Calibration Check for ESI Pressure Transducer Model #GS4003

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions to bench check the calibration of ESI pressure transducers, Model #GS4003.

1.2 Scope

This procedure involves bench checking calibration of the ESI pressure transducers, Model #GS4003.

2.0 INFORMATION

NONE

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

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

3.1.2 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.

3.2 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:

- Calibrated Voltage source
- Calibrated Digital Multimeter
- Calibrated Pressure source, or equivalent
- Precision Resistor – 250 ohms, Accuracy 0.1%
- Other tools, equipment and supplies as identified by Shift Manager/OE/FWS/User.

4.2 Field Preparation

4.2.1 FWS PRIOR to the start of this test ENSURE all personnel participating in performance of this test have read and understand the test and have completed Signature Sheet 1.
5.0 PROCEDURE

5.1 Bench Calibration Check

5.1.1 IF calibration is being performed with a calibrated current meter or equivalent, CONNECT transducer circuitry as per Figure 2.

5.1.2 IF calibration is being performed with a calibrated resistor setup, CONNECT transducer circuitry as per Figure 3.

5.1.3 CONFIRM appropriate load driving voltage is applied per Data Sheet [Item 2].

5.1.4 ENSURE that no leakage of pressure/vacuum is present in the calibration plumbing.

5.1.5 EXERCISE the transducer from zero to full-scale and back to zero (see Data Sheet input values [Item 3]) several times.

5.1.6 PERFORM calibration check per Data Sheet [Item 3] AND RECORD the As-Found values in Data Sheet [Item 3].

5.1.7 IF As-Found values are not within specified tolerance per Data Sheet [Item 3], REQUEST FWS assess instrument to determine if it should be replaced or another calibration should be attempted AND DOCUMENT on Comment Page 1. (Instrument must be replaced if it fails calibration check.)

5.1.8 IF As-Found values are within specified tolerance, RECORD As-Found values in As-Left column of Data Sheet.
5.2 Restoration

5.2.1 IF any problems were encountered with the calibration check, **INFORM** FWS.

5.2.2 **REMOVE** test equipment.

5.2.3 **ENSURE** test equipment information and calibration status are recorded on Data Sheet.

5.3 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.

5.4 Review

5.4.1 **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

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.
Figure 1 - GS 4003 Pressure Transducer
Figure 2 - Block Diagram for Current Meter Connection

Current Meter (mA)

+ SIG
- SIG

DIN CONNECTOR

Pressure Transducer

24 VDC (23 to 25 VDC)
Power Supply

2-Wire Connection

Calibrated Pressure Source
Figure 3 - Block Diagram with Calibration Resistor

- Voltmeter
- 250 Ohm Standard Resistor
- DIN CONNECTOR
- Power Supply 24 VDC (23 to 25 VDC)
- Calibrated Pressure Source
- Pressure Transducer
- Calibrated Pressure Source

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## Comment Page 1

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## Signature Sheet 1

All persons participating in the performance of this functional check shall enter their printed name, signature, and initials below.

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<th>Name (Print First and Last)</th>
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