Manually Opening and Closing Below Ground Valves

SCOPE AND PURPOSE

This procedure is to ensure the proper manual operation of valves (opening and closing). This is not applicable to throttling valves for flow control.

RESPONSIBILITY

All Operations Managers, Supervisors, Foremen, or other designees, are responsible to ensure that valves are operated as described in this procedure.

PERSONNEL SAFETY (Where Applicable)

Do not operate valve under non-emergency situations if lightning is present.

EQUIPMENT AND MATERIALS

Valve wrench
RED valve lids as 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 manual operation of valves. Refer to the OQ Plan for specific qualification requirements.

INSTRUCTIONS – BELOW GROUND VALVES

1. **Prior to Opening or Closing a Valve**
   a. Identify the valve(s) to be operated. Notify the Maintenance Supervisor if the valve(s) cannot be found.
   b. Identify the valve type and operating mechanism if possible (plug, ball, and gate), as the valve type will have a bearing on “how” this valve is operated (1/4 turn, multiple turn, etc.). (Ball and plug valves should only turn ¼ turn to fully operate. Gate valves will take multiple turns to fully operate).
   c. Confirm that the valve(s) chosen is the correct valve(s) to control the desired segment of pipeline.
      - If the valve(s) is an emergency valve, verify that it is clearly identified and documented as an emergency valve.
   d. Ensure that the valve is free of visible debris, corrosion, or damage that may hamper the operation of the valve.
   e. Verify that no gas odor is present that may indicate that the valve is leaking.
   f. Determine whether the valve(s) is:
      - Normally Open, or
      - Normally Closed
   g. Notify the Maintenance Supervisor if it is determined that the valve is leaking or needs corrective maintenance and should not be operated.
   h. Before turning any below ground valve, consult the Maintenance Supervisor, Construction Supervisor, Construction & Maintenance Director, or the Technical Services & Engineering Director.

2. **Opening of Valves**
   a. Verify the original position of the valve(s) before operating.
   b. Verify the following if applicable:
      - All work has been completed and the valve(s) is ready to be opened;
      - That any and all meter sets affected by this operation have been turned off at the service riser; and,
      - Appropriate personnel are notified.
   c. No valve shall be opened until the job crew leader; foreman or supervisor has verified with SCUD personnel working on the job that all the gas work is complete and ready to be placed in service.
   d. Ensure that the locate wire remains accessible near the top of the valve box and is not damaged during operation of the valve.
   e. Using the appropriate tool, slowly open the valve(s) to the fully open position.
      - Be attentive to the position of the valve handle when starting to turn the valve.
      - If the valve is fully closed, the valve should turn ¼ of a turn and stop against the valve stops.
      - Do not force the valve further as this could damage the valve stops.
      - If the valve turns more than a ¼ turn, notify the Maintenance Supervisor that the valve stops may be damaged.
      - Note that hand wheel gear operated valves will require multiple revolutions of the hand wheel to fully open the valve.
   f. Verify the segment involved is operating at its correct pressure.
      - After a below ground valve is opened, the **RED** valve box lid shall be removed and a **YELLOW** valve box lid shall be placed on the valve box to indicate an OPEN valve.
      - Notify the Engineering Department and identify which valve(s) are back in service.
3. **Closing of Valves**
   a. Verify the original position of the valve(s) before operating.
      - "Valve-stops", common in larger valves, enable the user to determine the position of the valve(s) – Turn clockwise to "Close" and counter-clockwise to "Open".
   b. Ensure that the valve and valve box is free of visible debris, corrosion, or damage that may hamper the operation of the valve.
   c. Ensure that the locate wire remains accessible near the top of the valve box and is not damaged during operation of the valve.
   d. Using the appropriate tool, close the valve.
      - Be attentive to the position of the valve handle when starting to turn the valve.
      - If the valve is fully open, the valve should turn ¼ of a turn and stop against the valve stops.
      - Do not force the valve further as this could damage the valve stops.
      - If the valve turns more than a ¼ turn, notify the Maintenance Supervisor that the valve stops may be damaged.
      - Note that hand wheel gear operated valves will require multiple revolutions of the hand wheel to fully close the valve.
   e. If a valve is to be closed and left unmanned, the following "lock-out" "tag-out" procedures will be utilized:
      - Notify the Engineering Department and identify which valve(s) are off.

- The valve wrench must be removed from the valve and kept with the employee doing the work.
- The **RED** valve box lid must be placed on the valve box to indicate a closed valve.

REPORTING/NOTIFICATION

Complete documentation in accordance with Operation and Maintenance Manual.

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
Unplanned Status Change • 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
Inadequate Odorization or Reports of Gas Odor • Low odorization • Over odorization • Odor complaint	➢ Protect life & property ➢ Prevent accidental ignition ➢ Notify appropriate personnel ➢ Locate source/cause of AOC ➢ Make repairs/eliminate AOC
Improper Installation/Misalignment of Components • Improper fitting/component installation	➢ Protect life & property ➢ Prevent accidental ignition ➢ Notify appropriate personnel ➢ Make repairs/eliminate AOC

• Misalignment of fittings/components	

RELATED PROCEDURES

SCUD Procedure #MAINT012 - Below Ground Valve - Corrective Maintenance
SCUD Procedure #MAINT014 – Below Ground Valve – Annual Maintenance