Calibrate Siemens Duct Averaging Sensor Transmitter

Tank Farm Maintenance Procedure

MAINTENANCE

USQ # Routine Maintenance

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-0</td>
<td>05/19/2015</td>
<td>Periodic Review</td>
<td>Corrected two actions in one step.</td>
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<tr>
<td>B-3</td>
<td>11/17/2014</td>
<td>CHAMPS Removal</td>
<td>Removed reference to CHAMPS, updated records statements and removed next periodic review date.</td>
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<tr>
<td>B-2</td>
<td>01/06/2014</td>
<td>Maintenance request</td>
<td>Changes made to calibration method.</td>
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<tr>
<td>B-1</td>
<td>03/23/2012</td>
<td>Update format requirement</td>
<td>Updated Section 5.6, Records.</td>
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</table>
1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides a method to calibrate Siemens Duct Averaging Sensor Transmitters.

1.2 Scope

This procedure applies to the calibration of Siemens Duct Averaging Sensor Transmitters.

2.0 INFORMATION

None

3.0 PRECAUTIONS AND LIMITATIONS

3.1 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:

- DMM or equivalent (capable of measuring 4 - 20 mA output)
- RTD simulator
- Other tools, equipment and supplies as identified by Shift Manager/OE/FWS/User.
5.0  PROCEDURE

5.1  Obtain As-Found Readings

5.1.1  INSPECT Siemens transmitter AND RECORD any deficiencies in Comments section of Data Sheet.

5.1.2  REMOVE RTD from transmitter.

5.1.3  INSTALL RTD simulator to Siemens transmitter.

5.1.4  INPUT RTD values per Data Sheet.

5.1.5  RECORD As-Found mA value for each temperature given on Data Sheet.

5.1.6  IF As-Found values are not within specified tolerance per Data Sheet, GO TO Calibration Section 5.2,

OR

IF As-Found values are within specified tolerance, but deemed marginal, and optimization is desired, GO TO Calibration Section 5.2,

OR

IF As-Found values are within specified tolerance, RECORD As-Found values in As-Left column of Data Sheet AND

GO TO Restoration, Section 5.3.
5.2 Calibrate Siemens Sensor Transmitter

5.2.1 APPLY minimum temperature value per Data Sheet AND
ALLOW unit to stabilize at that temperature.

5.2.2 ADJUST zero screw for minimum value per Data Sheet.

5.2.3 APPLY maximum temperature value per Data Sheet AND
ALLOW unit to stabilize at that temperature.

5.2.4 ADJUST span screw for maximum value per Data Sheet.

5.2.5 APPLY temperature values per Data Sheet AND
CHECK output mA values for tolerance.

5.2.6 IF values are within tolerance per Data Sheet, RECORD mA values in
As-Left section of Data Sheet AND
GO TO Restoration, Section 5.3.

5.2.7 IF values are not within tolerance per Data Sheet, REPEAT Steps 5.2.1 through 5.2.6 until values are within tolerance,

OR

IF values cannot be brought into tolerance, NOTIFY FWS for resolution AND

DOCUMENT on Comment Page 1.

5.2.7.1 STOP WORK until further directed.
5.3 Restoration

5.3.1 IF any problems were encountered with calibration, INFORM FWS.

5.3.2 DISCONNECT AND REMOVE test equipment.

5.3.3 RETURN equipment to original configuration.

5.3.4 RECORD test equipment information and calibration status on Data Sheet.

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

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

5.4 Acceptance Criteria

Acceptance Criteria has been met when Steps in this procedure have been satisfactorily performed and As-Left values meet the specifications and tolerance(s) per the Data Sheet.

5.5 Review

5.5.1 INFORM FWS the calibration is complete.

5.5.2 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.
5.6 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.

- Comment Page 1.

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.
Figure 1 Siemens Transmitter Set-up and Calibration
## Comment Page 1

<table>
<thead>
<tr>
<th>Comments</th>
<th>Initials</th>
<th>Date</th>
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