Tank Farm Maintenance Procedure

USQ # Routine Maintenance

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# Inspection and Test of Ground Fault Circuit Interrupter Receptacles and Circuit Breakers

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides a safe, uniform method for functionally testing Ground Fault Circuit Interrupter (GFCI) receptacles, circuit breakers and replacing Ground Fault Circuit Interrupter (GFCI) receptacles and breakers as necessary.

1.2 Scope

This procedure provides a safe, uniform method for functionally testing Ground Fault Circuit Interrupter (GFCI) receptacles, circuit breakers and replacing Ground Fault Circuit Interrupter (GFCI) receptacles and breakers as necessary in tank farm facilities.

2.0 INFORMATION

2.1 Terms and Definitions

- GFCI - Ground Fault Circuit Interrupter
- AWT - Authorized Workers Tag.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 If a lock and tag is required during the performance of this procedure, perform Lockout/Tagout in accordance with DOE-0336, Hanford Site Lockout/Tagout Procedure.

3.1.2 Compliance with DOE-0359, Hanford Site Electrical Safety Program is required when working with this procedure.

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:
- Test lamp or voltage tester.

4.2 Field Preparation

IF release from Operations is required, OBTAIN release from Operations management prior to beginning performance of this procedure.
5.0 INSTRUCTIONS

Special Instructions

If performance of any steps in this procedure is not required for procedure completion, steps not performed are to be marked, "N/A" in appropriate Data Sheet signoff space, and explained in comments/remarks section of Data Sheet.

Depending on the component being tested (i.e. receptacle or breaker), Sections 5.1 or 5.2 may be worked independently, simultaneously or not at all.

Section 5.3 may be performed any time prior to FWS package closeout.

5.1 Receptacle Type Ground Fault Circuit Interrupters

5.1.1 VISUALLY INSPECT GFCI receptacle and associated hardware (e.g., cover plate) for deficiencies AND RECORD deficiencies on the Data Sheet.

5.1.2 IF GFCI is tripped, PRESS GFCI built-in reset button.

5.1.3 INSERT voltage tester into receptacle.

5.1.4 PERFORM the following tests:

5.1.4.1 CONFIRM voltage is present.

5.1.4.2 PRESS GFCI built in tester.

5.1.4.3 CONFIRM unit trips (voltage no longer present).

5.1.4.4 RESET GFCI as necessary.

5.1.4.5 IF a GFCI fails this test, INSERT plastic Out-of-Service device into outlet(s) protected by GFCI unit AND GO TO Section 5.3.
5.2 Circuit Breaker Type Ground Fault Circuit Interrupters

NOTE: This Section may be performed on any GFCI connected receptacle(s) as deemed necessary by the Electrician.

5.2.1 VISUALLY INSPECT GFCI circuit breaker, receptacles fed by GFCI circuit breaker, and associated hardware (e.g., cover plate) for deficiencies AND RECORD deficiencies on the Data Sheet.

5.2.2 INSERT voltage tester into receptacle fed by GFCI circuit breaker.

5.2.3 PRESS GFCI built-in test button on the breaker.

5.2.4 CONFIRM loss of power at receptacle.

5.2.5 RESET breaker.

5.2.5.1 IF a GFCI fails this test, INSERT plastic Out-of-Service device into outlet(s) protected by GFCI unit AND GO TO Section 5.3.
5.3 GFCI Replacement

NOTE - This Section may be performed any time prior to FWS package closeout for replacement of GFCI breakers or receptacles.

5.3.1 IF GFCI replacement cannot be performed, ENSURE the FWS initiates a replacement work request before package closure.

5.3.2 FWS CONTACT OE to initiate Lockout/Tagout per DOE-0336.

5.3.3 IF other GFCI devices in the area require testing, CONTINUE testing those GFCI devices while waiting on approved Lockout/Tagout.

5.3.4 OBTAIN Shift Manager approval to replace GFCI breaker or receptacle.

5.3.5 INSTALL Lockout/Tagout per DOE-0336.

5.3.5.1 REMOVE plastic Out-of-Service device from GFCI unit.

5.3.5.2 REPLACE defective GFCI breaker or receptacle.

5.3.5.3 IF a GFCI breaker was replaced and a Quality Control inspection is required ENSURE a Quality Control inspection is performed.

5.3.6 REMOVE Lockout/Tagout per DOE-0336.

5.3.7 TEST newly installed GFCI per Section 5.1 or 5.2; depending on type of GFCI installed.
5.4 Restoration

5.4.1 IF any problems were encountered, INFORM FWS.

5.4.2 IF not already removed, DISCONNECT AND REMOVE Test Equipment.

5.4.3 CLEAR OR RESET any alarms.

5.4.4 CHECK equipment system restoration by observing indications are consistent with expected conditions.

5.4.5 NOTIFY Operations that testing is complete and system may be returned to desired configuration.

5.5 Acceptance Criteria

Acceptance Criteria has been met when steps in this procedure have been satisfactorily performed.

5.6 Review

5.6.1 INFORM FWS test is complete.

5.6.2 FWS REVIEW AND ENSURE the following:

- Completed Data Sheets demonstrates satisfactory operation as defined by the acceptance criteria
- Comments sections are filled out appropriately
- Work requests needed as a result of this procedure are identified and generated
- Work request number(s) of any work documents generated as a result of this procedure, are recorded in the Comments/Remarks section of the Data Sheet, as applicable.

5.7 Records

The performance of this procedure generates no records. However, PM Data Sheets associated with the procedure, are records and are maintained in the work package as record material.

The record custodian identified in the Company Level Record Inventory and Disposition Schedule (RIDS), is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.