



Operations and Maintenance Procedures

SCUD Procedure # MAINT002	Page 1 of 2
O&M Section # 6.1	SCUD Task # 835
Section: Maintenance	Revision Date: 09/06/16

Inspect or Test Cathodic Protection Electrical Isolation Devices

SCOPE AND PURPOSE

This procedure is to ensure when personnel inspect or test cathodic protection electrical isolation devices that these devices are operating as designed. It describes practices required to comply with §192.467.

RESPONSIBILITY

The System Maintenance Supervisor, or other designee, is responsible to ensure when inspecting or testing cathodic protection electrical isolation devices, that it is performed as described in this procedure.

PERSONNEL SAFETY (Where Applicable)

Ensure that the work zone/area is setup to protect the public from danger.
Ensure that all applicable safety equipment is being utilized as per company policy.

EQUIPMENT AND MATERIALS

System maps and records
10 megaohm input impedance digital multimeter
Automotive battery circuit (12-volt wet-cell battery)
Magnetic isolation tester with headphones
Other equipment and materials, as needed

OPERATOR QUALIFICATION

This activity is a covered task under the Operator Qualification Plan and may only be performed by or directed and observed by an individual who is currently qualified to perform this task. Refer to the OQ Plan for specific qualification requirements.

INSTRUCTIONS

Above Ground Isolation Devices

1. Perform a visual inspection of the isolation device for general condition, including corrosion, mechanical damage, or any other condition that might impair the operation of the device. Correct as necessary. (Note: Metallic based paints can cause shorting of isolation devices and should be avoided)
2. Measure the pipe-to-soil potential on both sides of the isolation device and confirm that the difference is adequate to assure positive isolation. (Note: Pipelines with cathodic protection on both sides of an isolation device can have the same potential on both sides and NOT be shorted.
3. Check the continuity between both sides of the isolation device and confirm that that continuity does not exist indicating that the device is not shorted.
4. If either test above indicated that the isolation device is shorted, contact the Maintenance Supervisor to have this device checked by the Corrosion Specialist contractor.

Casings

1. This inspection/test assumes that cathodic protection test leads are installed on both the carrier pipe and the casing pipe. A vent riser attached to the casing can also be used for a test lead.
2. Read the pipe-to-soil potential of the carrier pipe and record the value.

Operations and Maintenance Procedures

SCUD Procedure # MAINT002	Page 2 of 2
O&M Section # 6.1	SCUD Task # 835
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3. Read the pipe-to-soil potential of the casing pipe and record the value.
4. If the carrier pipe-to-soil value and the casing-to-soil value does not appear to be adequate difference, the casing pipe may be shorted to the carrier pipe.
5. If the test above indicates that a shorted casing may exist, contact the Maintenance Supervisor to have this casing checked by the Corrosion Specialist contractor.

REPORTING/NOTIFICATION

The SCUD employee shall complete documentation in accordance with the Operation and Maintenance Manual. SCUD utilizes electronic software to record and maintain all PS readings. The proper electronic form for each test station shall be completed.

ABNORMAL OPERATING CONDITIONS

AOC Main Category (Examples of Specific AOCs)	Reactions to AOC, as appropriate	
<p><i>Unplanned escape of product from a pipeline</i></p> <ul style="list-style-type: none"> • Blowing/Escaping gas/Grade I leak 	<ul style="list-style-type: none"> ➤ Protect life & Property ➤ Prevent accidental ignition ➤ Notify appropriate personnel ➤ Notify Fire/Emergency Responders ➤ Initiate Emergency Plan 	<ul style="list-style-type: none"> ➤ Locate source/cause of AOC ➤ Use appropriate PPE ➤ Stop gas flow ➤ Make repairs/eliminate AOC
<p><i>Unplanned Status Change</i></p> <ul style="list-style-type: none"> • Inoperable/failure of a pipeline component (T/S) • Low structure-to-electrolyte potential • Stray current on a pipeline – Electric shock 	<ul style="list-style-type: none"> ➤ Protect life & property ➤ Prevent accidental ignition ➤ Notify appropriate personnel 	<ul style="list-style-type: none"> ➤ Locate source/cause of AOC ➤ Make repairs/eliminate AOC
<p><i>Inadequate Odorization or Reports of Gas Odor</i></p> <ul style="list-style-type: none"> • Low odorization • Over odorization • Odor complaint 	<ul style="list-style-type: none"> ➤ Protect life & property ➤ Prevent accidental ignition ➤ Notify appropriate personnel 	<ul style="list-style-type: none"> ➤ Locate source/cause of AOC ➤ Make repairs/eliminate AOC

RELATED PROCEDURES

MAINT001 – Measure Structure-to-Electrolyte (Pipe to Soil) Potential