

PROCEDURES

SYSTEM INTEGRITY

12.0 PURPOSE

The U.S. Legislature enacted legislation during 2002 that directly impacts the pipeline industry. The Integrity Management Program, currently affecting **Transmission Pipelines**, containing the following elements may be found under separate cover:

1. Integrity Management Plan
2. Performance Plan
3. Communication Plan
4. Management of Change Plan
5. Quality Control Plan

This section identifies current elements of the Operator's **Distribution System** procedures in a way to address pipeline integrity and future requirements.

12.1 SCOPE

- A. Class Location Study
- B. Patrolling
- C. Safety Related Conditions
- D. Failure Investigation
- E. Operator Qualifications
- F. System Design
- G. Records and Reports
- H. Annual System Review
- I. Annual Report

12.2 CLASS LOCATION STUDY (192.609 & 192.611)

The Operator shall at least once each calendar year conduct a **Class Location Study** to evaluate the affects of population growth and new construction within the area of its pipeline facilities to determine the need if any for changes in Class Location. Whenever an increase

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in population density indicates a change in class location, the operator shall perform a study to determine if the current MAOP remains valid or should be changed.

This Class Location Study shall include, but not be limited to the following:

1. Sliding Mile - 220 yards on either side of the pipeline by 1 mile long along the centerline of a pipeline where the pipeline is continuous through the 1 mile. The concept here is not one of blocks of land each fixed to a particular point on the ground, but rather that of a "window" which can be moved along the pipeline as an aid in analyzing building and therefore population density and the related safety liability or a "Sliding Mile".
2. Evaluate the effects of new construction and development.
3. Evaluate the effect of changes in population growth.
4. Define and document all class locations in accordance with the findings of the study.

The four class locations are:

Class 1: Class location unit contains fewer than 10 buildings intended for human habitation.

Class 2: Class location unit contains more than 10 but fewer than 46 buildings intended for human habitation.

Class 3: Class location unit contains more than 46 buildings intended for human habitation. A class 3 location also exists where, the pipeline lies within 100 yards, 300 linear feet, of a building occupied by 20 or more persons on at least 5 days a week for any 10 weeks in any 12 month period.

Examples of class 3 locations include but shall not be limited to:

- Businesses
- Schools and churches
- Meeting halls and convention facilities
- A small, well defined, outside area, such as a park
- A school bus stop located within 100 yards of the pipeline where 20 or more children wait for the bus
- A prison or other facility that may be difficult to evacuate

Class 4: Class location unit contains a prevalence (50% or greater) of buildings of four or more stories above ground. For this definition, each dwelling unit in a

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multiple dwelling complex is counted separately. When a cluster of buildings requires a class 2 or 3 location, the class location ends 220 yards from the nearest building in the cluster.

12.3 PATROLLING:

The Operator shall establish a program to identify and observe its system facilities in locations where anticipated physical movement or external loadings could cause failure. These locations include, but shall not be limited to the following:

1. River crossings both suspended and buried.
2. Known fault lines.
3. Railroad and highway crossings.
4. Locations of known shallow depth.
5. Any area where it may reasonably be expected that outside forces may have influenced the potential for movement.

Facilities shall be observed for:

1. Exposed Pipe
2. Damage or Failure
3. Hazardous conditions
4. Safety Related Conditions
5. Increased potential for damage
6. Vandalism

All such areas shall be checked immediately following one of, but not limited to, the following events:

1. Earthquake
2. Major flooding
3. Land and/or snow slide
4. Tsunami

(192.705 Transmission)

At required frequencies, observe conditions on and adjacent to its transmission facilities for leaks, construction activities and other factor affecting the safety and operation.

1. Class locations 1 & 2: At highways and railroad crossings, interval not greater than 7 ½ months but at least twice each calendar year. At all other locations, at intervals not greater than 15 months but at least once each calendar year.
2. Class location 3: At highways and railroad crossings, interval not greater than 4 ½ months but at least four times each calendar year. At all other locations, at intervals

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not greater than 7 1/2 months but at least twice each calendar year.

3. Class location 4: At all known locations, interval not greater than 4 1/2 months but at least four times each calendar year.

(192.721 Distribution)

1. In business districts, intervals not exceeding 4 1/2 months but at least four times each year.
2. Outside business districts, intervals not exceeding 7 1/2 months but at least twice each year.

12.4 SAFETY RELATED CONDITION: (191.23 & 191.25)

Operators are required to take corrective action and report certain safety related conditions.

- A. Training of Employees: Employees shall receive instruction in identifying and reacting appropriately when safety related conditions are discovered.
- B. Recognizing and Reacting to Safety Related Conditions:

Examples:

1. Impaired Structural Integrity or Serviceability of a Pipeline. Employees are on the watch for the following: Any shifting or abnormal loading by environmental causes such as earthquake, landslide, flood, or similar natural causes which may impair the serviceability of any part of the system. When any such event occurs, the Operator inspects the entire system at the earliest possible moment to determine if the system has sustained any damage.
2. System Malfunction or Operator Error. Any system malfunction or Operator error which causes the operating pressure to rise above the sum of the MAOP plus the allowable build-up pressure for operation of pressure limiting or control devices
3. Situation which could lead to an imminent hazardous and cause, directly or indirectly, a reduction of 20% or more in the operating pressure, or in system shutdown.

Instructions for Rectifying Safety Related Conditions:

1. Should the Operator rectify the potential safety related conditions in accordance with its established repair procedures within five (5) days of discovery of the safety related condition, no report is required.
2. Other condition not reportable:
 - Should the condition be determined to not actually exist.
 - Should it become an incident prior to the deadline for filing the safety related condition report.
 - Should it exist on a pipeline that is more than 220 yards from a building

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intended for human occupancy or an outdoor place intended for public assembly, except that a report is still required if the condition is within the right-of-way of an active railroad or paved road, street, or highway.

- Should the Operator not rectify the safety related condition within five (5) working days of discovery then:
- Safety related conditions are reported to the Secretary of the U. S. Department of Transportation by means of a Safety Related Condition Report.
- This report shall be filed with the Secretary within 10 days of the discovery of an alleged condition and within 5 days of the determination of the existence of the condition. In determining the number of days, exclude Saturdays, Sundays or Federal holidays.
- The report contains the following information:
 - Operator's name and address
 - The date
 - Name, job title, and business telephone number of the person who determined (verified) that the condition exists.
 - The dates when the condition was discovered and when its actual existence was verified.
 - Location of the condition with reference to a specific geographical area (give state, county and town or city, nearest street address, survey station number, milepost, fixed landmark, etc.).
 - Description of the condition including how it was discovered, what effect it may have on safety, and what is carried in the pipeline;
 - What corrective action has been or will be taken, together with a plan and a schedule showing when the future action will be initiated and concluded.

The Addressee for this and all other reports to DOT is:

Office of Pipeline Safety
Pipeline & Hazardous Material Safety Administration
U.S. Department of Transportation
1200 New Jersey Avenue, SE
East Building, 2nd Floor
Washington, D. C. 20590

The report may effectively be filed by FAX; the number for this is 202-493-2311.

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12.5 FAILURE INVESTIGATION: (192.617)

Each accident or failure involving the operator's system which, results in an emergency situation, shall be investigated to determine the cause of the failure and to minimize the possibility of a recurrence. The following may be included:

- 1 Question witnesses.
- 2 Check condition of facilities including meters and regulators.
- 3 Test odorant level.
- 4 Evaluate damage patterns.
- 5 Evaluate potential of weather conditions or other outside forces having contributed to the situation.
- 6 Maintain adequate samples of failed or damaged facilities to perform further materials tests.
- 7 Solicit outside assistance with investigation when appropriate.
- 8 Review records of previous work and operator or contractor personnel's performance as may have contributed to the accident or failure.

The operator shall report accidents or failures that result in an emergency situation in accordance with applicable State and Federal requirements.

12.6 OPERATOR QUALIFICATIONS (192.801- 192.805)

The Operator is responsible to ensure that all Operator personnel and contract personnel are qualified to perform Covered Tasks involving the operation and maintenance of the Operator's natural gas system and are able to recognize and react appropriately to any abnormal operating conditions which may arise during the performance of the Covered Task. Each individual must demonstrate the knowledge, skill, and ability to perform a covered task.

(Written Operator Qualification Program under separate binder)

12.7 SYSTEM DESIGN: (192.53, 192.103 & 192.143)

All materials, pipe, and components shall be designed in accordance with the requirements established under Subparts B, C & D of this Part.

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12.8 RECORDS, REPORTS AND MAPS: (192.603)

The operator shall maintain documentation as required by rule and make this documentation available as may be necessary for the safe operations and maintenance of its system. It is the position of the State and Federal regulators that **“If it is not documented then it is not considered completed”**. These may include but are not limited to the following:

- A. Maps depicting size, type and location of mains, services and other pipeline facilities.
- B. Pressure test records shall be maintained for the useful life of the pipeline facilities.
- C. Records and reports of all annual maintenance requirements as prescribed by rule.

Refer to Section E-1

12.9 ANNUAL SYSTEM REVIEW: (192.605)

The Operator shall institute a program for the annual review of its system including this manual (at an interval not exceeding 15 months but at least once each calendar year). The following, but not limited to, may include:

- A. System inspection of records and site inspections to ensure critical and urgent O&M requirements have been met. The following records shall be included:
 - 1. Leak survey records
 - 2. Corrosion control reports
 - 3. Maintenance records
 - 4. Failure reports
 - 5. Line locations & damage reports
 - 6. Patrolling records
- B. Review meeting with operations personnel to discuss system compliance conditions, pertinent changes to Parts 191 and 192 and state regulations,
 - 1 Continuing surveillance findings
 - 2 Class Location Study including population growth, system changes and other information that may affect current class location determinations **(192.609 & 192.611)**.
 - 3 Safety Related Conditions
 - 4 Design records
 - 5 All other pertinent information that may affect the natural gas system operations.

12.10 ANNUAL REPORT: (191.11, 191.13 & 191.17)

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On or before March 15th of each calendar year, the operator shall complete and file form PHMSA 7100.1-1 electronically with the DOT at:

Office of Pipeline Safety
Pipeline & Hazardous Material Safety Administration
U.S. Department of transportation
1200 New Jersey Avenue, SE
East Building, 2nd Floor
Washington D. C. 20590
202-366-4595
FAX 202-493-2311

File a copy with the appropriate state regulator(s) as may be applicable. The applicable State Pipeline Safety office may require that this report be sent to them earlier than March 15th.

12.13 QUALITY ASSURANCE

- A. The Operator conducts periodic review and inspection of work performed by its personnel to determine the effectiveness and adequacy of its procedures. If deficiencies are found in its procedures, the Operator will modify them as necessary.
- B. All records and reports produced in the field shall be signed by the qualified individual performing the work as well as to be reviewed by the appropriate supervisor prior to filing.
 - 1. Documentation shall be checked for completeness
 - 2. Proper procedures
 - 3. Safety compliance
 - 4. Any abnormal operating conditions
- C. Quality Control Inspections are conducted on a Quarterly basis not to exceed three and one half (3-1/2), months for each employee and contract employee performing work on the Operator's system.
- D. The Operator contracts with one or more suitable, qualified consultants to provide training for its employees and for those of consultants and contractors as may be needed.
 - 1. The operator has developed a Training Matrix for identifying and scheduling necessary training.
 - 2. The requirements for refresher training for existing employees may be

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satisfied by demonstration of continued competence by the employee.

Note: Operator Qualification Program under separate cover.