

# 12-H Valve Maintenance

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### **1.0 SCOPE**

This chapter describes the procedures for inspecting and maintaining distribution and transmission valves on the DENC and DESC *pipeline* system.

### **2.0 REGULATORY REFERENCES**

49 CFR Part 192 §§ [192.745](#), [192.747](#)

### **3.0 PROCEDURES FOR VALVE OPERATION AND MAINTENANCE**

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#### **3.1 Valve Inspection and Maintenance [[192.745](#)] [[192.747](#)]**

- (a) Each valve that *may* be necessary for the safe operation of DENC and DESC's distribution or transmission systems *must* be maintained at least once each calendar year, but at intervals not exceeding 15 months.
- (b) All system valves *shall* be designated as either "critical", "non critical", or "obsolete".
  - "Critical" valves are maintained each year.

- "Non-Critical" valves are not vital to the system and are not maintained each year.
- Valves that are inoperable, inaccessible or cannot be found in the field after reasonable efforts have been made to locate them and are deemed unnecessary for the safe operation of the *gas* system shall be designated as "obsolete". Request for valves to be designated as "obsolete" *should* be submitted in writing to the Director for approval. "Obsolete" valves will not appear on maintenance reports; however, GIS will keep these valves on system maps for future reference.

(c) Determination to operate the valve

- (1) The area Supervisor or Manager responsible for valve maintenance will make a determination to partially or fully operate a critical valve during annual valve maintenance. This decision depends on the consideration of many factors but the most important are the location of the valve in the system and the potential impact of operating the valve.
- (2) Transmission valves SHOULD BE PARTIALLY OPERATED.
- (3) The area Supervisor or Manager responsible for valve maintenance will evaluate the gas system to ensure that the necessary valve wrenches are available to respond to an *emergency*. This could include slotted (water valve) style wrenches and long wrenches for accessing deep valves.
- (4) Certain valves which connect higher pressure systems with lower pressure systems, e.g., Station Bypass Valves. Operation of these valve have the potential cause a system overpressure.
- (5) Notify and coordinate with the Control Room when a remote operated valve will be opened or closed during annual valve maintenance.

(d) Operating the valve

Valve maintenance should include the following:

(1) Inspecting the valve:

- (i) Locate the correct valve. Confirm that the valve has been correctly identified using GIS and digital compliance records (measure centerline dimensions if necessary).
- (ii) Know the valve characteristics. Review all digital compliance information (type of valve, presence of stops, number of turns, etc.)
- (iii) Carefully remove and check valve box cover to ensure that it is painted yellow and displays the word "Gas" on its top.
- (iv) Check valve box for leakage (if you smell gas – use a CGI to check for leaks). Leaks should be documented in LDF.
- (v) Verify valve box is in good condition, properly aligned with the valve and installed to the correct height.
- (vi) Remove any water, dirt and/or debris that may be covering the valve operating nut.
- (vii) Check valve for damage or corrosion and, if applicable, inspect the condition of grease stem, valve stops and valve wrench adapter.
- (viii) Before placing the valve wrench on the valve head, visually inspect (use a flashlight as needed) the operating mechanism to:
  - (A) ensure that it is accessible.
  - (B) determine the type of valve (plastic, plug, ball, or gate valve).

- (C) determine if the valve has stops.
- (D) verify the valve is in the "ON" position based on the relation of the indicator to the *main*.
- (ix) If the valve should be open but appears to be closed, or almost closed, follow up is required (may include notification to supervisor, *engineering*, GIS, etc).
- (x) If the valve does not have stops and the position cannot be visually confirmed, follow up is required (may include notification to supervisor, engineering, GIS, etc).
- (xi) Verify that location measurements, valve size, valve type, number of turns, presence of stops, and other valve information is correct on digital compliance records.
- (xii) If valve information is incorrect, complete as required in Essentials to have the change submitted to GIS.
- (xiii) Employees who operate and/or maintain valves must understand the type of valve, the location/orientation of the main, the valve head and position indicator, and the valve wrench being used in order to ensure that valve positions as found and left are correct.
- (xiv) Place valve wrench on valve operating nut - exercise caution not to damage plastic valves with valve wrench.
- (xv) For normally open valves, turn the valve wrench counter clockwise (CCW) to remove any slack between the valve operating nut and valve wrench operating head adapter and mark position of valve wrench on ground with paint (or other effective means if paint can't be used).
- (xvi) For normally closed valves, Turn the valve wrench clockwise (CW) to remove any slack between the valve operating nut and valve wrench operating head adapter and mark position of valve wrench on ground with paint (or other effective means if paint can't be used).
- (xvii) Operate the valve to ensure it is operable
- (xviii) Confirm the valve is returned to its original position. Notify supervision of any situation that may affect the ability to make this verification.
- (xix) Lubrication-type plug valves should be purged and lubricated, as needed, if operation of the valve becomes difficult or if the valve leaks. It may be necessary to leave purge in the valve for several days to properly soften hardened lubricants prior to injecting new lubricant.
- (xx) Replace valve box cover (or test box cover) if damaged or missing.

#### **State Specific: South Carolina**

If the valve has CP wires in the box, or in a test point next to the box, a pipe to soil potential reading should be taken and recorded in the appropriate place.

#### **(e) Valves that will not operate:**

In the event that a valve does not properly operate, management is responsible for correcting the issue by additional investigation, outside technical support, replacement, etc. Failure information should also be entered in LDF for documentation.

### 3.2 Remedial Action [[192.745](#)] [[192.747](#)]

Prompt action must be taken to remediate any inoperable conditions affecting transmission or distribution valves. In the event that remedial action is not completed within 90 days of *discovery*, an alternative valve will be designated. See [Chapter 3 - Design of Pipe and Components](#) for appropriate designation criteria.

### 3.3 Valve Locations

- (a) Curb valves (also known as service valves) on existing services to schools, hospitals and other critical high occupancy facilities should be located and, if not already in the GIS, the curb valve and *service line* should be added to the GIS. GIS will update the digital compliance record keeping system by adding the curb valve to the annual maintenance list.
- (b) Curb valves (also known as service valves) on existing services to inside meter sets at high occupancy buildings (stores, malls, churches, offices, condominiums, apartments, etc.) should be located and, if not already in the GIS, the curb valve and service line should be added to the GIS. GIS will update the digital compliance record keeping system by adding the curb valve to the annual maintenance list.

**NOTE:** Meter sets should be considered to be "inside" a building if enclosed in such a way as to prevent ready access in the event of an emergency. Examples of this situation would be meter sets in parking garages, under loading docks or decks, in stairwells or alleys with restricted access, etc. If a curb valve is not present, cannot be located or is also not readily accessible, a curb valve should be installed unless a system valve (or valves) would serve as a practical alternative in the event emergency shutdown of the service and/or "inside" meter set was required.

- (c) Valves that are abandoned (permanently removed from service) in place or removed from the system should be removed from GIS maps and maintenance records.

### 3.4 Rupture Mitigation Valve Maintenance [[192.745\(e\)](#)]

For valves installed on an onshore pipeline under [GD-OM-L-060-002](#) that are indicated to be inoperable or unable to maintain effective shut-off, corrective remedial measures shall be implemented as follows:

1. Repair or replace the valve as soon as practicable but no later than 12 months after finding that the valve is inoperable or unable to maintain effective shut-off. The Company must request an extension from PHMSA in accordance with [192.18](#) [Chapter 1-C, Reports, Safety Related Conditions and Exceedances] if repair or replacement of a valve within 12 months would be economically, technically, or operationally infeasible; and
2. Designate an alternative valve acting as an RMV within 7 calendar days of the finding while repairs are being made and document an interim response plan to maintain safety. Such valves are not required to comply with the valve spacing requirements of [§192.179](#).

### 4.0 TRAINING/QUALIFICATIONS

See the appropriate system Operator Qualification Program.

### 5.0 DOCUMENTATION/FORMS

Records of valve maintenance will be kept on the digital compliance record keeping system.

#### Record Retention:

As long as a line remains in service, the transmission records documenting valve maintenance shall be maintained.

These are minimum requirements. Periodically, designated records as listed above or copies of such shall be forwarded to Engineering for permanent filing. Once placed in the permanent file, these on records shall be kept for the life of the pipeline. Permanent files may be kept in a variety of media including but not limited to paper, micrographic or electronic. Engineering is responsible for designating records to be placed into the permanent file and maintenance of such. No permanent records may be destroyed or disposed of without prior approval from the General Manager-Engineering & Construction.

#### **State Specific: South Carolina**

- [Add/Modify/Remove Valve Record](#) (PDF file)
- [Transmission System - Add/Modify/Verify Valve Record](#) (PDF file)

#### **6.0 RELATED DOCUMENTS**

None at this time.

#### **7.0 APPENDICES**

None at this time.

(UNCONTROLLED IF PRINTED)