



CITY OF RICHMOND
DEPARTMENT OF PUBLIC UTILITIES
GAS AND LIGHTS DIVISION
OPERATIONS CENTER

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December 17, 2015

Mr. Byron Coy, PE
Director, Eastern Region
Pipeline & Hazardous Materials Safety
Administration, Eastern Region
820 Bear Tavern Road, Suite 103
West Trenton, New Jersey 08628

**RE: Notice of Probable Violation and Proposed Compliance Order
CPF 1-2015-0011**

Dear Mr. Coy:

The City appreciates PHMSA for deciding not to impose a civil penalty assessment and would like to accept the proposed Compliance Order. Below is the City's response to PHMSA's proposed Compliance Order specified per Notice of Probable Violation CPF 1-2015-0011 dated September 3, 2015.

1. The City will review/revise its Operations and Maintenance (O&M) procedures/operation qualification (OQ) materials, and training guides used to qualify personnel responsible for the leak repairs/reinstating service on City Service lines.

Response: The City reviewed and determined that no revisions to the O&M Procedures and Operator Qualification training materials and tests were needed. Both the O&M Procedures and the City's Operator Qualification training and testing materials included procedures informing the employees to pressure test all installed, reinstated, temporarily disconnected pipelines, and services in accordance with CFR 192.725.

{Reference to enclosed documents: 1) O&M Procedure I.3.VIII (A) (1) - General Information, 2) O&M Procedure I.3.VIII (B) (3a) - Test Requirements, and 3) Copy of the City's OQ PECCG 1301.1 Test Form}

2. The City will conduct refresher training for all personnel referenced in Item 1.

Response: The City will schedule a refresher training for all personnel referenced in Item 1.

3. The City will submit documentation that training was completed to PHMSA within 180 days of receipt of the Final Order. The documentation shall include as a minimum: name of instructor(s), names of trainees, date(s) of training, and trainees' signature(s).

Response: The City will submit documentation that training was completed within 180 days from receipt of the Final Order. The document will include at minimum: name of the instructor(s), name and signature of the trainees, and date(s) of training.

4. It is requested (not Mandated) that the City maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Byron Coy, PE, Director, Eastern Region, Pipeline and Hazardous Materials Safety Administration.

Response: The refresher training is part of the City's Operator Qualification program that we normally perform. Therefore, the City does not foresee additional costs to satisfy the Compliance Order. However, the City will provide safety improvement costs associated with fulfilling this Compliance Order if applicable.

The City of Richmond understands that PHMSA is working diligently with us to achieve the similar goal of making our infrastructure safe. Thank you for your consideration. If you have any questions or concerns, please contact me at (804) 646-8052.

Sincerely,



Sang J. Yi
Engineer III
City of Richmond-DPU Gas & Lights
400 Jefferson Davis Highway
Richmond, Virginia 23224

cc: Robert Steidel, Director
Department of Public Utilities

Alfred Scott, Deputy Director II
Department of Public Utilities, Gas & Lights

7. In a Class 1 or Class 2 location, if there are any buildings intended for human occupancy within 300 feet of a pipeline, a hydrostatic test must be conducted to a test pressure of at least:
 - a. 60 percent of maximum operating pressure.
 - b. 75 percent of maximum operating pressure.
 - c. 125 percent of maximum operating pressure.
 - d. 150 percent of maximum operating pressure.
8. In the case of buildings in Class 1 or 2 locations, if the buildings are evacuated while the hoop stress exceeds 50 percent of SMYS, which of the following may be used as the test medium?
 - a. Natural gas
 - b. Air or inert gas
 - c. Water
 - d. Carbon monoxide
9. In a Class 1 or Class 2 location, which of the following must be tested to at least Class 3 location test requirements?
 - a. Each compressor station
 - b. Each regulator station
 - c. Each measuring station
 - d. All of the above
10. In all cases of pipe testing, regardless of proposed operating pressure, it is necessary that:
 - a. The test is made at a pressure between 100 p.s.i.g. and the pressure required to produce a hoop stress of 20 percent of SMYS.
 - b. The test procedure ensure discovery of all potentially hazardous leaks in the segment tested.
 - a. The test is followed as soon as possible by a leak survey.
 - b. The line is walked to check for leaks while the hoop stress is held at approximately 30 percent of SMYS.
11. If a segment of transmission line is repaired by cutting out the damaged portion of the pipe as a cylinder, the replacement pipe must be:
 - a. Tested to the pressure required for a new line installed in the same location.
 - b. Tested after it is installed.
 - c. Tested to the pressure required for a new line installed in the same location if the replacement segment is longer than 30 feet.
 - d. Tested to the maximum pressure produced by the available air compressor.
12. Before being reinstated, each disconnected service line must be tested in the same manner as a new service line except that:
 - a. Each service line temporarily disconnected from the main must be tested from the point of disconnection to the service line valve in the same manner as a new service line before reconnecting.
 - b. If provisions are made to maintain continuous service, such as by installation of a bypass, any replacement part of the service line need not be tested.
 - c. Any replacement part of the service line must be tested to the pressure required for a new line installed in the same location if the replacement segment is longer than 30 feet.
 - d. No tests are required if the disconnected service line is monitored and reconnected the same day.



UTILITY: Natural Gas
Volume I Procedures Manual
Chapter/Section 3 / VIII
Topic: Testing

Effective Date: 10/15/2015
Revised: 8/05/2015

Deputy Director: Signature on file

Date: _____

REFERENCES:

- Title 49 CFR 192. Subpart J. Test Requirements
 - §192.503, General requirements
 - §192.507, Test requirements for pipelines to operate at a hoop stress less than 30% SMYS and at or above 100 p.s.i. (689kPa) gage
 - §192.509, Test requirements for pipelines to operate below 100 p.s.i. (689kPa) gage
 - §192.511, Test requirements for service lines
 - §192.513, Test requirements for plastic pipelines
 - §192.515, Environmental protection and safety precautions
 - §192.517, Records
- Title 49 CFR 192.725 Test requirements for reinstating service lines

I. POLICY

- A. This procedure is categorized as both a Construction Specification under 49 CFR 192.303 and an O&M procedure under 49 CFR 192.605 because provisions to meet both regulatory sections are contained herein.
- B. The City of Richmond DPU will test gas mains and services to substantiate Maximum Allowable Operating Pressure (MAOP) and to ensure discovery of all potentially hazardous leaks.
- C. This procedure provides instructions for all plastic mains and services and all steel pipelines designed to operate at a hoop stress of less than the 20% of the specified minimum yield strength (SMYS).
- D. For the testing of pipelines that will operate over 20% SMYS, specific job procedures shall be written that comply with federal code requirements. Consult 49 CFR 192.503c, 192.505, 192.515, and 192.507b for additional testing restrictions. Currently there is no pipeline operating above 20% SMYS.

II. DEFINITIONS- NONE

III. REQUIREMENTS - NONE

IV. PROCEDURES

A. General Information

- 1. All pipeline and services installed or reinstated on the system shall be pressure tested for leak-test and strength-test requirements. The test procedure and duration must insure discovery of all potentially hazardous



leaks in the segment being tested. If the test indicates that a leak is present, the leak(s) shall be located, noted, and repaired.

2. The test medium may be water, air, natural gas, or inert gas that is:
 - a. Compatible with the material of which the pipeline is constructed;
 - b. Relatively free of sedimentary materials; and
 - c. Except for natural gas, nonflammable
3. The use of air and nitrogen is the preferred method.

B. Test Requirements

1. The Operations Manager Gas Construction and the Operations Manager Gas Maintenance are responsible to ensure that all segments of pipeline are tested under these procedures.
2. Mains shall be tested as detailed below:

Test Requirements for Steel Pipelines		
Operating Pressure Range	1 psig – 99 psig	100 psig – 199 psig
Minimum Test Pressure	90-100 psig	430 psig
Minimum Test Duration	Minimum of 1 hour plus 30 minutes for each additional 1000 feet	Minimum of 1 hour plus 30 minutes for each additional 1000 feet
Resulting Maximum Allowable Operating Pressure (MAOP)	99 psig	285 psig
Pressure recording device	Pressure Gauge or Pressure Chart	Pressure Gauge or Pressure Chart

Test Requirements for Plastic Pipelines (currently none operating >30 psig)	
Operating Pressure Range	< 1 psig – 60 psig
Minimum Test Pressure	90 psig
Minimum Test Duration	Minimum of 1 hour plus 30 minutes for each additional 1000 feet
Resulting Maximum Allowable Operating Pressure (MAOP)	60 psig
Pressure recording device	Pressure Gauge or Pressure Chart



- a. All short sections of pipe and fabricated units (fused stubs on valves, for example) shall be pressure tested. If a post installation test is impractical, short sections of pipe or fabricated units may be pre-tested to the above requirements and maintained in stock for emergency repairs.
 - (1) Such pipe shall be marked as pre-tested and records shall be maintained to verify the strength-test and leak-test status using pretest pipe form (See Exhibit A).
 - (2) Minimum test pressures shall be as listed above.
 - (3) The minimum test duration for any pre-tested pipe is one hour.
 - (4) Final tie-in joints, including welds, fittings, and fusions shall be soap tested at operating pressure after being placed in service. No leakage is permissible.

3. Services shall be tested as detailed below:

Test Requirements for Service Lines (currently none operating >30 psig)	
Operating Pressure Range	< 1 psig – 30 psig
Minimum Test Pressure	50 psig
Minimum Test Duration	5 minutes
Resulting Maximum Allowable Operating Pressure (MAOP)	33 psig
Pressure recording device	Pressure Gauge

- a. Each service line temporarily disconnected from the main must be tested from the point of disconnection to the meter valve in the same manner as a new service line, before reconnecting.
 - (1) Before testing, disconnect the meter valve from the manifold or meter and open the meter valve to confirm that no residual gas pressure remains in the line.
 - (2) If provisions are made to maintain continuous service, such as by installation of a bypass, any part of the original service line used to maintain continuous service need not be tested.
 - (3) The final tie-in joint shall be soap tested at operating pressure after being placed in service. No leakage is permissible.

C. Test Procedures

- 1. Tests shall be conducted in a manner that reasonably protects persons and property in the event of test failure.
- 2. It is recommended, however not required, that the pipeline segment to be tested be physically isolated from all other pipelines. Testing against closed