## Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 PURPOSE AND SCOPE</td>
<td>2</td>
</tr>
<tr>
<td>1.1 Purpose</td>
<td>2</td>
</tr>
<tr>
<td>1.2 Scope</td>
<td>2</td>
</tr>
<tr>
<td>2.0 INFORMATION</td>
<td>2</td>
</tr>
<tr>
<td>2.1 General Information</td>
<td>2</td>
</tr>
<tr>
<td>3.0 PRECAUTIONS AND LIMITATIONS</td>
<td>3</td>
</tr>
<tr>
<td>3.1 Personnel Safety</td>
<td>3</td>
</tr>
<tr>
<td>3.2 Radiation and Contamination Control</td>
<td>3</td>
</tr>
<tr>
<td>3.3 Environmental Compliance</td>
<td>3</td>
</tr>
<tr>
<td>4.0 PREREQUISITES</td>
<td>4</td>
</tr>
<tr>
<td>4.1 Special Tools, Equipment, and Supplies</td>
<td>4</td>
</tr>
<tr>
<td>4.2 Performance Documents</td>
<td>4</td>
</tr>
<tr>
<td>5.0 PROCEDURE</td>
<td>5</td>
</tr>
<tr>
<td>5.1 Winterization (September)</td>
<td>5</td>
</tr>
<tr>
<td>5.2 De-Winterization (April)</td>
<td>7</td>
</tr>
<tr>
<td>5.3 Review</td>
<td>8</td>
</tr>
<tr>
<td>5.4 Records</td>
<td>9</td>
</tr>
</tbody>
</table>
1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for activation and de-activation of winterization activities on electrical equipment for Tank Farms.

1.2 Scope

1.2.1 September: Restoration of heating equipment to service before the onset of winter in facilities and buildings, activation of systems and equipment for freeze protection, recording corrective maintenance needs, and documenting results of this performance.

1.2.2 April: De-activate and return equipment to normal configuration.

2.0 INFORMATION

2.1 General Information

Implementation of winterization/freeze protection provides an additional layer of defense-in-depth against damage to equipment/structures vulnerable to freezing (e.g. piping systems, structures, isolation valves, and electrical cabinets).
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 Comply with DOE-0359, Hanford Site Electrical Safety Program.

3.1.2 Unless otherwise specified, cleaning and servicing of heating and cooling systems will be performed on DE-ENERGIZED equipment.

3.1.3 All known hazards and identified personal protective equipment will be addressed in the pre-job safety meeting per an approved work package.

3.2 Radiation and Contamination Control

Work in radiological areas will be performed using a radiation work permit following review by Radiological Control per ALARA work planning procedure TFC-ESH-QRP_RWP-C-03.

3.3 Environmental Compliance

Environmental Compliance must be notified of any spills observed as a result of this surveillance. Environmental Compliance will make the appropriate notifications of such releases per WAC 173-303.
4.0 PREREQUISITES

4.1 Special Tools, Equipment, and Supplies

The following supplies may be needed to perform this procedure:

- Multimeter
- Ammeter
- Canned refrigerant/circuit cooler
- Infrared Thermometer
- Heat Gun
- Other tools, equipment and supplies as identified by Shift Manager/OE/FWS/User.

4.2 Performance Documents

The Following Documents may be needed during the performance of this procedure:

- TO-040-741, Perform Routine Surveillance of Winterized Buildings and Equipment for AN Areas.
- TO-040-742, Perform Routine Surveillance of Winterized Buildings and Equipment for AZ Areas.
- TO-040-743, Perform Routine Surveillance of Winterized Buildings and Equipment for EV Areas.
- TO-040-744, Perform Routine Surveillance of Winterized Buildings and Equipment for ST Areas.
- TO-040-745, Perform Weatherization of Retrieval Buildings and Equipment
- TO-060-045, Operate POR06 Exhauster “Winterization Steps.”
- TO-040-790, Perform Waste Transfer System Temperature Surveillance.
- TO-040-791, Obtain/Record Waste Transfer Safety-Significant SSC Temperature Data.
- TO-040-792, R&C Waste Transfer Safety-Significant SSC Temperature Data.
Winterization/De-Winterization Tank Farms

5.0 PROCEDURE

NOTE - Sections that are not required may be skipped with concurrence of the Shift Manager/OE/FWS with those actions recorded on Work Record.

- Activation of winterization steps should start no later than September 15 and to be completed no later than October 1. De-activation of winterization steps should start no earlier than April 1 and return equipment to normal configuration by April 30 in accordance with TFC-BSM-FPM_PR-C-13.

- In the event of shutdown of the facilities, it is possible items not mentioned in this procedure would require surveillance. Refer to procedure TO-040-730 for Cold Test Facility and TO-040-740 through TO-040-745 for Tank Farms.

5.1 Winterization (September)

NOTE - Section 5.1 should only be performed in the fall of the year to prepare the facility for winter weather conditions.

- Section 5.1 steps may be performed in any logical order.

- Steps not required for completion of this procedure may be omitted and “N/A” recorded in the applicable space on the data sheet with an explanation in the Comments/Remarks section.

5.1.1 INSPECT buildings and equipment enclosures for heat, as well as integrity of the enclosure to limit heat loss.

5.1.2 CHECK all doors, gaskets, and handles for operability.

5.1.3 IF any unnecessary openings are identified, REQUEST corrective maintenance CLOSE the unnecessary openings to prevent heat loss.
5.1 Winterization (September) (Cont.)

NOTE - Unless otherwise specified, cleaning and servicing of heating systems will be performed on de-energized equipment.

5.1.4 CLEAN, SERVICE AND FUNCTIONALLY TEST all heating systems.

5.1.5 SPRAY thermostat with circuit cooler where feasible AND

CONFIRM heater and fan are functioning.

5.1.6 IF setting temperature of heaters and HT used for equipment freeze protection ENSURE setting is above freezing (32°F); 45°F unless specifically shown on Data Sheet.

5.1.7 RECORD deficiencies for corrective maintenance in data sheet comments.
5.2 De-Winterization (April)

NOTE - Section 5.2 should only be performed if between April 1st and September 30th to prepare the facility for normal weather conditions.

- Section 5.2 steps may be performed in any logical order.

SPECIAL INSTRUCTION - Heaters and cooling fans are sometimes fed from the same circuit breaker. When this situation occurs, DO NOT turn off these circuit breakers.

NOTE - Unless otherwise specified, cleaning and servicing of cooling systems/exhaust fans will be performed on de-energized equipment.

5.2.1 CLEAN, SERVICE AND FUNCTIONALLY TEST (using heating thermostat), cooling systems and/or exhaust fans for operability.

5.2.2 CHECK all doors, gaskets, and handles for operability.

5.2.3 RECORD deficiencies for corrective maintenance in data sheet comments.
5.3 Review

5.3.1 FWS REVIEW AND ENSURE the following:

- 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.

5.3.2 SEND copy of completed data sheets to Engineer.
5.4  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.