Tank Farm Maintenance Procedure

Effluent Treatment Facility

USQ Not Required – ETF is a <Hazard Category 3 Radiological Facility

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides a safe, uniform method to inspect and service welding machines, including a volt amp meter functional test, located at 2025E at ETF.

Periodic maintenance of welding machines is required per HNF-42884, Administrative Control of Welding, Step 4.2.4.

1.2 Scope

This procedure provides instructions for periodic maintenance of welding machines used at ETF.

2.0 INFORMATION

None.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Radiation and Contamination Control

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

3.2 Environmental Protection

3.2.1 In the event of a spill/leak/release, notify the SOM/FWS and respond per ETF-ERP-85B-003, Emergency Spill or Release at ETF.
4.0 PREREQUISITES

4.1 Special Tools, Equipment, and Materials

NOTE - M&TE used to collect acceptance criteria data during performance of this procedure shall meet the following requirements:

- Be within its current calibration cycle as evidenced by an affixed calibration label
- Be capable of desired range
- Accuracy is equal to or greater than M&TE tolerance specified on PM data sheet or is at least four times greater than specified device tolerance.

The following supplies may be needed to perform this procedure:

- CVI for welding machine
- Air hose and nozzle
- CMD
- Load bank
- Cleaning brushes
- Rags
- Spark plug gap gauge.
5.0 PROCEDURE

Special Instructions

If performance of any steps in these instructions is not required for completion, steps not performed shall be explained on the work package.

Contact supervision of any equipment malfunction that could prevent the fulfillment of its functional requirements.

5.1 Functional Check

5.1.1 INSPECT fan motor operation for wear and vibration.

5.1.2 IF any instruction labels or warnings on welding machine are unreadable, REQUEST new one(s) be ordered from manufacturer.

5.1.3 (Ops) DETERMINE if welding machine should be removed from service while waiting for replacement label, or if the machine can continue to be used until label arrives.

5.1.4 DE-ENERGIZE (turn off) power to welding machine.

5.1.5 UNPLUG welding machine from wall outlet.

NOTE - After unplugging welder, the following maintenance steps may be performed in any logical sequence or concurrently.

5.1.6 IF unit is a Miller Dynasty 200, SKIP to Step 5.1.8.

5.1.7 REMOVE side panels for maintenance access.

NOTE - Poor air quality may occur inside the shop when using compressed air to clean welders/associated parts.

5.1.8 TAKE welder outdoors to avoid poor quality in the shop AND BLOW OUT dust and debris using compressed air.

5.1.9 REMOVE grease and dirt using rags.

5.1.10 CHECK for damaged or missing hardware/parts AND REPAIR/REPLACE hardware/parts.
5.1 Functional Check (Cont.)

5.1.11 **CHECK** for loose connections or contacts **AND**
**TIGHTEN OR REPAIR/REPLACE** loose connections or contacts.

5.1.12 **INSPECT** the following for signs of wear and deterioration:
- Welding leads
- Remote control lead.

5.1.13 For worn or deteriorated leads, **RECORD** repairs, or need for more repairs, on the work package.

5.1.14 **CHECK** safety devices for proper operation, including interlocks and circuit breakers **AND**
**ENSURE** these have not been disconnected or shunted out.

5.1.15 **ENSURE** ground terminal and cable are tightened.

**NOTE** - Poor air quality may occur inside the shop when using compressed air to clean welders/associated parts.

5.1.16 **TAKE** rectifier and transformer outdoors **AND**
**CLEAN** both with compressed air.

5.1.17 **IF** motor bearings are not sealed/lifetime-lubricated, **LUBRICATE** motor bearings.

5.1.18 **CHECK** condition of transformer and its connections.

**Special Instructions**

For following models, tungsten end may be reshaped/dressed per manufacturer’s instructions:
- Miller Dynasty 200
- Miller Trailblazer® 44D.

For all other models, the tungsten end is not cleaned or dressed.

5.1.19 **CHECK** tungsten end(s) of spark gap for the following:
- Wear
- Damage
- Missing.
5.1 Functional Check (Cont.)

5.1.20 REPLACE worn, damaged, or missing tungsten end(s).

5.1.21 CHECK spark plug gap on high-frequency output unit AND ADJUST to gap specified as follows:
- Miller Syncrowave® 250 (2 places): gap = 0.008 inches (+/- 0.001 in)
- Miller Trailblazer 44D (2 places): gap = 0.008 inches (+/- 0.001 in).

5.1.22 IF welding machine is set up on a cart with wheels, CHECK cart for ease of operation.

5.1.23 IF cart wheels do not operate properly, REQUEST support of millwright to lubricate, repair, or replace wheels/casters.

5.2 Restoration

5.2.1 RESTORE to as-found conditions.

5.2.2 INFORM SOM test is complete and instrument/equipment/system may be returned to service.

5.3 Acceptance Criteria

Acceptance criteria has been met when steps in this procedure have been satisfactorily performed and results are recorded on the data sheet(s).

5.4 Review

5.4.1 INFORM FWS test is complete.

5.4.2 (FWS) REVIEW AND ENSURE the following:
- Completed data sheets meet 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.
5.5 Records

The performance of this procedure generates no records. However PM/S 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 Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.