLATE affected area to prevent inadvertent personnel exposure to hazards.

3.1.4.1 EVALUATE need for personnel protective actions, per TF-ERP-001.
3.1 Immediate Actions (Cont.)

3.1.5 MINIMIZE exposure to hazards by controlling isolation boundaries.

**Water Release**

3.1.6 IF release is from water, and if water is in or near electrical components, PRIOR to attempting to isolate water source, DE-ENERGIZE affected area electrical circuits.

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**CAUTION**

Shutdown of control systems can result in partial or total loss of instrumentation and control plus subsequent loss of processing/monitoring operations.

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3.1.6.1 IF safe to do so, ISOLATE release by closing an upstream isolation valve.

3.1.6.2 NOTIFY the following personnel of water release:
- 200 Area Utilities at 373-2748
- Facility Management.

3.1.7 IF water is migrating from radiologically contaminated area(s) (URMA, SCA, CA, HCA, ARA), EXIT this procedure AND ENTER TF-AOP-011.

3.1.8 IMMEDIATELY REPORT all spills and/or releases to Environmental On-Call list in accordance with procedure TFC-ESHQ-ENV_FS-C-01. This includes all raw/waste water discharges to surface contamination areas.
3.1 Immediate Actions (Cont.)

**Electrical**

3.1.9 IF release involves non-premises electrical wiring (e.g. substation, overhead voltage lines) CONTACT Electrical Utilities at 373-2321 on day-shift and the EOC at 376-2900 on off-shift.

3.1.10 IF release involves premises electrical wiring (e.g., Motor Control Centers, Relay Cabinets) and occurs during normal day shift hours, CONTACT the electrical supervisor from the appropriate maintenance shop for guidance and craft direction.

3.1.11 IF release involves premises electrical wiring (e.g., Motor Control Centers, Relay Cabinets) and occurs during backshift hours, CONTACT the appropriate on-call maintenance supervisor for guidance.

**Pressurized Cylinder**

3.1.12 IF release is from pressurized cylinders, DETERMINE if cylinder content is flammable or toxic.

3.1.13 IF release is flammable or toxic

OR

IF there are any injured personnel, CONTACT Hanford Fire Department at 911 (373-0911 if calling from cell phone) AND

PERFORM the following:

3.1.13.1 PROVIDE all information available.

3.1.13.2 REQUEST medical assistance.

3.1.13.3 NOTIFY Tank Farms Industrial Health and Safety organization of event AND

REQUEST assistance.

3.1.13.4 REQUEST Hazardous Material Response Team assistance.
3.1 Immediate Actions (Cont.)

Pressurized Cylinder (Cont.)

3.1.14 IF particulate matter (dust) from radiologically contaminated area(s) (CA, HCA, ARA) was blown into the air, EXIT this procedure AND ENTER TF-AOP-011.

3.1.15 IF flammable or toxic gases were involved or if particulate matter (dust) from chemically contaminated area(s) were blown into the air, NOTIFY Environmental per Environmental On Call List.

3.1.16 IF there is no risk of personal injury, STOP release.

3.1.17 ENSURE cylinder has been isolated.

3.1.18 ENSURE appropriate personnel/organizations are notified to have cylinder removed once it has been isolated/depressurized.

Air Pressure Loss

3.1.19 IF the air pressure release is located in an area with no potential for the spread of radioactive contamination, (eg. NOT in an RBA, URM, CA, SCA, etc):

3.1.19.1 ISOLATE the release AND CLOSE an upstream valve if safe to do so.

3.1.20 IF the air pressure release is located in an area with the potential for the spread of radioactive contamination, (eg. IN an RBA, URM, CA, SCA, etc):

3.1.20.1 SECURE the area.

3.1.20.2 ISOLATE the release AND CLOSE an upstream valve if safe to do so.

3.1.20.3 NOTIFY Radiological Controls Organization.

3.1.20.4 ENTER TF-AOP-011.
3.2 Administrative Actions

3.2.1 EVALUATE the need to enter TFC-OPS-OPER-C-24 for categorizing and/or reporting abnormal event or occurrence.

3.2.2 NOTIFY management per TFC-OPS-OPER-C-57.

3.2.3 EVALUATE the need to notify Environmental on-call per procedures TFC-ESHQ-ENV_FS-C-01 and TF-REC-001.

3.2.4 INITIATE repairs or work requests to systems that may have caused unexpected condition.

3.2.5 CONDUCT a critique to assess the preparation for and response to the event. Representatives from the following groups should be invited as a minimum:
  - Engineering
  - Security & Emergency Services/Events & Investigations
  - Safety Department
  - Operations personnel on duty at the time of the event (as possible).
4.0 EXIT CRITERIA

4.1 Exit Actions/Criteria

4.1.1 CONFIRM one of the following has occurred:

- An Emergency Action criterion was met (DOE-0223, RLEP 1.1, Appendix 1-2.A)
- A Base Program Operational Emergency criterion was met (TFC-OPS-OPER-C-24. Attachment A)
- A step in Section 3.1 has directed the user to exit the procedure
- The event is stabilized with hazards fully identified and controlled
- All affected personnel have been informed of any remaining abnormal conditions.

NOTE - Actual steps taken for restoration are dependent on the specific situation and facility configuration at the time of the event. The following steps are general guidance only and may be performed concurrently, in any order or omitted by the responsible manager to fit the situation.

4.1.2 ENSURE waste tank farms instrumentation is returned to service and operating per approved operating procedures.

4.1.3 RE-ENERGIZE equipment (i.e., compressors, instrumentation, etc.) in accordance with approved operating procedures.

4.1.4 ENSURE surveys have been completed for flammable or toxic gases per approved operating procedures.

4.1.5 RESTORE systems and components that may have been shut down or disabled due to the leak and/or spill or during course of clean up.

4.1.6 REMOVE any postings, boundary, barriers used to control the leak and/or spill area.

4.1.7 Responsible Manager ENSURE all equipment is cleaned and fit for its intended use before normal operations are resumed.

4.1.8 ENSURE action plans have been implemented and site is considered in a Safe Condition.

4.1.9 ANNOUNCE exiting TF-AOP-018 over Tank Farm radio channel(s) AND SEND SOEN message.
5.0 RECORDS

No records are generated during the performance of this procedure.