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

CHANGE HISTORY (≤ LAST 5 REV-MODS )

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
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<th>Summary of Changes</th>
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<tr>
<td>A-2</td>
<td>10/24/2018</td>
<td>Periodic Review</td>
<td>Removed “For” from 5.1.7 and updated Warning Box to match Warning Statement.</td>
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<tr>
<td>A-1</td>
<td>04/18/2018</td>
<td>Engineering Request</td>
<td>Removed first-time use stamp, added CID numbers to special supplies in Section 4.1, added special instruction, and identified components with EIN.</td>
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<tr>
<td>A-0</td>
<td>11/05/2015</td>
<td>Converting to WRPS Format</td>
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1.0 PURPOSE AND SCOPE

1.1 Purpose
This procedure provides for a safe, uniform method for performing periodic maintenance on Sullair SAR 190 regenerative dryer.

1.2 Scope
Procedure instructions involve semi-annual and annual maintenance including annual blow down of the relief valve.

2.0 INFORMATION
None

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

WARNING - Airborne desiccant dust is a respiratory and eye irritant, prolonged exposure can cause long-term health problems.

WARNING - Exposure to noise levels greater than 85 decibels can cause irreversible hearing damage.

3.1.1 Some systems require lock and tag for protection against temperature, pressure or hazardous chemicals before breaching system. Under these circumstances, lock and tag is required in accordance with procedure DOE-0336, Hanford Site Lockout/Tagout Procedure.

3.2 Radiation and Contamination Control

3.2.1 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.

3.3 Environmental Compliance

3.3.1 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 Supplies

The following supplies may be needed to perform this procedure:

- Snoop
- Prefilters: Model PF-320, Element Kit, Sullair Part No 001351 (CID 552631), qty 1, Model PHC-12D, Element Kit, Sullair Part No. 405509 (CID 552630), qty 1
- Afterfilter, Model PF-250, Element Kit, Sullair Part No. 001350 (CID 552629), qty 1
- Desiccant (Activated Alumina, MSDS #013978), each dryer holds 73 lb
- Diaphragm valve repair kit, Sullair Kit No. 250031-395 (CID 552635), qty as required, 4 maximum
- Control air filter element, Sullair Kit No. 02250044-285, qty 1 (CID 685610)
- Muffler element, Sullair Kit No. 405815-101 (CID 552632), qty 2.

4.2 Performance Documents

The following documents may be needed to perform this procedure:

- DOE-0336, Hanford Site Lockout/Tagout Procedure

4.3 Field Preparation

4.3.1 CONFIRM instrument air dryer 1D-D-1 is isolated and depressurized.

4.3.2 IF lock and tag is required by the controlling organization, CONFIRM that it has been installed.
5.0 PROCEDURE

**Special Instructions**

Sections of this procedure may be performed in any logical order.

Sections 5.2 and 5.3 are performed to both air dryer towers (1D-TK-A and 1D-TK-B).

5.1 Semi-Annual Maintenance

NOTE – Steps 5.1.1 through 5.1.3 may be performed in any logical order.

5.1.1 REPLACE prefilter elements (component label 1B-F-2 and 1D-F-4) AND VISUALLY INSPECT automatic drain trap to ensure separated liquids are not accumulating in prefilter housing sump.

5.1.2 REPLACE 1D-F-1 control air filter element.

5.1.3 REPLACE after filter element (component label 1D-F-2).

5.1.4 INSPECT (old/removed) after filter for signs of oil or desiccant fines.

5.1.5 IF (old/removed) after filter is oily or loaded with desiccant fines, PERFORM Section 5.2.

5.1.6 CONTACT DA for muffler element replacement recommendation.

5.1.7 INSPECT AND REPLACE damaged muffler elements.

5.1.8 CLEAN the following from the unit:
- Dust
- Grease
- Oil.
5.2 Annual Maintenance

5.2.1 OPEN desiccant fill port.

5.2.2 REQUEST DA inspect desiccant.

**WARNING**

Airborne desiccant dust is a respiratory and eye irritant, prolonged exposure can cause long-term health problems.

5.2.3 DON chemical goggles and respiratory protection per respiratory protection form in work package.

5.2.4 REPLACE OR ADD desiccant as directed by DA.

5.3 Relief Valve Blowdown

**WARNING**

Exposure to noise levels greater than 85 decibels can cause irreversible hearing damage.

5.3.1 DON hearing protection.

5.3.2 ENSURE tower pressure (PI-1D-A / PI-1D-B) is 75% or greater of relief valve’s (PSV-1D-A / PSV-1D-B) operating pressure.

5.3.3 BLOW DOWN pressure relief valve on each dryer to ensure valves operate freely.

NOTE - After pressure relief valves have been blown down, there will be a time delay before reseating.

5.3.4 ENSURE pressure relief valves reseat properly.
5.4 Restoration

5.4.1 **RESTORE** to as-found conditions.

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

5.4.3 **IF** lock and tag was installed, **REQUEST** its removal.

5.4.4 **REQUEST** Operations return dryer to operating status.

5.4.5 **BUCKET TEST** re-worked connections with dryer operating.

5.5 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).

5.6 Review

5.6.1 **INFORM** FWS test is complete.

5.6.2 *(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.

5.7 Records

This procedure is performed within a work package, as such, the procedure in its entirety will be maintained as a record per the Work Control process.

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.