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|  |   | <b>VALVE MAINTENANCE</b> |           | <b>GOM 70.80.10</b> |
| Department:   | Operations, Engineering                 | Date Approved:           | 1-13-2022 |                     |
| Approved by:  | Frank Bennett, Chris Clancy, Dan Huegel | Date Effective:          | 1-13-2022 |                     |
| Revision Number:  | 6                                       |                          |           |                     |

## Purpose

The purpose of this procedure is to provide guidelines for maintenance and inspection.

## Scope

This procedure covers the valve maintenance and inspection requirements for critical and secondary valves. This procedure does not apply to meter valves.

## Responsibilities

- A. Qualified individuals are responsible for inspecting and maintaining valves in accordance with these procedures.
- B. Operations Supervision are responsible for overseeing the valve inspection work in their respective areas.
- C. UGI Engineering shall appropriately designate valves as determined by their use and criticality to the connected distribution system. Additionally, and on occasion, Engineers will be required to review, update, and approve changes in a valve(s) inspection frequency and other attributes.
- D. This procedure shall be reviewed and approved by the following:
  - a. Director Engineering and Technical Services
  - b. Director(s) Operations

## Equipment

Qualified individuals performing routine and emergency valve inspection and maintenance activities require the following equipment:

- A. Valve Keys (Main and Curb)
- B. Flashlight rated for Class I, Division I, Group D hazardous locations.
- C. A calibrated Combustible Gas Indicator (CGI)
- D. Valve Grease Guns and Grease Rods
- E. Indelible (Permanent) Marker
- F. Yellow Marking Paint
- G. Locating Equipment for Valve box (i.e., Metal Detector)
- H. Hand Tools for removal of Valve Box (i.e., Screwdriver, Crowbar, etc.)
- I. Water removal tools rated for Class I, Division I, Group D hazardous locations.
- J. Dirt Removal tool (Blow Rod, Vac Trucks, Shovel, etc.)
- K. Measuring Wheel

## Operator Qualifications and Training

The following tasks are associated with valve maintenance tasks:

Task #52 – Operate curb / meter valve

Task #65 – Operate valves

Task #114 – Inspect and service distribution main valves



- Task #115 – Inspect and service transmission valves
- Task #116 – Repair and maintain distribution line valves
- Task #117 – Repair and maintain transmission line valves

## References

### A. Federal Regulations

- 49 CFR § 192.605 Procedural manual for operations, maintenance, and emergencies
- 49 CFR § 192.385 Manual service line shut-off valve installation
- 49 CFR § 192.745 Valve maintenance: Transmission lines
- 49 CFR § 192.747 Valve maintenance: Distribution systems

### B. Pennsylvania Regulations

- Title 52 § 59.37 Maps, plans and records



## Procedures

### 1.0 Valve Inspection Frequency

- 1.1 A critical valve must be inspected annually not to exceed 15 months, but at least once each calendar year.
- 1.2 A secondary valve must be inspected at least once every five (5) years not to exceed 65 months.
- 1.3 Curb valves installed as described in Section 4.1 are inspected at the same frequency as secondary valves.
- 1.4 Non-critical valves are not required for emergency needs and therefore do not require inspection. If noncritical valves are to be used for planned maintenance, they should be inspected prior to performing the maintenance.

### 2.0 General

- 2.1 Valves should be operated to the extent necessary to establish operability during an emergency. When operating the valve, precautions should be taken to avoid a service outage or over pressuring the system. Such precautions might include:
  - 2.1.1 Documenting the valve type (e.g., plug, gate, ball) and the direction and number of turns to operate the valve. Any other unusual operating characteristics of the valve should be documented in the remarks section of the valve inspection application.
  - 2.1.2 Verifying the orientation of the valve in relation to the valve stops.
  - 2.1.3 Monitoring downstream pressure for any variation from normal operating pressure.
- 2.2 When maintenance is completed, the operator should verify that the valves are in the proper position.
- 2.3 When inspecting or maintaining valves, the current as-built records should be compared with field conditions. Changes, such as referenced landmarks, street alignment, or topography, should be noted in the general location section of the inspection application and incorporated in the records.
- 2.4 Any valve inspected that separates different operating pressures (excluding regulator station bypass valves) shall be designated with a warning device (i.e. lock or welded plate over the valve) and should not be operated.
- 2.5 When an existing non-critical valve is to be reclassified as a critical (1 year) valve, inspection and maintenance shall be performed on the valve **prior** to reclassification. This inspection shall verify and document the valve is operable and will serve as the start of the 1-year inspection cycle. If the valve is not operable, it must be repaired, replaced, or remain as a non-critical valve.
- 2.6 When an existing non-critical valve is reclassified to an inspection cycle greater than its current inspection cycle, but not a critical valve classification (e.g. a valve not currently in an inspection cycle being reclassified to a 5 year inspection cycle.), valve inspection and maintenance shall be performed on the valve immediately **prior** to reclassification in the appropriate valve record system. The valve shall be confirmed to be operable prior to the reclassification. When reclassified in the valve record system, this inspection date



shall be used as the most recent valve inspection and be used to schedule future inspections.

- 2.7 All critical valves, excluding critical valves on a regulator station, must be shown on system maps. If a valve is not on the map, or is not in the correct location, provide updated valve sheets to Maps and Records, showing the updated information.
- 2.8 Operations is responsible to locate, inspect, repair, raise, or reset any valve box as required on all critical and secondary gas valves within the scope of a paving project.

### 3.0 Valve Maintenance and Inspection Activities

- 3.1 Verify that the field valve identification number, valve information, valve material (plastic or steel) and location match the existing records.
  - 3.1.1 If items on the inspection application do not match the actual in the field, correct the data in the inspection application.
  - 3.1.2 Any valve attribute data found different from the record that cannot be changed in the inspection application should be given to local engineering so the data can be corrected.
- 3.2 Clear any brush or debris that would interfere with or delay the operation of the valve. If valves have been paved over, raise the valve box at the time of inspection or issue an order to have the valve box raised as soon as possible.
- 3.3 Inspect the valve for evidence of external damage or leakage.
- 3.4 All distribution and transmission line valves identified as critical or secondary valves must be inspected and partially operated [except those valves identified Section 2.4](#).
- 3.5 If applicable, lubricate the valve. This should only be done if the valve is difficult to operate, cannot be operated, or if the valve is leaking.
- 3.6 When gas is present in a valve box, probe on both sides of the box parallel and to the side of the main to determine if gas is coming into the box through the ground. If no gas is present in the test or bar holes, attempt to grease the valve without excavating it. If the leakage cannot be stopped, then the leak must be classified and repaired within the appropriate timeframe according to the classification.
- 3.7 Take care when operating plastic valves. Valves should operate with ease. Do not use excessive force when operating plastic valves. If the valve does not operate freely, repair or replace the valve.

### 4.0 Curb Valves

- 4.1 Curb valves shall be inspected at intervals of 5 years not to exceed 65 months if they meet all the following criteria:
  - 4.1.1 The curb valve must be installed after 4/17/2017.
  - 4.1.2 The service associated with the curb valve has a manufacturer rated meter capacity exceeding 1,000 SCFH.
  - 4.1.3 The service associated with the curb valve does not have an excess flow valve (EFV) installed.
- 4.2 The inspection of these valves will ensure their accessibility in the event of an emergency. Curb valves should not be operated during its inspection.



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- 4.3 Clear any brush or debris that would interfere with or delay the operation of the valve.
- 4.4 If valves have been paved over, raise the valve box at the time of inspection or issue an order to have the valve box raised as soon as possible.
- 4.5 Check if gas is present in a valve box.
- 4.6 If gas is present in the valve box, probe on both sides of the box parallel and to the side of the main to determine if gas is coming into the box through the ground.
- 4.7 Classify the leak in accordance with GOM 70.20.20 and schedule repairs within the appropriate timeframe.

### 5.0 Inoperable Valves

- 5.1 One of the following actions should be considered if a critical or five-year valve is found inoperable:
  - 5.1.1 Repair or replace the valve, within the timeframes noted below, to make it operable.
    - a) If a critical valve is not operable, repair or replacement shall be promptly scheduled and completed within three months of the date the valve is found to be inoperable.
    - b) If a five-year valve is not inoperable, repair or replacement shall be made within 12 months of the date the valve is found to be inoperable.
  - 5.1.2 Consult engineering to designate another valve or valves to substitute for the inoperable valve that will provide a similar level of effectiveness for isolating the line section. Consideration should be given to the following:
    - a) Valve classification criteria as noted in Design Manual 10.20.10 Valve Requirements.
    - b) Updating records for emergency shutdown and future maintenance requirements.
    - c) Informing appropriate employees (i.e. Operations and Engineering) of the change to the isolation or emergency shutdown plan.
- 5.2 Engineering should be contacted to assist with and provide direction on non-routine maintenance and repairs, including the substitution of any critical valves.

### Record Keeping Requirements

UGI shall maintain in MapFrame or an electronic database, a record of the inspection activities performed.

### Revision Log

#### Revision Number 6: Date Approved: 1-13-2022

| Section | Description and Reason for the Change  |
|---------|--|
| 3.4     | Removed temporary variance to valve inspection requirements enacted during the COVID-19 Pandemic to minimize risk of human contact. All distribution valves must be partially operated during an inspection. |



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**Revision Number 5: Date Approved: 4-30-2020**

| Section | Description and Reason for the Change   |
|---------|---|
| All     | This procedure was put into a new format. The procedures were updated to the new procedure format. Changes that involved only formatting, rearrangement of editorial updates are not shown as changes. Changes that affect operations are shown with track changes and are listed below. The revisions in this procedure are to be utilized only during the |
| 2.1     | Added note to reference 3.4.1 as an exception to operating distribution valves for maintenance purposes during a pandemic.  |
| 3.4     | Due to the COVID-19 Pandemic, UGI is performing revised valve inspections to minimize human contact and help prevent the potential spread of this virus. Distribution valves not associated with a regulator station should not be turned during an inspection.   |
| 4.1     | Criteria for curb valves that require inspections were defined in this section instead of the Scope of this procedure.  |