

1030 - Valves

Effective 9/1/2010

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1. DISTRIBUTION VALVE PLACEMENT

1. Along with the following locations, customer count, area served, operating pressure, pipeline size, local physical conditions and other factors will be considered when determining valve placement. Distribution Valves shall be designated at the following locations, and additionally as designated by the engineer. Any deviation from this procedure shall be approved by the Engineering Manager.:
1. Valves should be placed such that any part of the gas distribution system can be shut down without affecting more than 500 customers. Valve spacing should be closer in high-density business districts, high-density residential areas, and downtown areas.
2. In all cases valves should be installed so as not to be located directly under heavy traffic.
3. Valves should be installed at least at one mile intervals on 4" or larger distribution mains. Valve spacing should be closer in high-density business districts, high-density residential areas, and downtown areas.
4. Valves should be installed on lateral mains that extend from 4" or larger mains.
5. Entrances to subdivisions require a valve. Subdivisions with 100 or more customers may require multiple valves to isolate sections.
6. Valves should be used in special cases for new commercial and industrial services or mains as approved by the Divisional Engineering Manager. Likely examples are services to schools, hospitals, apartment complexes, shopping centers, industrial complexes, and services 2" or larger.
7. A valve should be installed at least 50 feet upstream if possible, but in no case closer than 15 feet, from the inlet riser at each regulator station

8. A valve should be installed at least 50 feet downstream when possible, but in no case closer than 15 feet, from the outlet riser at each regulator station that is tied into a distribution system supplied by one or more other regulator stations.
9. Valves should be installed on both sides of pipeline crossings at railroads, navigable waterways, controlled access highways, and major bridge crossings. These valves should be located a sufficient distance from the crossings to permit the operation of the valves during an emergency that might preclude access to the pipeline crossing.
10. Valves should be installed in areas where invasive excavations are not favorable during emergency situations. (Eg. Alleys, fully paved areas, ditches, other limited access areas.)
11. Valves on lateral mains should be placed as close as possible or practicable to the source main.

2. TRANSMISSION VALVE PLACEMENT

1. For lines designed to transmission standards, each point on the pipeline shall be:
 1. Within 2-1/2 miles of a valve in Class 4 locations
 2. Within 4 miles of a valve in Class 3 locations
 3. Within 7-1/2 miles of a valve in Class 2 locations
 4. Within 10 miles of a valve in Class 1 locations

3. VALVE INSTALLATION

1. The following general guidelines shall apply when installing valves in the distribution system for operating or emergency purposes.
 1. Only qualified workmen shall be permitted to install valves.
 2. Above ground valves shall be approved by Engineering.
 3. In general, underground steel distribution valves shall be weld x weld non-lubricated types.
 4. Gaskets shall be of the inside ring type of Johns-Mansville 1/16" service sheet packing or equivalent.
 5. Alloy studs and nuts shall be used on all flanged distribution valves.
 6. Where lubricated valves are used underground, lubricant fittings shall be piped into the valve box so as to be readily accessible from the surface.
 7. Valves shall be enclosed in valve boxes and shall be operable from above ground using the proper valve wrench.
 8. The valve boxes or enclosures must be installed so as to avoid transmitting external loads to the main. Valve box supports should be used with all 2" and smaller plastic valves. Valve boxes should be correctly sized, properly configured, and installed according to the manufacturer's instructions. See [4. VALVE BOXES](#) below in this procedure for a listing of valve boxes, supports, and associated items.

10. Valves shall be installed so as not to be under any strain. In order to accomplish this, the use of "pup" joints on either side of a valve may be required.
11. Valves designed for use below ground shall not be tied to the main or service installed in the pipe above ground then lowered into the ditch. Final tie-ins for these valves should be welded, fused or joined to the pipeline in the excavation. It is permissible for a valve assembly of ten feet or less to be lowered into the ditch and joined to the pipeline by welding or electrofusion. These valves shall be leveled utilizing a level prior to welding or fusing.
12. The operating stem or mechanism must be readily accessible.
13. Cast iron valve boxes should not be installed due to possible pipe coating damage or other maintenance problems. Effort should be made to eliminate existing cast iron valve boxes whenever possible
14. Each valve installed in plastic pipe must be designed so as to protect the plastic material against excessive torsional or shearing loads when the valve is operated, and from any other secondary stresses that might be exerted through the valve or its enclosure.
15. When the installation of a valve is required at the tie-in of a new plastic main with an existing steel main, the installation should be constructed using a steel tapping tee, a section of coated steel pipe, a steel valve and then a steel-to-plastic transition fitting. Any exceptions must be approved by System Engineering.
16. In accordance to the Division Cathodic Protection Specialist, an insulator shall be installed where necessary along with steel valves.

4. VALVE BOXES

1. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1473

1. Valve Box for:

1. 2" Kerotest WxW Steel Body Valve (use 3" arch cut out)
2. 2" Balon WxW Steel Body Valve (use 2" arch)
3. 2" Nordstrom Reduced and Full Port Poly Valve (use 2" arch)
4. 2" Perfection Full Port Poly Valve (use 2" arch)

2. B&T Description:

1. P- 500 Valve Box complete with 104 Bell, 2" arch and partially cut (Bingham & Taylor) for 3" arch, lid "GAS", 24" long top section, 36" long bottom section

2. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1458

1. Valve Box for:

1. 4" Nordstrom and Kerotest Reduced Port Poly Valve (use 4" arch)
2. 4" Nordstrom Full Port Poly Valve (use 6" arch cut out)

3. 4" Kerotest Full Port Poly Valve (use 6" arch cut out)

2. B&T Description:

1. P- 500 Valve Box complete with 105 Bell, 4" arch and partially cut for 6" arch, lid "GAS", 24" long top section, 36" long bottom section

3. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1565

1. Valve Box for:

1. 4" and 6" Walworth, Nordstrom, Rockwell Iron Body Valves

2. 4" Balon WxW Steel Body Valve

2. B&T Description:

1. P- 500 Valve Box complete with 103 Bell, 6" arch, lid "GAS", 24" long top section, 36" long bottom section

4. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1427

1. Valve Box for:

1. 4" Kerotest WxW Steel Body Valve

2. Handley Description:

1. G6VAB4NAD Complete box, top, bottom and lid.

5. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1443

1. Valve Box for:

1. 6" Nordstrom Full Port Poly Valve and

2. 6" Balon WxW Steel Body Valve

3. 6" Kerotest Full Port Poly Valve

2. B&T Description:

1. P- 500 Valve Box complete with 108 Bell, 8" arch, lid "GAS", 24" long top section, 36" long bottom section

6. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1432

1. Valve Box for:

1. 6" Kerotest WxW Steel Body Valve

1. G6VAX4N17AD Complete box, top, bottom and lid.

5. VALVE SUPPORTS

1. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1480

1. Valve Support for:

1. 3/4" to 1-1/4" Perfection Poly Valves

2. B&T Description:

1. Small Valve Support, fits into 104 Bell

2. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1485

1. Valve Support for:

1. 2" Perfection Full Port Poly Valve

2. B&T Description:

1. 2" Valve Support, fits into 104 Bell

6. PAVING RISERS

1. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1533

1. Description:

1. 1" Paving Risers for valve boxes

2. B&T Description:

1. Figure 6016 - B, 1" Paving Riser

2. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1548

1. Description:

1. 2" Paving Risers for valve boxes

2. B&T Description:

1. Figure 6016 - B, 2" Paving Riser

3. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1563

1. Description:

1. 3" Paving Risers for valve boxes

2. B&T Description:

1. Figure 6016 - B, 3" Paving Riser

7. VALVE BOX EXTENSION

1. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1518

1. Description:

1. 18" Extension for valve boxes

2. B&T Description:

1. P-64-E Extension 18" long

8. VALVE BOX BOTTOMS ONLY (for valves already installed and tops can be re-used)

1. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 149

1. Valve Bottom for:

1. 4" Nordstrom and Kerotest Reduced Port Poly Valve (use 4" arch)
2. 4" Nordstrom Full Port Poly Valve (use 6" arch cut out)
3. 4" Kerotest Full Port Poly Valve (use 6" arch cut out)

2. B&T Description:

1. Bottom only: 105 Bell, 4" arch and partially cut for 6" arch, 36" long bottom section

2. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1492

1. Valve Bottom for:

1. 6" Nordstrom Full Port Poly Valve
2. 6" Kerotest Full Port Poly Valve

2. B&T Description:

1. Bottom only: 108 Bell, 8" arch, 36" long bottom section

3. Dominion Energy Item Number (for ordering from Consolidated): 043 1130 1498

1. Valve Bottom for:

1. 4" and 6" Walworth, Nordstrom, Rockwell Iron Body Valves

2. 4" Balon WxW Steel Body Valve

2. B&T Description:

1. Bottom only: 103 Bell, 6" arch, 36" long bottom section

(UNCONTROLLED IF PRINTED)