Emergency Shutdown of 702-AZ Electrical Systems

Tank Farm Emergency Shutdown Procedure

Change history (≤ last 5 Rev-Mods)

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-0</td>
<td>05/31/2016</td>
<td>Periodic Review</td>
<td>No changes required.</td>
</tr>
<tr>
<td>D-1</td>
<td>09/16/2015</td>
<td>Engineering request</td>
<td>Modified and added several steps for shutting down electrical system. Corrected location designation for Room 105.</td>
</tr>
<tr>
<td>D-0</td>
<td>04/21/2014</td>
<td>Incorporated comments from periodic review. Hazard addressed by GHA</td>
<td>Deleted warning and modified Step 5.1.4.</td>
</tr>
<tr>
<td>C-2</td>
<td>02/28/2013</td>
<td>Operations Request, Because of the util. fusing on line side of the util. transformer, arc flash calculations are required</td>
<td>Replaced automatic assumption of Electrical Level 0 PPE. An EHE is required and will determine PPE.</td>
</tr>
<tr>
<td>C-1</td>
<td>09/07/2011</td>
<td>Operations request</td>
<td>Added warning statements; deleted generator information; modified warning, note; edited steps</td>
</tr>
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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for emergency shutdown of 702-AZ electrical system.

1.2 Scope

This procedure involves 702-AZ electrical system.

2.0 INFORMATION

NONE

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 Because of the utility fusing on the line side of the utility transformer, Arc Flash Calculations are required. To determine proper PPE, an Electrical Hazards Evaluation (EHE) must be performed prior to operating main service disconnect breaker F8X709.

3.2 Radiation and Contamination Control

Work in radiological areas will be performed using a Radiological Work Permit following review by Radiological Control per the ALARA Work Planning procedure TFC-ESHQ-RP_RWP-C-03.

4.0 PREREQUISITES

4.1 Special Tools, Equipment, and Supplies

The following supplies may be needed to perform this procedure:

- PPE as determined by an EHE.
5.0 PROCEDURE

NOTE - This procedure is to be performed only if directed by Shift Manager/BED.

- As long as this procedure is reviewed after completing Attachment 1, WRPS Conduct of Operations allows performance of this procedure using only Attachment 1 and Figure 1. This assures no required actions were overlooked.

5.1 Emergency Shutdown of 702-AZ Electrical System

NOTE - Step 5.1.1 is performed by Shift Manager/BED.

5.1.1 DETERMINE if it is safe to enter 241-AZ-701 Electrical Distribution Building 105.

NOTE - The most logical place for Hanford Utilities Department to isolate electrical power to 702-AZ is at substation C8X569.

5.1.1.1 IF it is not safe to enter Electrical Distribution Building 105, CONTACT Hanford Utilities Dispatcher at 373-2321 AND REQUEST assistance.

5.1.2 DON required PPE.

5.1.3 STANDING to the side of the breaker, not in front, ISOLATE 702-AZ power by placing main service disconnect breaker F8X709 in OPEN/OFF position.

5.1.4 NOTIFY Shift Manager/BED 702-AZ electrical system is isolated.

5.1.5 REMIND Shift Manager/OE of need to notify Environmental on-call representative of 702-AZ electrical system status.

5.1.6 DIRECT all personnel to stop work and immediately exit AY and AZ Farms via change trailer egress tent.

5.1.7 DIRECT all personnel in 241-AZ-701 Generator Building and/or 241-AZ-702 or Ventilation Building to stop work and to immediately exit buildings.

5.1.7.1 WHEN all personnel have exited buildings, CLOSE AND LOCK all building doors.

5.1.8 POST AY and AZ Farms as a Vapor Control Zones (VCZs).
5.1 Emergency Shutdown of 702-AZ Electrical System

5.1.9 REQUEST Shift Manager make a general Tank Farm announcement stating access to AY and AZ Tank Farms is restricted to essential personnel as designated by the Shift Manager.

5.1.10 AS directed by Shift Manager, CONTINUE to restrict access to essential personnel only for the following:
- 241-AY and AZ Tank Farms
- 241-AZ-702 Ventilation Building
- 241-AZ-701 Generator Building.

5.1.11 WHEN directed by Shift Manager, RECOVER from loss of power condition.

5.2 Records

NOTE - No records are generated during the performance of this procedure.
Attachment 1 – 702-AZ Emergency Electrical Shutdown Logic Diagram

Shift Manager/BED **DETERMINE** 702-AZ electrical system is required to be isolated and if it is safe to enter Electrical Distribution Building 105.

Is it safe to enter Electrical Distribution Building 105

- **YES**
  - **PROCEED** to Electrical Distribution Building 105.
  - **DON** appropriate PPE per the EHE.
  - **ISOLATE** 702-AZ electrical system by positioning main service disconnect breaker to OPEN/OFF.
  - **NOTIFY** Shift Manager/BED 702-AZ electrical system is isolated.
  - **NOTE**
    - The most logical place for Hanford Utilities to isolate 702-AZ is at substation C8X569
  - **CONTACT** Hanford Utilities Department at 373-2321 and **REQUEST** assistance and confirmation when isolation is complete.

- **NO**
Figure 1 – Breaker Locations

**Main Feed Breaker inside**

- **C8X569**
- **Main Service Disconnect Breaker**
- **F8X709**

**Building**

- **Diesel Generator**
- **Diesel Fuel Tank**

**Figure Details**

- **Building 105**
- **Rm 100**
- **Rm 101**

**Electrical Distribution**

- **Main Service Disconnect Breaker**
- **F8X709**