

Operations and Maintenance Procedures

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O&M Section # 10.1	SCUD Task # 330
Section: Maintenance	Revision Date: 09/06/16

Below Ground Valve – Annual Critical Valve Inspection

Partial Operation & Maintenance

SCOPE AND PURPOSE

This procedure is to ensure that:

- Each valve that may be used for the safe operation of a Distribution system is checked and serviced, annually.

It describes valve inspection and maintenance practices required to comply with §192.745 and §192.747.

RESPONSIBILITY

The System Maintenance Supervisor or other designee is responsible to ensure that valve maintenance is performed at the intervals described in this procedure.

PERSONNEL SAFETY (Where Applicable)

Do not perform valve maintenance if lightning is present.

Upon approaching a valve or valve enclosed in a valve box, check the atmosphere around the valve or valve box for the presence of a gas leak. Notify the Maintenance Supervisor immediately to repair or schedule for repair any leak detected in accordance with stated procedures.

EQUIPMENT AND MATERIALS

Leak Detection Equipment

Valve Wrench

Valve Cleaner (If Needed)

Valve Lubricant As Specified by Valve Manufacturer (As Needed)

Valve Sealant (If Needed)

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 valve maintenance. Refer to the OQ Plan for specific qualification requirements.

INSTRUCTIONS

- Obtain records of valve to be inspected along with other documentation needed to record the actions taken on the jobsite.
- Check the GIS map for the supposed gas flow direction.
- While approaching each valve, perform a visual examination of the area for signs of conditions that may interfere with proper access to the valve such as:
 - Paving over of valve or valve box
 - Excavation or landscaping activities covering valve or valve box
 - Objects permanently placed over top of valve or valve box
 - Vandalism

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- d. Check valve box cover for proper fit, support, and ensure that the proper product designation is stamped on the valve box lid.
- e. If valve or valve box is equipped with a locking device, ensure proper operation – lubricate as needed.
- f. **Inspection & Partial Operation**
 1. Perform a visual check of the valve to identify:
 - Initial valve position (“Open” or “Closed”).
 - Orientation of the valve in relation to the valve stops, if any. Make a note of or mark the direction of the valve indicator on the top of the valve.
 - Excess dirt, rust, or foreign materials that may interfere with the operation of the valve.
 2. Remove any excess dirt, rust, or foreign materials that may interfere with the operation of the valve. Schedule the valve box for vacuum if excess dirt or foreign materials impede proper inspection and operation.
 3. Verify proper alignment of the valve box over the valve.
 - Verify that a valve wrench or valve key will align through the valve box through to the valve operating nut – If alignment cannot be made, notify the Maintenance Supervisor for scheduled repair.
 4. If the valve is not accessible, the valve must be marked as such in the inspection software and the valve lid painted **ORANGE**. The inspection software will notify the Maintenance Supervisor and indicate the valve as “Inoperable” on the GIS mapping. Once the valve is made operable, the lid must be repainted **YELLOW**. The maintenance and/or repair performed must be indicated in the inspection software. This will show the valve as “Operable” on the GIS mapping.
 5. For valves that are to be partially operated, care shall be taken to ensure that valves that should be “open” are left open and valves that should be “closed” are left closed.
 - Check the valve for adequate lubrication (steel valves only).
 - These valves should only be operated to the extent necessary to establish operability of the valve – *Extreme care* should be taken to return these valves to the proper “open” or “closed” position.
 - Position the locating wire/s out of the way of the valve wrench.
 - Place the valve wrench on the valve with the handle running in the supposed direction (or parallel) of the gas flow and note the position of the valve wrench handle.
 - Gently attempt to turn the valve counter clockwise to check that the valve is against the valve stops.
 - If the valve turns counter clockwise the valve stops could be damaged, return the valve to the starting position and contact the Maintenance Supervisor to report a suspected damaged valve.
 - If the valve does not turn counter clockwise, turn the valve clockwise slightly to verify its operation.
 - Return the valve to starting position.
 - Remove the valve wrench and verify that the valve indicator is in the same position as when you started.
 - Verify that the locating wire/s are still accessible.
 - Check the valve for leaks.

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- If no leak is detected, place the valve lid back on the valve box and re-paint the lid **YELLOW**. Paint the **YELLOW** valve location triangle on the curb or roadway to indicate a gas valve.
- 6. If the valve will not turn clockwise, the valve must be marked as such in the inspection software and the valve lid painted **ORANGE**. The inspection software will notify the Maintenance Supervisor and indicate the valve as “Inoperable” on the GIS mapping. Once the valve is made operable, the lid must be repainted **YELLOW**. The maintenance and/or repair performed must be indicated in the inspection software. This will show the valve as “Operable” on the GIS mapping.
- 7. If lubrication is needed for a steel valve, **DO NOT OVER-LUBRICATE** the valve – over-lubrication may force excess grease into the gas stream and cause a stoppage and/or hamper the proper operations of downstream equipment – **ALWAYS Follow Manufacturer’s Guideline for Greasing Valves**.

REPORTING/NOTIFICATION

The SCUD employee shall complete documentation in accordance with the Operation and Maintenance Manual. SCUD utilizes electronic forms to record and maintain all valves. The proper electronic form for each valve shall be completed.

ABNORMAL OPERATING CONDITIONS

AOC Main Category (Examples of Specific AOCs)	Reactions to AOC, as appropriate	
Unplanned escape of product from a pipeline Blowing/Escaping gas/Grade I leak	➤ Protect life & Property ➤ Prevent accidental ignition ➤ Notify appropriate personnel ➤ Notify Fire/Emergency Responders ➤ Initiate Emergency Plan	➤ Locate source/cause of AOC ➤ Use appropriate PPE ➤ Stop gas flow ➤ Make repairs/eliminate AOC
Fire or Explosion - Fire on a pipeline - Explosion	➤ Protect life & Property ➤ Prevent accidental ignition ➤ Notify appropriate personnel ➤ Notify Fire/Emergency Responders ➤ Initiate Emergency Plan	➤ Locate source/cause of AOC ➤ Use appropriate PPE ➤ Stop gas flow ➤ Make repairs/eliminate AOC
Unplanned Flow Rate Deviation - No Flow - Unplanned Decrease in Flow - Unplanned Increase in Flow	➤ Protect life & property ➤ Notify appropriate personnel ➤ Initiate Emergency Plan as Needed	➤ Locate source/cause of AOC ➤ Make repairs/eliminate AOC

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<i>Unplanned Status Change</i> • Inoperable/Failure of a Pipeline Component • Stray Current on a Pipeline – Electric Shock	➤ Protect life & property ➤ Notify appropriate personnel ➤ Initiate Emergency Plan as Needed	➤ Locate source/cause of AOC ➤ Make repairs/eliminate AOC
<i>Inadequate Odorization or Reports of Gas Odor</i> • Low odorization • Over odorization • Odor complaint	➤ Protect life & property ➤ Prevent accidental ignition ➤ Notify appropriate personnel	➤ Locate source/cause of AOC ➤ Make repairs/eliminate AOC
<i>Improper Installation/Misalignment of Components</i> • Improper fitting/component installation • Misalignment of fittings/components	➤ Protect life & property ➤ Prevent accidental ignition	➤ Notify appropriate personnel ➤ Make repairs/eliminate AOC

RELATED PROCEDURES

SCUD Procedure #CONST001 – Valve Operations – Below Ground

SCUD Procedure #MAINT012 - Below Ground Valve - Corrective Maintenance

SCUD Procedure #EMER004 – Outside Gas Leak Investigation