

Pennsylvania PUC Pipeline Safety Seminar 49 CFR Part 192

Subparts L & M

Key Issues

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Subpart L, Operations

- §192.605 Procedural manual for operations, maintenance, and emergencies
- Amdt. 192-71, eff. 3/14/94
 - Must include procedures for operating, maintaining, repairing pipelines according to L&M.
 - Procedures for Subpart I.
- Preamble text..
 - ...this manual may be a comprehensive set of cross-referenced volumes set up according to functional subjects.
 - Operators are expected to maintain a complete set of the volumes of the comprehensive reference manual at one location.





192.605 O&M Manual

- Copies of parts of the manual, containing the information pertinent to particular functions or facilities in a system, must also be kept wherever needed for field operations.
- RSPA requires operators to prepare O&M procedures only for those pipeline facilities within their system.
- For transmission lines, the manual must also include procedures for handling abnormal operations.



192.605 O&M Manual

- Interpretation 10/24/99...Operators must include in their manuals as much design and construction information, such as welding or other joining procedures, as is necessary to carry out operation, maintenance, and emergency response activities.
- 192.605 is the most common code section cited for violations





Manual Sections

- Section 1 Safety-Related Conditions
- Section 2 Incident Reporting
- Section 3 Class Locations - Transmission
- Section 4 Continuing Surveillance
- Section 5 Damage Prevention Program
- Section 6 Investigation of Failures
- Section 7 Maximum Allowable Operating Pressure



Manual Sections

- Section 8 Pressure Monitoring
- Section 9 Odorization of Gas
- Section 10 Tapping Pipelines Under Pressure
- Section 11 Purging of Pipelines
- Section 12 Repair Procedures
- Section 13 Patrolling & Leak Survey
- Section 14 Record Keeping





Manual Sections

- Section 15 Leak Classification & Action Criteria
- Section 16 Line Markers for Mains & Transmission Lines
- Section 17 Test Requirements for Reinstating Main & Service Lines
- Section 18 Abandonment or Inactivation of Facilities
- Section 19 Regulator Station Inspection
- Section 20 Emergency Valve Procedure



Manual Sections

- Section 21 Prevention of Accidental Ignition
- Section 22 Corrosion Control
- Section 23 By - Pass Operation
- **Section 24 Trench Safety**
- Section 25 Steel Welding Qualification
- Section 26 Compressor Stations





Manual Sections

- Section 27 Pipeline Safety Inspection Reports
- Section 28 Inspection of Combustible Gas Indicators
- Section 29 Safe Handling of Hydrates
- Section 30 Operation and Maintenance Schedule
- Section 31 Startup and Shutdown of a Pipeline
- Section 32 Emergency Plan



Subpart L, Operations

- §192.611 Change in class location: Confirmation or revision of maximum allowable operating pressure.
 - 24 months from time of class location change. Amdt. 94, 7/14/04
- §192.613 Continuing Surveillance.
 - (a) Each operator shall have a procedure for continuing surveillance of its facilities to determine and take appropriate action concerning changes in class location, failures, leakage history, corrosion, substantial changes in cathodic protection requirements, and other unusual operating and maintenance conditions. (Plastic – IA, IL; steel – WA, current)





Subpart L, Operations

- §192.615 Emergency plans.
 - Receive notice of events requiring immediate response
 - Maintain communication with public officials
 - Int. 1/21/00 – face to face not required
 - Respond to emergencies (Procedures for responding to gas odors inside or near a building to be included in O&M plan unless addressed in Emergency Plan)
 - Availability of personnel and equipment
 - Protect life and property



Subpart L, Operations

- 192.615 Emergency plans.
 - Emergency shutdown
 - Make safe
 - Notify public officials
 - Restore service
 - Begin investigation (see 192.617)





GPTC Guide – Receiving notice of an event

- (2) Directions to employees who receive calls considering the following.
- (i) The information received should be assessed in order for the operator to react properly to the call and to inform the caller of precautionary actions to be taken prior to operator personnel arrival. Personnel receiving notices of gas leaks or odors should obtain the following basic information from the caller, and inform the caller that access will be required.
- Name
 - Address of leak or odor
 - Telephone number
 - Reason for call
 - Location of the odor (inside or outside)



GPTC Guide – Receiving notice of an event

- (ii) Additional questions that could be asked to assist in determining the priority for action, and if additional instructions should be provided to the caller, include the following.
- Strength of odor?
 - Length of time odor has been present?
 - Was anyone working on indoor gas piping or appliances?
 - Is there any construction in the area?
 - Can you hear evidence of escaping gas?
 - What type of building or facility is involved?





GPTC Guide – Receiving notice of an event

(iii) If the answers to these or other questions indicate a potentially hazardous situation, consideration should be given to providing additional instructions to the caller, such as the following.

- Do not create a source of ignition by operating switches, electrical appliances, or portable telephones.
- Evacuate the area and wait for operator personnel to arrive.
- Call back from a safe location to provide additional information for response personnel.

(iv) If leakage of gas or the hazard is determined to be significant, the operator should consider contacting the local emergency response agency, such as the fire or police department (call 911 where appropriate), informing them of the emergency situation and providing pertinent information.



GPTC Guide – Receiving notice of an event

(3) Personnel receiving emergency calls should receive periodic refresher training on leak call procedures, communication skills, and reporting procedures. Periodic performance reviews should be conducted during actual leak calls.

(b) Instructions to operator personnel should ensure that the information received is evaluated to determine the priority for action. Some situations call for personnel to be dispatched promptly for an on-the-scene investigation. Personnel should respond in an urgent manner giving a potential emergency top priority until the severity of the situation has been determined. Some situations require that priority be given to other actions, such as notification of gas control or emergency response personnel. See 3.3 below.





GPTC Guide – Receiving notice of an event

Emergency situations that require immediate response may include the following.

- (1) Gas ignition or explosion.
- (2) A hissing noise is present or there is any indication of a broken or open-ended pipe.
- (3) Report of a pulled service or damaged facility.
- (4) Gas odor throughout the premise or building.
- (5) Other identified (operator designated) emergencies.



“Make Safe” Actions To Consider in an Emergency

- Implement company emergency plan
- Evacuate buildings
- Block-off area
- Reroute traffic
- Eliminate sources of ignition
- Ventilate
- Stop the flow of gas
- Notify police and fire departments






Subpart L, Operations

- §192.616 Public Education
 - NPRM to IBR API RP 1162, 6/24/04. See Docket 15852 at dms.dot.gov.
 - PA 59.33 Each public utility shall at all times use every reasonable effort to properly warn and protect the public from danger, ...
 - Some questions to ask...
 - How/when would our customers know to report a gas emergency?
 - Would a non-customer living near a gas line recognize a gas emergency?
 - Would a non-customer know how to report a gas emergency?



Subpart L, Operations

- §192.619 Maximum allowable operating pressure: Steel or plastic pipelines.
 - (a) Except as provided in paragraph (c) of this section, no person may operate a segment of steel or plastic pipeline at a pressure that exceeds the lowest of the following:
- §192.625 Odorization of gas. 





Subpart M, Maintenance

- §192.705 Transmission lines: Patrolling.
 - Class 1, 2 – 2x yr. (NTE 7 ½ mo.) at highways/railroads, 1x yr. (NTE 15 mo.) all other locations.
 - Class 3 – 4x yr. (NTE 4 ½ mo.) at highways/railroads, 2x yr. (NTE 7 ½ mo.) all other locations.
 - Class 4 – 4x yr. (NTE 4 ½ mo.) at highways/railroads, 4x yr. (NTE 4 ½ mo.) all other locations.
- A patrol, leak survey and continuing surveillance activity can be combined into one activity.



Subpart M, Maintenance

- §192.706 Transmission lines: Leakage surveys.
 - Leakage surveys of a transmission line must be conducted at intervals not exceeding 15 months, but at least once each calendar year.
- For unodorized transmission lines –
 - (a) In Class 3 locations, at intervals not exceeding 7 1/2 months, but at least twice each calendar year; and
 - (b) In Class 4 locations, at intervals not exceeding 4 1/2 months, but at least four times each calendar year.
- A patrol, leak survey and continuing surveillance activity can be combined into one activity.





Subpart M, Maintenance

- §192.707 Line markers for mains and transmission lines.
 - (a) Buried pipelines. Except as provided in paragraph (b) of this section, a line marker must be placed and maintained as close as practical over each buried main and transmission line:
 - (1) At each crossing of a public road and railroad; and
 - (2) Wherever necessary to identify the location of the transmission line or main to reduce the possibility of damage or interference.



Subpart M, Maintenance

- (b) Exceptions for buried pipelines. Line markers are not required for the following buried pipelines:
 - (1) waterways and other bodies of water.
 - (2) Mains in Class 3 or Class 4 locations where a damage prevention program is in effect under §192.614.
 - (3) Transmission lines in Class 3 or 4 locations until March 20, 1996.
 - (4) Transmission lines in Class 3 or 4 locations where placement of a line marker is impractical.
- (c) Pipelines above ground. Line markers must be placed and maintained along each section of a main and transmission line that is located above ground in an area accessible to the public.





GPTC Guide Marker info

3.1 General.

Installing ...in an area where, in the operator's judgement, the potential for future excavation or damage is likely. Typical examples include the following.

- (a) Drainage areas**
- (b) Irrigation ditches and canals**
- (c) Drainage ditches subject to periodic grading, including those along roads.**
- (d) Agricultural areas**
- (e) Active drilling or mining areas.**
- (f) Waterways or bodies of water subject to dredging or shipping activities.**
- (g) Industrial or plant areas**



GPTC Guide Marker info

3.2 Transmission lines.

- (a) Installing markers at fence lines, angle points**
- (b) Other methods ... such as stenciled markers, cast monument plaques, signs, or devices flush mounted in curbs, sidewalks, streets, building facades or other appropriate locations.**
- (c) Temporary markers in areas of known heavy construction activity**

3.3 Distribution lines.

- (a) While markers are not normally practical for distribution systems, indicating the presence of the line where special problems exist. See 3.2(b)**
- (b) Temporary markers in areas of construction activity during the period construction is in progress.**





Subpart M, Maintenance

- (d) Marker warning. The following must be written legibly on a background of sharply contrasting color on each line marker:
 - (1) The word "Warning," "Caution," or "Danger" followed by the words "Gas (or name of gas transported) Pipeline" all of which, except for markers in heavily developed urban areas, must be in letters at least 1 inch (25 millimeters) high with 1/4 inch (6.4 millimeters) stroke.
 - (2) The name of the operator and telephone number (including area code) where the operator can be reached at all times.



Subpart M, Maintenance

- §192.721 Distribution systems: Patrolling.
 - (a) The frequency of patrolling must be determined by the severity of the conditions which could cause failure or leakage, and the consequent hazards to public safety.
 - (b) Mains in places or on structures where anticipated physical movement or external loading could cause failure or leakage must be patrolled -
 - (1) In business districts, at intervals not exceeding 4 1/2 months, but at least four times each calendar year; and
 - (2) Outside business districts, at intervals not exceeding 7 1/2 months, but at least twice each calendar year.





§192.723 Distribution systems: Leakage surveys.

- Must use leak detector.
- Business districts once each calendar year NTE 15 months.
- ...outside business districts as frequently as necessary, but at least once every 5 calendar years at intervals not exceeding 63 months. Amdt. 94, 9/9/2004
- ...cathodically unprotected distribution lines subject to § 192.465(e) on which electrical surveys for corrosion are impractical, once every 3 calendar years at intervals not exceeding 39 months. Amdt. 94.



Subpart M, Maintenance

- §192.725 Test requirements for reinstating service lines.
 - (a) Except as provided in paragraph (b) of this section, each disconnected service line must be tested in the same manner as a new service line, before being reinstated.
 - (b) 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. However, 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.





Subpart M, Maintenance

- §192.745 Valve maintenance: Transmission lines.
 - (a) Each transmission line valve that might be required during any emergency must be inspected and partially operated at intervals not exceeding 15-months, but at least once each calendar year.
 - (b) Each operator must take prompt remedial action to correct any valve found inoperable, unless the operator designates an alternative valve.



Subpart M, Maintenance

- §192.747 Valve maintenance: Distribution systems.
 - (a) Each valve, the use of which may be necessary for the safe operation of a distribution system, must be checked and serviced at intervals not exceeding 15 months, but at least once each calendar year.
 - (b) Each operator must take prompt remedial action to correct any valve found inoperable, unless the operator designates an alternative valve.





GPTC Guide HIGH PRESSURE DISTRIBUTION LINE VALVES (§192.181)

- 1.1 Physical characteristics.
- The following physical characteristics should be considered when establishing high pressure distribution system line valve locations.
 - (a) Size of area to be isolated.
 - (b) Topographic features (such as rivers, major highways and railroads).
 - (c) Number of valves necessary to isolate the area.



GPTC Guide HIGH PRESSURE DISTRIBUTION LINE VALVES (§192.181)

- 1.2 Operating characteristics.
- The following operating characteristics should be considered when establishing locations for high pressure distribution system line valves.
 - (a) Total number of customers, and customers such as hospitals, schools and commercial and industrial users that would be affected.
 - (b) Time required for available personnel to carry out isolation procedures.
 - (c) Time required for controlling the pressure in the isolated area by means such as venting and transferring gas to adjacent systems.
 - (d) Time required for available personnel to restore service to the customer.





GPTC Guide 192.747 Valve maintenance

- (a) Valves should be checked for adequate lubrication and proper alignment to permit the use of a key or wrench. The valve box or vault should be cleared of any debris that would interfere with or delay the operation of the valve.
- (b) If a valve is to be partially operated, precautions should be taken to avoid a service outage or overpressurization. Such precautions might include the following.
 - (1) Documenting the valve type (e.g., plug, gate, ball) and the direction and number of turns to operate the valve.
 - (2) Verifying the orientation of the valve in relation to the valve stops.
 - (3) Monitoring downstream pressure for any variation from normal operating pressure.



Documents Incorporated by Reference

- American Gas Association (AGA).
- American National Standards Institute (ANSI).
- American Petroleum Institute (API).
- The American Society of Mechanical Engineers (ASME).
- American Society for Testing and Materials (ASTM).
- Manufacturers Standardization Society of the Valve and Fittings Industry, Inc.
- National Fire Protection Association (NFPA).





Common Areas of “Non-Compliance”

- 192.13, General
 - Failure to follow plans.
- Subpart I, Corrosion
 - Monitoring, low readings, failure to correct low reads, inadequate procedures.
- 192.603 Operations, General
 - Failure to keep records or prepare O&M manual.



Common Areas of “Non-Compliance”

- 192.605, O&M Plans
 - Failure to establish procedures, inadequate procedures.
- 192.615, Emergency Plans
 - Failure to have plan, inadequate plan, inadequate training or liaison.
- 192.619 MAOP
 - Incorrect calculation, exceed MAOP, records





Common Areas of “Non-Compliance”

- 192.703
 - Failure to operate in accordance with the section.
- 192.707 Line Markers
 - Inadequate or no markers, incorrect phone number, incorrect address, lettering.
- 192.739 Inspection of regulators
 - No tests or records of tests, exceed testing time period



Common Areas of “Non-Compliance”

- 192.743 Testing of Reliefs
 - No tests or records of tests, inadequate capacity, exceed testing period.
- 192. 745 and .747 Valve Maintenance
 - No tests or records of tests, exceed testing period, failure to take corrective action.

