

ORIGINAL

DOCKET NO. 010104-GS

CERTIFICATION OF
PUBLIC SERVICE COMMISSION ADMINISTRATIVE RULES
FILED WITH THE
DEPARTMENT OF STATE

I do hereby certify:

/x/ (1) That all statutory rulemaking requirements of Chapter 120, F.S., have been complied with; and

/x/ (2) There is no administrative determination under subsection 120.56(2), F.S., pending on any rule covered by this certification; and

/x/ (3) All rules covered by this certification are filed within the prescribed time limitations of paragraph 120.54(3)(e), F.S. They are filed not less than 28 days after the notice required by paragraph 120.54(3)(a), F.S., and;

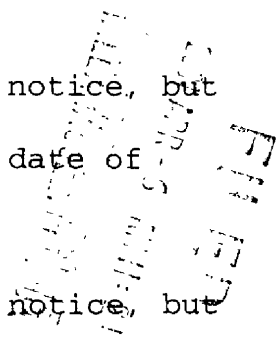
/x/ (a) Are filed not more than 90 days after the notice;
or

/ (b) Are filed not more than 90 days after the notice not including days an administrative determination was pending;
or

/ (c) Are filed more than 90 days after the notice, but not less than 21 days nor more than 45 days from the date of publication of the notice of change; or

/ (d) Are filed more than 90 days after the notice, but

- APP _____
- CAF _____
- CMP _____
- COM _____
- CTR _____
- ECR _____
- LEG _____
- OPC _____
- PAI _____
- RGO _____
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not less than 14 nor more than 45 days after the adjournment of the final public hearing on the rule; or

 / (e) Are filed more than 90 days after the notice, but within 21 days after the date of receipt of all material authorized to be submitted at the hearing; or

 / (f) Are filed more than 90 days after the notice, but within 21 days after the date the transcript was received by this agency; or

 / (g) Are filed not more than 90 days after the notice, not including days the adoption of the rule was postponed following notification from the Joint Administrative Procedures Committee that an objection to the rule was being considered; or

 / (h) Are filed more than 90 days after the notice, but within 21 days after a good faith written proposal for a lower cost regulatory alternative to a proposed rule is submitted which substantially accomplishes the objectives of the law being implemented; or

 / (i) Are filed more than 90 days after the notice, but within 21 days after a regulatory alternative is offered by the small business ombudsman.

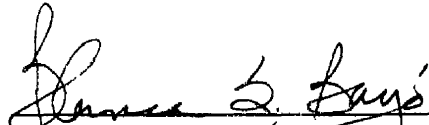
Attached are the original and two copies of each rule covered by this certification. The rules are hereby adopted by the undersigned agency by and upon their filing with the Department of State.

Rule No.

25-12.005

Under the provision of subparagraph 120.54(3)(e)6., F.S.,
the rules take effect 20 days from the date filed with the
Department of State or a later date as set out below:

Effective: _____
(month) (day) (year)



BLANCA S. BAYÓ, Director
Division of Records & Reporting

Number of Pages Certified

(S E A L)

CTM

1 **25-12.005 Codes and Standards Adopted.**

2 The Minimum Federal Safety Standards and reporting
3 requirements for pipeline facilities and transportation of gas
4 prescribed by the United States Department of Transportation in
5 Parts 191 and 192 of Title 49, Code of Federal Regulations (CFR) as
6 amended through January 1, 2001 ~~October 20, 1998~~, are adopted as
7 part of these rules. Part 199, "Drug and Alcohol Testing" as
8 amended through January 1, 2001, ~~October 20, 1998~~ is adopted to
9 control drug use, by setting standards and requirements to apply to
10 the testing and use of all emergency response personnel under the
11 direct authority or control of a gas utility or pipeline operator,
12 as well as all employees directly or indirectly employed by gas
13 pipeline operators for the purpose of operation and maintenance and
14 all employees directly or indirectly employed by intrastate gas
15 distribution utilities for on-site construction of natural gas
16 transporting pipeline facilities. Part 199 also is adopted to
17 prescribe standards for use of employees who do not meet the
18 requirements of the regulations.

19 Specific Authority: 368.05(2), 350.127(2), F.S.

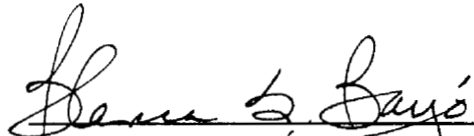
20 Law Implemented: 368.03, F.S.

21 History: New 11/14/70, Amended 09/24/71, Revised 09/21/74, Amended
22 10/07/75, 11/30/82, 10/02/84, 08/08/89, formerly 25-12.05, amended
23 01/07/92, 05/13/99,_____.

24
25
CODING: Words underlined are additions; words in ~~struck~~
~~through~~ type are deletions from existing law.

CERTIFICATION OF
MATERIALS INCORPORATED BY REFERENCE
IN RULES FILED WITH THE DEPARTMENT OF STATE

Pursuant to Rule 1S-1.005, Florida Administrative Code, I do hereby certify that the attached are true and correct copies of the following materials incorporated by reference in Rule 25-12.005. Under the provisions of subparagraph 120.54(3)(e)(6), F.S., the attached materials take effect 20 days from the date filed with the Department of State, or a later date as specified in the rule.
Parts 191, 192 and 199 of Title 49, Code of Federal Regulations.


ELANCA S. BAYÓ, Director
Division of Records & Reporting

Number of Pages Certified

(S E A L)

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[Code of Federal Regulations]
 [Title 49, Volume 3, Parts 186 to 199]
 [Revised as of October 1, 2000]
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 [CITE: 49CFR191]

[Page 22-27]

TITLE 49--TRANSPORTATION

CHAPTER I--RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION--Continued

PART 191--TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE; ANNUAL REPORTS, INCIDENTS

Sec.

- 191.1 Scope.
- 191.3 Definitions.
- 191.5 Telephonic notice of certain incidents.
- 191.7 Addressee for written reports.
- 191.9 Distribution system: Incident report.
- 191.11 Distribution system: Annual report.
- 191.13 Distribution systems reporting transmission pipelines; transmission or gathering systems reporting distribution pipelines.
- 191.15 Transmission and gathering systems: Incident report.
- 191.17 Transmission and gathering systems: Annual report.
- 191.19 Report forms.
- 191.21 OMB control number assigned to information collection.
- 191.23 Reporting safety-related conditions.
- 191.25 Filing safety-related condition reports.
- 191.27 Filing offshore pipeline condition reports.

Authority: 49 U.S.C. 5121, 60102, 60103, 60104, 60108, 60117, 60118, and 60124; and 49 CFR 1.53.

Sec. 191.1 Scope.

(a) This part prescribes requirements for the reporting of incidents, safety-related conditions, and annual pipeline summary data by operators of gas pipeline facilities located in the United States or Puerto Rico, including pipelines within the limits of the Outer Continental Shelf as that term is defined in the Outer Continental Shelf Lands Act (43 U.S.C. 1331).

(b) This part does not apply to--

(1) Offshore gathering of gas upstream from the outlet flange of each facility where hydrocarbons are produced or where produced hydrocarbons are first separated, dehydrated, or otherwise processed, whichever facility is farther downstream; or

(2) Onshore gathering of gas outside of the following areas:

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(i) An area within the limits of any incorporated or unincorporated city, town, or village.

(ii) Any designated residential or commercial area such as a subdivision, business or shopping center, or community development.

(3) On the Outer Continental Shelf upstream of the point at which operating responsibility transfers from a producing operator to a transporting operator.

[Amdt. 191-5, 49 FR 18960, May 3, 1984, as amended by Amdt. 191-6, 53 FR 24949, July 1, 1988; Amdt. 191-11, 61 FR 27793, June 3, 1996; Amdt. 191-12, 62 FR 61695, Nov. 19, 1997]

Sec. 191.3 Definitions.

As used in this part and the RSPA Forms referenced in this part-- Administrator means the Administrator of the Research and Special

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Programs Administration or any person to whom authority in the matter concerned has been delegated by the Secretary of Transportation.

Gas means natural gas, flammable gas, or gas which is toxic or corrosive;

Incident means any of the following events:

(1) An event that involves a release of gas from a pipeline or of liquefied natural gas or gas from an LNG facility and

(i) A death, or personal injury necessitating in-patient hospitalization; or

(ii) Estimated property damage, including cost of gas lost, of the operator or others, or both, of \$50,000 or more.

(2) An event that results in an emergency shutdown of an LNG facility.

(3) An event that is significant, in the judgement of the operator, even though it did not meet the criteria of paragraphs (1) or (2).

LNG facility means a liquefied natural gas facility as defined in Sec. 193.2007 of part 193 of this chapter;

Master Meter System means a pipeline system for distributing gas within, but not limited to, a definable area, such as a mobile home park, housing project, or apartment complex, where the operator purchases metered gas from an outside source for resale through a gas distribution pipeline system. The gas distribution pipeline system supplies the ultimate consumer who either purchases the gas directly through a meter or by other means, such as by rents;

Municipality means a city, county, or any other political subdivision of a State;

Offshore means beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters;

Operator means a person who engages in the transportation of gas;

Outer Continental Shelf means all submerged lands lying seaward and outside the area of lands beneath navigable waters as defined in Section 2 of the Submerged Lands Act (43 U.S.C. 1301) and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.

Person means any individual, firm, joint venture, partnership, corporation, association, State, municipality, cooperative association, or joint stock association, and includes any trustee, receiver, assignee, or personal representative thereof;

Pipeline or Pipeline System means all parts of those physical facilities through which gas moves in transportation, including, but not limited to, pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies.

State includes each of the several States, the District of Columbia, and the Commonwealth of Puerto Rico;

Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas in or affecting interstate or foreign commerce.

[35 FR 320, Jan. 8, 1970, as amended by Amdt. 191-5, 49 FR 18960, May 3, 1984; Amdt. 191-10, 61 FR 18516, Apr. 26, 1996; Amdt. 191-12, 62 FR 61695, Nov. 19, 1997]

Sec. 191.5 Telephonic notice of certain incidents.

(a) At the earliest practicable moment following discovery, each operator shall give notice in accordance with paragraph (b) of this section of each incident as defined in Sec. 191.3.

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(b) Each notice required by paragraph (a) of this section shall be made by telephone to 800-424-8802 (in Washington, DC, 267-2675) and shall include the following information.

(1) Names of operator and person making report and their telephone numbers.

(2) The location of the incident.

- (3) The time of the incident.
- (4) The number of fatalities and personal injuries, if any.
- (5) All other significant facts that are known by the operator that are relevant to the cause of the incident or extent of the damages.

[Amdt. 191-4, 47 FR 32720, July 29, 1982, as amended by Amdt. 191-5, 49 FR 18960, May 3, 1984; Amdt. 191-8, 54 FR 40878, Oct. 4, 1989]

Sec. 191.7 Addressee for written reports.

Each written report required by this part must be made to the Information Resources Manager, Office of Pipeline Safety, Research and Special Programs Administration, U.S. Department of Transportation, Room 8417, 400 Seventh Street SW., Washington, DC 20590. However, incident and annual reports for intrastate pipeline transportation subject to the jurisdiction of a State agency pursuant to a certification under section 5(a) of the Natural Gas Pipeline Safety Act of 1968 may be submitted in duplicate to that State agency if the regulations of that agency require submission of these reports and provide for further transmittal of one copy within 10 days of receipt for incident reports and not later than March 15 for annual reports to the Information Resources Manager. Safety-related condition reports required by Sec. 191.23 for intrastate pipeline transportation must be submitted concurrently to that State agency, and if that agency acts as an agent of the Secretary with respect to interstate transmission facilities, safety-related condition reports for these facilities must be submitted concurrently to that agency.

[Amdt. 191-6, 53 FR 24949, July 1, 1988]

Sec. 191.9 Distribution system: Incident report.

(a) Except as provided in paragraph (c) of this section, each operator of a distribution pipeline system shall submit Department of Transportation Form RSPA F 7100.1 as soon as practicable but not more than 30 days after detection of an incident required to be reported under Sec. 191.5.

(b) When additional relevant information is obtained after the report is submitted under paragraph (a) of this section, the operator shall make supplementary reports as deemed necessary with a clear reference by date and subject to the original report.

(c) The incident report required by this section need not be submitted with respect to master meter systems or LNG facilities.

[Amdt. 191-5, 49 FR 18960, May 3, 1984]

Sec. 191.11 Distribution system: Annual report.

(a) Except as provided in paragraph (b) of this section, each operator of a distribution pipeline system shall submit an annual report for that system on Department of Transportation Form RSPA F 7100.1-1. This report must be submitted each year, not later than March 15, for the preceding calendar year.

(b) The annual report required by this section need not be submitted with respect to:

- (1) Petroleum gas systems which serve fewer than 100 customers from a single source;
- (2) Master meter systems; or
- (3) LNG facilities.

[Amdt. 191-5, 49 FR 18960, May 3, 1984]

Sec. 191.13 Distribution systems reporting transmission pipelines; transmission or gathering systems reporting distribution pipelines.

Each operator, primarily engaged in gas distribution, who also operates gas transmission or gathering pipelines shall submit separate reports for these pipelines as required by Secs. 191.15 and 191.17. Each

operator, primarily engaged in gas transmission or gathering, who also operates gas distribution pipelines shall submit separate reports for these pipelines as required by Secs. 191.9 and 191.11.

[Amdt. 191-5, 49 FR 18961, May 3, 1984]

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Sec. 191.15 Transmission and gathering systems: Incident report.

(a) Except as provided in paragraph (c) of this section, each operator of a transmission or a gathering pipeline system shall submit Department of Transportation Form RSPA F 7100.2 as soon as practicable but not more than 30 days after detection of an incident required to be reported under Sec. 191.5.

(b) Where additional related information is obtained after a report is submitted under paragraph (a) of this section, the operator shall make a supplemental report as soon as practicable with a clear reference by date and subject to the original report.

(c) The incident report required by paragraph (a) of this section need not be submitted with respect to LNG facilities.

[35 FR 320, Jan. 8, 1970, as amended by Amdt. 191-5, 49 FR 18961, May 3, 1984]

Sec. 191.17 Transmission and gathering systems: Annual report.

(a) Except as provided in paragraph (b) of this section, each operator of a transmission or a gathering pipeline system shall submit an annual report for that system on Department of Transportation Form RSPA 7100.2-1. This report must be submitted each year, not later than March 15, for the preceding calendar year.

(b) The annual report required by paragraph (a) of this section need not be submitted with respect to LNG facilities.

[Amdt. 191-5, 49 FR 18961, May 3, 1984]

Sec. 191.19 Report forms.

Copies of the prescribed report forms are available without charge upon request from the address given in Sec. 191.7. Additional copies in this prescribed format may be reproduced and used if in the same size and kind of paper. In addition, the information required by these forms may be submitted by any other means that is acceptable to the Administrator.

[Amdt. 191-10, 61 FR 18516, Apr. 26, 1996]

Sec. 191.21 OMB control number assigned to information collection.

This section displays the control number assigned by the Office of Management and Budget (OMB) to the gas pipeline information collection requirements of the Office of Pipeline Safety pursuant to the Paperwork Reduction Act of 1980, Public Law 96-511. It is the intent of this section to comply with the requirements of section 3507(f) of the Paperwork Reduction Act which requires that agencies display a current control number assigned by the Director of OMB for each agency information collection requirement.

OMB Control Number 2137-0522

Section of 49 CFR part 191 where identified	Form No.
191.5.....	Telephonic.
191.9.....	RSPA 7100.1
191.11.....	RSPA 7100.1-1
191.15.....	RSPA 7100.2
191.17.....	RSPA 7100.2-1.

[Amdt. 191-5, 49 FR 18961, May 3, 1984, as amended by Amdt. 191-13, 63 FR 7723, Feb. 17, 1998]

Sec. 191.23 Reporting safety-related conditions.

(a) Except as provided in paragraph (b) of this section, each operator shall report in accordance with Sec. 191.25 the existence of any of the following safety-related conditions involving facilities in service:

(1) In the case of a pipeline (other than an LNG facility) that operates at a hoop stress of 20 percent or more of its specified minimum yield strength, general corrosion that has reduced the wall thickness to less than that required for the maximum allowable operating pressure, and localized corrosion pitting to a degree where leakage might result.

(2) Unintended movement or abnormal loading by environmental causes, such as an earthquake, landslide, or flood, that impairs the serviceability of a pipeline or the structural integrity or reliability of an LNG facility that contains, controls, or processes gas or LNG.

(3) Any crack or other material defect that impairs the structural integrity or reliability of an LNG facility that contains, controls, or processes gas or LNG.

(4) Any material defect or physical damage that impairs the serviceability of a pipeline that operates at a hoop

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stress of 20 percent or more of its specified minimum yield strength.

(5) Any malfunction or operating error that causes the pressure of a pipeline or LNG facility that contains or processes gas or LNG to rise above its maximum allowable operating pressure (or working pressure for LNG facilities) plus the build-up allowed for operation of pressure limiting or control devices.

(6) A leak in a pipeline or LNG facility that contains or processes gas or LNG that constitutes an emergency.

(7) Inner tank leakage, ineffective insulation, or frost heave that impairs the structural integrity of an LNG storage tank.

(8) Any safety-related condition that could lead to an imminent hazard and causes (either directly or indirectly by remedial action of the operator), for purposes other than abandonment, a 20 percent or more reduction in operating pressure or shutdown of operation of a pipeline or an LNG facility that contains or processes gas or LNG.

(b) A report is not required for any safety-related condition that--

(1) Exists on a master meter system or a customer-owned service line;

(2) Is an incident or results in an incident before the deadline for filing the safety-related condition report;

(3) Exists on a pipeline (other than an LNG facility) that is more than 220 yards (200 meters) from any building intended for human occupancy or outdoor place of assembly, except that reports are required for conditions within the right-of-way of an active railroad, paved road, street, or highway; or

(4) Is corrected by repair or replacement in accordance with applicable safety standards before the deadline for filing the safety-related condition report, except that reports are required for conditions under paragraph (a)(1) of this section other than localized corrosion pitting on an effectively coated and cathodically protected pipeline.

[Amdt. 191-6, 53 FR 24949, July 1, 1988, as amended by Amdt. 191-14, 63 FR 37501, July 13, 1998]

Sec. 191.25 Filing safety-related condition reports.

(a) Each report of a safety-related condition under Sec. 191.23(a) must be filed (received by the Associate Administrator, OPS) in writing within five working days (not including Saturday, Sunday, or Federal

Holidays) after the day a representative of the operator first determines that the condition exists, but not later than 10 working days after the day a representative of the operator discovers the condition. Separate conditions may be described in a single report if they are closely related. Reports may be transmitted by facsimile at (202) 366-7128.

(b) The report must be headed ``Safety-Related Condition Report'' and provide the following information:

- (1) Name and principal address of operator.
- (2) Date of report.
- (3) Name, job title, and business telephone number of person submitting the report.
- (4) Name, job title, and business telephone number of person who determined that the condition exists.
- (5) Date condition was discovered and date condition was first determined to exist.
- (6) Location of condition, with reference to the State (and town, city, or county) or offshore site, and as appropriate, nearest street address, offshore platform, survey station number, milepost, landmark, or name of pipeline.
- (7) Description of the condition, including circumstances leading to its discovery, any significant effects of the condition on safety, and the name of the commodity transported or stored.
- (8) The corrective action taken (including reduction of pressure or shutdown) before the report is submitted and the planned follow-up or future corrective action, including the anticipated schedule for starting and concluding such action.

[Amdt. 191-6, 53 FR 24949, July 1, 1988; 53 FR 29800, Aug. 8, 1988, as amended by Amdt. 191-7, 54 FR 32344, Aug. 7, 1989; Amdt. 191-8, 54 FR 40878, Oct. 4, 1989; Amdt. 191-10, 61 FR 18516, Apr. 26, 1996]

Sec. 191.27 Filing offshore pipeline condition reports.

(a) Each operator shall, within 60 days after completion of the inspection of all its underwater pipelines subject to Sec. 192.612(a), report the following information:

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- (1) Name and principal address of operator.
- (2) Date of report.
- (3) Name, job title, and business telephone number of person submitting the report.
- (4) Total length of pipeline inspected.
- (5) Length and date of installation of each exposed pipeline segment, and location, including, if available, the location according to the Minerals Management Service or state offshore area and block number tract.
- (6) Length and date of installation of each pipeline segment, if different from a pipeline segment identified under paragraph (a)(5) of this section, that is a hazard to navigation, and the location, including, if available, the location according to the Minerals Management Service or state offshore area and block number tract.
- (b) The report shall be mailed to the Information Officer, Research and Special Programs Administration, Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590.

[Amdt. 191-9, 56 FR 63770, Dec. 5, 1991, as amended by Amdt. 191-14, 63 FR 37501, July 13, 1998]

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TITLE 49--TRANSPORTATION

CHAPTER I--RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION--Continued

PART 192--TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE: MINIMUM FEDERAL SAFETY

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- 192.61 [Reserved]
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- 192.119 [Reserved]
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- 192.379 New service lines not in use.
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 Appendix D to Part 192--Criteria for Cathodic Protection and
 Determination of Measurements

Authority: 49 U.S.C. 5103, 60102, 60104, 60108, 60109, 60110, 60113,
 and 60118; and 49 CFR 1.53.

Source: 35 FR 13257, Aug. 19, 1970, unless otherwise noted.

Subpart A--General

Sec. 192.1 Scope of part.

(a) This part prescribes minimum safety requirements for pipeline facilities and the transportation of gas, including pipeline facilities and the

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transportation of gas within the limits of the outer continental shelf as that term is defined in the Outer Continental Shelf Lands Act (43 U.S.C. 1331).

(b) This part does not apply to:

(1) Offshore pipelines upstream from the outlet flange of each facility where hydrocarbons are produced or where produced hydrocarbons are first separated, dehydrated, or otherwise processed, whichever facility is farther downstream;

(2) Onshore gathering of gas outside of the following areas:

(i) An area within the limits of any incorporated or unincorporated city, town, or village.

(ii) Any designated residential or commercial area such as a subdivision, business or shopping center, or community development.

(3) Onshore gathering of gas within inlets of the Gulf of Mexico except as provided in Sec. 192.612.

(4) Any pipeline system that transports only petroleum gas or petroleum gas/air mixtures to--

(i) Fewer than 10 customers, if no portion of the system is located in a public place; or

(ii) A single customer, if the system is located entirely on the customer's premises (no matter if a portion of the system is located in a public place).

(5) On the Outer Continental Shelf upstream of the point at which operating responsibility transfers from a producing operator to a transporting operator.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34605, Aug. 16, 1976; Amdt. 192-67, 56 FR 63771, Dec. 5, 1991; Amdt. 192-78, 61 FR 28782, June 6, 1996; Amdt. 192-81, 62 FR 61695, Nov. 19, 1997]

Sec. 192.3 Definitions.

As used in this part:

Abandoned means permanently removed from service.

Administrator means the Administrator of the Research and Special Programs Administration or any person to whom authority in the matter concerned has been delegated by the Secretary of Transportation.

Distribution line means a pipeline other than a gathering or transmission line.

Exposed pipeline means a pipeline where the top of the pipe is protruding above the seabed in water less than 15 feet (4.6 meters) deep, as measured from the mean low water.

Gas means natural gas, flammable gas, or gas which is toxic or corrosive.

Gathering line means a pipeline that transports gas from a current production facility to a transmission line or main.

Gulf of Mexico and its inlets means the waters from the mean high water mark of the coast of the Gulf of Mexico and its inlets open to the sea (excluding rivers, tidal marshes, lakes, and canals) seaward to include the territorial sea and Outer Continental Shelf to a depth of 15 feet (4.6 meters), as measured from the mean low water.

Hazard to navigation means, for the purpose of this part, a pipeline where the top of the pipe is less than 12 inches (305 millimeters) below the seabed in water less than 15 feet (4.6 meters) deep, as measured from the mean low water.

High-pressure distribution system means a distribution system in which the gas pressure in the main is higher than the pressure provided to the customer.

Line section means a continuous run of transmission line between adjacent compressor stations, between a compressor station and storage facilities, between a compressor station and a block valve, or between adjacent block valves.

Listed specification means a specification listed in section I of appendix B of this part.

Low-pressure distribution system means a distribution system in which the gas pressure in the main is substantially the same as the pressure provided to the customer.

Main means a distribution line that serves as a common source of supply for more than one service line.

Maximum actual operating pressure means the maximum pressure that occurs during normal operations over a period of 1 year.

Maximum allowable operating pressure (MAOP) means the maximum pressure at which a pipeline or segment of a pipeline may be operated under this part.

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Municipality means a city, county, or any other political subdivision of a State.

Offshore means beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

Operator means a person who engages in the transportation of gas.

Outer Continental Shelf means all submerged lands lying seaward and outside the area of lands beneath navigable waters as defined in Section 2 of the Submerged Lands Act (43 U.S.C. 1301) and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.

Person means any individual, firm, joint venture, partnership, corporation, association, State, municipality, cooperative association, or joint stock association, and including any trustee, receiver, assignee, or personal representative thereof.

Petroleum gas means propane, propylene, butane, (normal butane or isobutanes), and butylene (including isomers), or mixtures composed predominantly of these gases, having a vapor pressure not exceeding 208 psi (1434 kPa) gage at 100 deg.F (38 deg.C).

Pipe means any pipe or tubing used in the transportation of gas, including pipe-type holders.

Pipeline means all parts of those physical facilities through which gas moves in transportation, including pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated

assemblies.

Pipeline facility means new and existing pipelines, rights-of-way, and any equipment, facility, or building used in the transportation of gas or in the treatment of gas during the course of transportation.

Service line means a distribution line that transports gas from a common source of supply to (1) a customer meter or the connection to a customer's piping, whichever is farther downstream, or (2) the connection to a customer's piping if there is no customer meter. A customer meter is the meter that measures the transfer of gas from an operator to a consumer.

SMYS means specified minimum yield strength is:

(1) For steel pipe manufactured in accordance with a listed specification, the yield strength specified as a minimum in that specification; or

(2) For steel pipe manufactured in accordance with an unknown or unlisted specification, the yield strength determined in accordance with Sec. 192.107(b).

State means each of the several States, the District of Columbia, and the Commonwealth of Puerto Rico.

Transmission line means a pipeline, other than a gathering line, that:

(a) Transports gas from a gathering line or storage facility to a distribution center, storage facility, or large volume customer that is not downstream from a distribution center;

(b) Operates at a hoop stress of 20 percent or more of SMYS; or

(c) Transports gas within a storage field. A large volume customer may receive similar volumes of gas as a distribution center, and includes factories, power plants, and institutional users of gas.

Transportation of gas means the gathering, transmission, or distribution of gas by pipeline or the storage of gas, in or affecting interstate or foreign commerce.

[Amdt. 192-13, 38 FR 9084, Apr. 10, 1973, as amended by Amdt. 192-27, 41 FR 34605, Aug. 16, 1976; Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-67, 56 FR 63771, Dec. 5, 1991; Amdt. 192-72, 59 FR 17281, Apr. 12, 1994; Amdt. 192-78, 61 FR 28783, June 6, 1996; Amdt. 192-81, 62 FR 61695, Nov. 19, 1997; Amdt. 192-85, 63 FR 37501, July 13, 1998; Amdt. 192-89, 65 FR 54443, Sept. 8, 2000]

Effective Date Note: At 65 FR 54443, Sept. 8, 2000, Sec. 192.3 was amended by adding the definition of "Abandoned", effective Oct. 10, 2000.

Sec. 192.5 Class locations.

(a) This section classifies pipeline locations for purposes of this part. The following criteria apply to classifications under this section.

(1) A "class location unit" is an onshore area that extends 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline.

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(2) Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(b) Except as provided in paragraph (c) of this section, pipeline locations are classified as follows:

(1) A Class 1 location is:

(i) An offshore area; or

(ii) Any class location unit that has 10 or fewer buildings intended for human occupancy.

(2) A Class 2 location is any class location unit that has more than 10 but fewer than 46 buildings intended for human occupancy.

(3) A Class 3 location is:

(i) Any class location unit that has 46 or more buildings intended for human occupancy; or

(ii) An area where the pipeline lies within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a

playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. (The days and weeks need not be consecutive.)

(4) A Class 4 location is any class location unit where buildings with four or more stories above ground are prevalent.

(c) The length of Class locations 2, 3, and 4 may be adjusted as follows:

(1) A Class 4 location ends 220 yards (200 meters) from the nearest building with four or more stories above ground.

(2) When a cluster of buildings intended for human occupancy requires a Class 2 or 3 location, the class location ends 220 yards (200 meters) from the nearest building in the cluster.

[Amdt. 192-78, 61 FR 28783, June 6, 1996; 61 FR 35139, July 5, 1996, as amended by Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.7 Incorporation by reference.

(a) Any documents or portions thereof incorporated by reference in this part are included in this part as though set out in full. When only a portion of a document is referenced, the remainder is not incorporated in this part.

(b) All incorporated materials are available for inspection in the Research and Special Programs Administration, 400 Seventh Street, SW., Washington, DC, and at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC. These materials have been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. In addition, the incorporated materials are available from the respective organizations listed in appendix A to this part.

(c) The full titles for the publications incorporated by reference in this part are provided in appendix A to this part. Numbers in parentheses indicate applicable editions. Earlier editions of documents listed or editions of documents formerly listed in previous editions of appendix A may be used for materials and components manufactured, designed, or installed in accordance with those earlier editions or earlier documents at the time they were listed. The user must refer to the appropriate previous edition of 49 CFR for a listing of the earlier listed editions or documents.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-37, 46 FR 10159, Feb. 2, 1981; Amdt 192-51, 51 FR 15334, Apr. 23, 1986; 58 FR 14521, Mar. 18, 1993; Amdt. 192-78, 61 FR 28783, June 6, 1996]

Sec. 192.9 Gathering lines.

Except as provided in Secs. 192.1 and 192.150, each operator of a gathering line must comply with the requirements of this part applicable to transmission lines.

[Amdt. 192-72, 59 FR 17281, Apr. 12, 1994]

Sec. 192.10 Outer continental shelf pipelines.

Operators of transportation pipelines on the Outer Continental Shelf (as defined in the Outer Continental Shelf Lands Act; 43 U.S.C. 1331) must identify on all their respective pipelines the specific points at which operating responsibility transfers to a producing operator. For those instances in which the transfer points are not identifiable by a durable marking, each operator will have until September 15, 1998 to identify the transfer points. If it is not practicable to durably mark a transfer point and the transfer point is located above water, the operator must depict

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the transfer point on a schematic located near the transfer point. If a transfer point is located subsea, then the operator must identify the

transfer point on a schematic which must be maintained at the nearest upstream facility and provided to RSPA upon request. For those cases in which adjoining operators have not agreed on a transfer point by September 15, 1998 the Regional Director and the MMS Regional Supervisor will make a joint determination of the transfer point.

[Amdt. 192-81, 62 FR 61695, Nov. 19, 1997]

Sec. 192.11 Petroleum gas systems.

(a) Each plant that supplies petroleum gas by pipeline to a natural gas distribution system must meet the requirements of this part and ANSI/NFPA 58 and 59.

(b) Each pipeline system subject to this part that transports only petroleum gas or petroleum gas/air mixtures must meet the requirements of this part and of ANSI/NFPA 58 and 59.

(c) In the event of a conflict between this part and ANSI/NFPA 58 and 59, ANSI/NFPA 58 and 59 prevail.

[Amdt. 192-78, 61 FR 28783, June 6, 1996]

Sec. 192.13 General.

(a) No person may operate a segment of pipeline that is readied for service after March 12, 1971, or in the case of an offshore gathering line, after July 31, 1977, unless:

(1) The pipeline has been designed, installed, constructed, initially inspected, and initially tested in accordance with this part; or

(2) The pipeline qualifies for use under this part in accordance with Sec. 192.14.

(b) No person may operate a segment of pipeline that is replaced, relocated, or otherwise changed after November 12, 1970, or in the case of an offshore gathering line, after July 31, 1977, unless that replacement, relocation, or change has been made in accordance with this part.

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34605, Aug. 16, 1976; Amdt. 192-30, 42 FR 60148, Nov. 25, 1977]

Sec. 192.14 Conversion to service subject to this part.

(a) A steel pipeline previously used in service not subject to this part qualifies for use under this part if the operator prepares and follows a written procedure to carry out the following requirements:

(1) The design, construction, operation, and maintenance history of the pipeline must be reviewed and, where sufficient historical records are not available, appropriate tests must be performed to determine if the pipeline is in a satisfactory condition for safe operation.

(2) The pipeline right-of-way, all aboveground segments of the pipeline, and appropriately selected underground segments must be visually inspected for physical defects and operating conditions which reasonably could be expected to impair the strength or tightness of the pipeline.

(3) All known unsafe defects and conditions must be corrected in accordance with this part.

(4) The pipeline must be tested in accordance with subpart J of this part to substantiate the maximum allowable operating pressure permitted by subpart L of this part.

(b) Each operator must keep for the life of the pipeline a record of the investigations, tests, repairs, replacements, and alterations made under the requirements of paragraph (a) of this section.

[Amdt. 192-30, 42 FR 60148, Nov. 25, 1977]

Sec. 192.15 Rules of regulatory construction.

(a) As used in this part:

Includes means including but not limited to.

May means ``is permitted to'' or ``is authorized to''.

May not means ``is not permitted to'' or ``is not authorized to''.

Shall is used in the mandatory and imperative sense.

(b) In this part:

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- (1) Words importing the singular include the plural;
- (2) Words importing the plural include the singular; and
- (3) Words importing the masculine gender include the feminine.

Sec. 192.16 Customer notification.

(a) This section applies to each operator of a service line who does not maintain the customer's buried piping up to entry of the first building downstream, or, if the customer's buried piping does not enter a building, up to the principal gas utilization equipment or the first fence (or wall) that surrounds that equipment. For the purpose of this section, ``customer's buried piping'' does not include branch lines that serve yard lanterns, pool heaters, or other types of secondary equipment. Also, ``maintain'' means monitor for corrosion according to Sec. 192.465 if the customer's buried piping is metallic, survey for leaks according to Sec. 192.723, and if an unsafe condition is found, shut off the flow of gas, advise the customer of the need to repair the unsafe condition, or repair the unsafe condition.

(b) Each operator shall notify each customer once in writing of the following information:

- (1) The operator does not maintain the customer's buried piping.
- (2) If the customer's buried piping is not maintained, it may be subject to the potential hazards of corrosion and leakage.
- (3) Buried gas piping should be--
 - (i) Periodically inspected for leaks;
 - (ii) Periodically inspected for corrosion if the piping is metallic; and
 - (iii) Repaired if any unsafe condition is discovered.
- (4) When excavating near buried gas piping, the piping should be located in advance, and the excavation done by hand.
- (5) The operator (if applicable), plumbing contractors, and heating contractors can assist in locating, inspecting, and repairing the customer's buried piping.

(c) Each operator shall notify each customer not later than August 14, 1996, or 90 days after the customer first receives gas at a particular location, whichever is later. However, operators of master meter systems may continuously post a general notice in a prominent location frequented by customers.

(d) Each operator must make the following records available for inspection by the Administrator or a State agency participating under 49 U.S.C. 60105 or 60106:

- (1) A copy of the notice currently in use; and
- (2) Evidence that notices have been sent to customers within the previous 3 years.

[Amdt. 192-74, 60 FR 41828, Aug. 14, 1995, as amended by Amdt. 192-74A, 60 FR 63451, Dec. 11, 1995; Amdt. 192-83, 63 FR 7723, Feb. 17, 1998]

Subpart B--Materials

Sec. 192.51 Scope.

This subpart prescribes minimum requirements for the selection and qualification of pipe and components for use in pipelines.

Sec. 192.53 General.

Materials for pipe and components must be:

- (a) Able to maintain the structural integrity of the pipeline under

temperature and other environmental conditions that may be anticipated;
 (b) Chemically compatible with any gas that they transport and with any other material in the pipeline with which they are in contact; and
 (c) Qualified in accordance with the applicable requirements of this subpart.

Sec. 192.55 Steel pipe.

(a) New steel pipe is qualified for use under this part if:
 (1) It was manufactured in accordance with a listed specification;
 (2) It meets the requirements of--
 (i) Section II of appendix B to this part; or
 (ii) If it was manufactured before November 12, 1970, either section II or III of appendix B to this part; or
 (3) It is used in accordance with paragraph (c) or (d) of this section.
 (b) Used steel pipe is qualified for use under this part if:
 (1) It was manufactured in accordance with a listed specification and it

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meets the requirements of paragraph II-C of appendix B to this part;
 (2) It meets the requirements of:
 (i) Section II of appendix B to this part; or
 (ii) If it was manufactured before November 12, 1970, either section II or III of appendix B to this part;
 (3) It has been used in an existing line of the same or higher pressure and meets the requirements of paragraph II-C of appendix B to this part; or
 (4) It is used in accordance with paragraph (c) of this section.
 (c) New or used steel pipe may be used at a pressure resulting in a hoop stress of less than 6,000 p.s.i. (41 MPa) where no close coiling or close bending is to be done, if visual examination indicates that the pipe is in good condition and that it is free of split seams and other defects that would cause leakage. If it is to be welded, steel pipe that has not been manufactured to a listed specification must also pass the weldability tests prescribed in paragraph II-B of appendix B to this part.
 (d) Steel pipe that has not been previously used may be used as replacement pipe in a segment of pipeline if it has been manufactured prior to November 12, 1970, in accordance with the same specification as the pipe used in constructing that segment of pipeline.
 (e) New steel pipe that has been cold expanded must comply with the mandatory provisions of API Specification 5L.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 191-1, 35 FR 17660, Nov. 17, 1970; Amdt. 192-12, 38 FR 4761, Feb. 22, 1973; Amdt. 192-51, 51 FR 15335, Apr. 23, 1986; 58 FR 14521, Mar. 18, 1993; Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.57 [Reserved]

Sec. 192.59 Plastic pipe.

(a) New plastic pipe is qualified for use under this part if:
 (1) It is manufactured in accordance with a listed specification;
 and
 (2) It is resistant to chemicals with which contact may be anticipated.
 (b) Used plastic pipe is qualified for use under this part if:
 (1) It was manufactured in accordance with a listed specification;
 (2) It is resistant to chemicals with which contact may be anticipated;
 (3) It has been used only in natural gas service;
 (4) Its dimensions are still within the tolerances of the specification to which it was manufactured; and
 (5) It is free of visible defects.
 (c) For the purpose of paragraphs (a) (1) and (b) (1) of this section,

where pipe of a diameter included in a listed specification is impractical to use, pipe of a diameter between the sizes included in a listed specification may be used if it:

(1) Meets the strength and design criteria required of pipe included in that listed specification; and

(2) Is manufactured from plastic compounds which meet the criteria for material required of pipe included in that listed specification.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-19, 40 FR 10472, Mar. 6, 1975; Amdt. 192-58, 53 FR 1635, Jan. 21, 1988]

Sec. 192.61 [Reserved]

Sec. 192.63 Marking of materials.

(a) Except as provided in paragraph (d) of this section, each valve, fitting, length of pipe, and other component must be marked--

(1) As prescribed in the specification or standard to which it was manufactured, except that thermoplastic fittings must be marked in accordance with ASTM D 2513; or

(2) To indicate size, material, manufacturer, pressure rating, and temperature rating, and as appropriate, type, grade, and model.

(b) Surfaces of pipe and components that are subject to stress from internal pressure may not be field die stamped.

(c) If any item is marked by die stamping, the die must have blunt or rounded edges that will minimize stress concentrations.

(d) Paragraph (a) of this section does not apply to items manufactured before November 12, 1970, that meet all of the following:

(1) The item is identifiable as to type, manufacturer, and model.

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(2) Specifications or standards giving pressure, temperature, and other appropriate criteria for the use of items are readily available.

[Amdt. 192-1, 35 FR 17660, Nov. 17, 1970, as amended by Amdt. 192-31, 43 FR 883, Apr. 3, 1978; Amdt. 192-61, 53 FR 36793, Sept. 22, 1988; Amdt. 192-62, 54 FR 5627, Feb. 6, 1989; Amdt. 192-61A, 54 FR 32642, Aug. 9, 1989; 58 FR 14521, Mar. 18, 1993; Amdt. 192-76, 61 FR 26122, May 24, 1996; 61 FR 36826, July 15, 1996]

Sec. 192.65 Transportation of pipe.

In a pipeline to be operated at a hoop stress of 20 percent or more of SMYS, an operator may not use pipe having an outer diameter to wall thickness ratio of 70 to 1, or more, that is transported by railroad unless:

(a) The transportation is performed in accordance with API RP 5L1.

(b) In the case of pipe transported before November 12, 1970, the pipe is tested in accordance with subpart J of this part to at least 1.25 times the maximum allowable operating pressure if it is to be installed in a class 1 location and to at least 1.5 times the maximum allowable operating pressure if it is to be installed in a class 2, 3, or 4 location. Notwithstanding any shorter time period permitted under subpart J of this part, the test pressure must be maintained for at least 8 hours.

[Amdt. 192-12, 38 FR 4761, Feb. 22, 1973, as amended by Amdt. 192-17, 40 FR 6346, Feb. 11, 1975; 58 FR 14521, Mar. 18, 1993]

Subpart C--Pipe Design

Sec. 192.101 Scope.

This subpart prescribes the minimum requirements for the design of pipe.

Sec. 192.103 General.

Pipe must be designed with sufficient wall thickness, or must be installed with adequate protection, to withstand anticipated external pressures and loads that will be imposed on the pipe after installation.

Sec. 192.105 Design formula for steel pipe.

(a) The design pressure for steel pipe is determined in accordance with the following formula:

$$P=(2 St/D) \times F \times E \times T$$

P=Design pressure in pounds per square inch (kPa) gauge.
 S=Yield strength in pounds per square inch (kPa) determined in accordance with Sec. 192.107.
 D=Nominal outside diameter of the pipe in inches (millimeters).
 t=Nominal wall thickness of the pipe in inches (millimeters). If this is unknown, it is determined in accordance with Sec. 192.109. Additional wall thickness required for concurrent external loads in accordance with Sec. 192.103 may not be included in computing design pressure.
 F=Design factor determined in accordance with Sec. 192.111.
 E=Longitudinal joint factor determined in accordance with Sec. 192.113.
 T=Temperature derating factor determined in accordance with Sec. 192.115.

(b) If steel pipe that has been subjected to cold expansion to meet the SMYS is subsequently heated, other than by welding or stress relieving as a part of welding, the design pressure is limited to 75 percent of the pressure determined under paragraph (a) of this section if the temperature of the pipe exceeds 900 deg. F (482 deg. C) at any time or is held above 600 deg. F (316 deg. C) for more than 1 hour.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-47, 49 FR 7569, Mar. 1, 1984; Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.107 Yield strength (S) for steel pipe.

(a) For pipe that is manufactured in accordance with a specification listed in section I of appendix B of this part, the yield strength to be used in the design formula in Sec. 192.105 is the SMYS stated in the listed specification, if that value is known.

(b) For pipe that is manufactured in accordance with a specification not listed in section I of appendix B to this part or whose specification or tensile properties are unknown, the yield strength to be used in the design formula in Sec. 192.105 is one of the following:

(1) If the pipe is tensile tested in accordance with section II-D of appendix B to this part, the lower of the following:

(i) 80 percent of the average yield strength determined by the tensile tests.

(ii) The lowest yield strength determined by the tensile tests.

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(2) If the pipe is not tensile tested as provided in paragraph (b)(1) of this section, 24,000 p.s.i. (165 MPa).

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-78, 61 FR 28783, June 6, 1996; Amdt. 192-83, 63 FR 7723, Feb. 17, 1998; Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.109 Nominal wall thickness (t) for steel pipe.

(a) If the nominal wall thickness for steel pipe is not known, it is determined by measuring the thickness of each piece of pipe at quarter points on one end.

(b) However, if the pipe is of uniform grade, size, and thickness and there are more than 10 lengths, only 10 percent of the individual lengths, but not less than 10 lengths, need be measured. The thickness of the lengths that are not measured must be verified by applying a gauge set to the minimum thickness found by the measurement. The nominal

wall thickness to be used in the design formula in Sec. 192.105 is the next wall thickness found in commercial specifications that is below the average of all the measurements taken. However, the nominal wall thickness used may not be more than 1.14 times the smallest measurement taken on pipe less than 20 inches (508 millimeters) in outside diameter, nor more than 1.11 times the smallest measurement taken on pipe 20 inches (508 millimeters) or more in outside diameter.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.111 Design factor (F) for steel pipe.

(a) Except as otherwise provided in paragraphs (b), (c), and (d) of this section, the design factor to be used in the design formula in Sec. 192.105 is determined in accordance with the following table:

Class location	Design factor (F)
1.....	0.72
2.....	0.60
3.....	0.50
4.....	0.40

(b) A design factor of 0.60 or less must be used in the design formula in Sec. 192.105 for steel pipe in Class 1 locations that:

- (1) Crosses the right-of-way of an unimproved public road, without a casing;
- (2) Crosses without a casing, or makes a parallel encroachment on, the right-of-way of either a hard surfaced road, a highway, a public street, or a railroad;
- (3) Is supported by a vehicular, pedestrian, railroad, or pipeline bridge; or
- (4) Is used in a fabricated assembly, (including separators, mainline valve assemblies, cross-connections, and river crossing headers) or is used within five pipe diameters in any direction from the last fitting of a fabricated assembly, other than a transition piece or an elbow used in place of a pipe bend which is not associated with a fabricated assembly.

(c) For Class 2 locations, a design factor of 0.50, or less, must be used in the design formula in Sec. 192.105 for uncased steel pipe that crosses the right-of-way of a hard surfaced road, a highway, a public street, or a railroad.

(d) For Class 1 and Class 2 locations, a design factor of 0.50, or less, must be used in the design formula in Sec. 192.105 for--

- (1) Steel pipe in a compressor station, regulating station, or measuring station; and
- (2) Steel pipe, including a pipe riser, on a platform located offshore or in inland navigable waters.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34605, Aug. 16, 1976]

Sec. 192.113 Longitudinal joint factor (E) for steel pipe.

The longitudinal joint factor to be used in the design formula in Sec. 192.105 is determined in accordance with the following table:

Specification	Pipe class	Longitudinal joint factor (E)
ASTM A 53.....	Seamless.....	1.00
	Electric resistance welded.	1.00
	Furnace butt welded.	.60

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ASTM A 106.....	Seamless.....	1.00
ASTM A 333/A 333M.....	Seamless.....	1.00
	Electric resistance welded.	1.00
ASTM A 381.....	Double submerged arc welded.	1.00
ASTM A 671.....	Electric-fusion-welded.	1.00
ASTM A 672.....	Electric-fusion-welded.	1.00
ASTM A 691.....	Electric-fusion-welded.	1.00
API 5 L.....	Seamless.....	1.00
	Electric resistance welded.	1.00
	Electric flash welded.	1.00
	Submerged arc welded	1.00
	Furnace butt welded.	.60
Other.....	Pipe over 4 inches (102 millimeters).	.80
Other.....	Pipe 4 inches (102 millimeters) or less.	.60

If the type of longitudinal joint cannot be determined, the joint factor to be used must not exceed that designated for "Other."

[Amdt. 192-37, 46 FR 10159, Feb. 2, 1981, as amended by Amdt. 192-51, 51 FR 15335, Apr. 23, 1986; Amdt. 192-62, 54 FR 5627, Feb. 6, 1989; 58 FR 14521, Mar. 18, 1993; Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.115 Temperature derating factor (T) for steel pipe.

The temperature derating factor to be used in the design formula in Sec. 192.105 is determined as follows:

Gas temperature in degrees Fahrenheit (Celsius)	Temperature derating factor (T)
250 deg.F (121 deg.C) or less.....	1.000
300 deg.F (149 deg.C).....	0.967
350 deg.F (177 deg.C).....	0.933
400 deg.F (204 deg.C).....	0.900
450 deg.F (232 deg.C).....	0.867

For intermediate gas temperatures, the derating factor is determined by interpolation.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.117 [Reserved]

Sec. 192.119 [Reserved]

Sec. 192.121 Design of plastic pipe.

Subject to the limitations of Sec. 192.123, the design pressure for

plastic pipe is determined in accordance with either of the following formulas:

[GRAPHIC] [TIFF OMITTED] TR06JN96.013

Where:

P=Design pressure, gauge, kPa (psig).

S=For thermoplastic pipe, the long-term hydrostatic strength determined in accordance with the listed specification at a temperature equal to 73 deg.F (23 deg.C), 100 deg.F (38 deg.C), 120 deg.F (49 deg.C), or 140 deg.F (60 deg.C); for reinforced thermosetting plastic pipe, 11,000 psi (75,842 kPa).

t=Specified wall thickness, mm (in).

D=Specified outside diameter, mm (in).

SDR=Standard dimension ratio, the ratio of the average specified outside diameter to the minimum specified wall thickness, corresponding to a value from a common numbering system that was derived from the American National Standards Institute preferred number series 10.

[Amdt. 192-78, 61 FR 28783, June 6, 1996, as amended by Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.123 Design limitations for plastic pipe.

(a) The design pressure may not exceed a gauge pressure of 689 kPa (100 psig) for plastic pipe used in:

- (1) Distribution systems; or
- (2) Classes 3 and 4 locations.

(b) Plastic pipe may not be used where operating temperatures of the pipe will be:

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(1) Below -20 deg.F (-20 deg.C), or -40 deg.F (-40 deg.C) if all pipe and pipeline components whose operating temperature will be below -29 deg.C (-20 deg.F) have a temperature rating by the manufacturer consistent with that operating temperature; or

(2) Above the following applicable temperatures:

(i) For thermoplastic pipe, the temperature at which the long-term hydrostatic strength used in the design formula under Sec. 192.121 is determined. However, if the pipe was manufactured before May 18, 1978 and its long-term hydrostatic strength was determined at 73 deg.F (23 deg.C), it may be used at temperatures up to 100 deg.F (38 deg.C).

(ii) For reinforced thermosetting plastic pipe, 150 deg.F (66 deg.C).

(c) The wall thickness for thermoplastic pipe may not be less than 0.062 inches (1.57 millimeters).

(d) The wall thickness for reinforced thermosetting plastic pipe may not be less than that listed in the following table:

Nominal size in inches (millimeters).	Minimum wall thickness inches (millimeters).
2 (51).....	0.060 (1.52)
3 (76).....	0.060 (1.52)
4 (102).....	0.070 (1.78)
6 (152).....	0.100 (2.54)

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-31, 43 FR 13883, Apr. 3, 1978; Amdt. 192-78, 61 FR 28783, June 6, 1996; Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.125 Design of copper pipe.

(a) Copper pipe used in mains must have a minimum wall thickness of 0.065 inches (1.65 millimeters) and must be hard drawn.

(b) Copper pipe used in service lines must have wall thickness not less than that indicated in the following table:

Standard size inch (millimeter)	Nominal O.D. inch (millimeter)	Wall thickness inch (millimeter)	
		Nominal	Tolerance
1/2 (13)	.625 (16)	.040 (1.06)	.0035 (.0889)
5/8 (16)	.750 (19)	.042 (1.07)	.0035 (.0889)
3/4 (19)	.875 (22)	.045 (1.14)	.004 (.102)
1 (25)	1.125 (29)	.050 (1.27)	.004 (.102)
1 1/4 (32)	1.375 (35)	.055 (1.40)	.0045 (.1143)
1 1/2 (38)	1.625 (41)	.060 (1.52)	.0045 (.1143)

(c) Copper pipe used in mains and service lines may not be used at pressures in excess of 100 p.s.i. (689 kPa) gage.

(d) Copper pipe that does not have an internal corrosion resistant lining may not be used to carry gas that has an average hydrogen sulfide content of more than 0.3 grains/100 ft³ (6.9/m³) under standard conditions. Standard conditions refers to 60 deg.F and 14.7 psia (15.6 deg.C and one atmosphere) of gas.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-62, 54 FR 5628, Feb. 6, 1989; Amdt. 192-85, 63 FR 37502, July 13, 1998]

Subpart D--Design of Pipeline Components

Sec. 192.141 Scope.

This subpart prescribes minimum requirements for the design and installation of pipeline components and facilities. In addition, it prescribes requirements relating to protection against accidental overpressuring.

Sec. 192.143 General requirements.

Each component of a pipeline must be able to withstand operating pressures and other anticipated loadings without impairment of its serviceability with unit stresses equivalent to those allowed for comparable material in pipe in the same location and kind of service. However, if design based upon unit stresses is impractical for a particular component, design may be based upon a pressure rating established by the manufacturer by pressure testing that component or a prototype of the component.

[Amdt. 48, 49 FR 19824, May 10, 1984]

Sec. 192.144 Qualifying metallic components.

Notwithstanding any requirement of this subpart which incorporates by reference an edition of a document listed in appendix A of this part, a metallic component manufactured in accordance with any other edition of that document is qualified for use under this part if--

(a) It can be shown through visual inspection of the cleaned component that no defect exists which might impair

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the strength or tightness of the component; and

(b) The edition of the document under which the component was manufactured has equal or more stringent requirements for the following as an edition of that document currently or previously listed in appendix A:

- (1) Pressure testing;
- (2) Materials; and

(3) Pressure and temperature ratings.

[Amdt. 192-45, 48 FR 30639, July 5, 1983]

Sec. 192.145 Valves.

(a) Except for cast iron and plastic valves, each valve must meet the minimum requirements, or equivalent, of API 6D. A valve may not be used under operating conditions that exceed the applicable pressure-temperature ratings contained in those requirements.

(b) Each cast iron and plastic valve must comply with the following:

(1) The valve must have a maximum service pressure rating for temperatures that equal or exceed the maximum service temperature.

(2) The valve must be tested as part of the manufacturing, as follows:

(i) With the valve in the fully open position, the shell must be tested with no leakage to a pressure at least 1.5 times the maximum service rating.

(ii) After the shell test, the seat must be tested to a pressure not less than 1.5 times the maximum service pressure rating. Except for swing check valves, test pressure during the seat test must be applied successively on each side of the closed valve with the opposite side open. No visible leakage is permitted.

(iii) After the last pressure test is completed, the valve must be operated through its full travel to demonstrate freedom from interference.

(c) Each valve must be able to meet the anticipated operating conditions.

(d) No valve having shell components made of ductile iron may be used at pressures exceeding 80 percent of the pressure ratings for comparable steel valves at their listed temperature. However, a valve having shell components made of ductile iron may be used at pressures up to 80 percent of the pressure ratings for comparable steel valves at their listed temperature, if:

(1) The temperature-adjusted service pressure does not exceed 1,000 p.s.i. (7 Mpa) gage; and

(2) Welding is not used on any ductile iron component in the fabrication of the valve shells or their assembly.

(e) No valve having pressure containing parts made of ductile iron may be used in the gas pipe components of compressor stations.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-62, 54 FR 5628, Feb. 6, 1989; Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.147 Flanges and flange accessories.

(a) Each flange or flange accessory (other than cast iron) must meet the minimum requirements of ASME/ANSI B16.5, MSS SP-44, or the equivalent.

(b) Each flange assembly must be able to withstand the maximum pressure at which the pipeline is to be operated and to maintain its physical and chemical properties at any temperature to which it is anticipated that it might be subjected in service.

(c) Each flange on a flanged joint in cast iron pipe must conform in dimensions, drilling, face and gasket design to ASME/ANSI B16.1 and be cast integrally with the pipe, valve, or fitting.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-62, 54 FR 5628, Feb. 6, 1989; 58 FR 14521, Mar. 18, 1993]

Sec. 192.149 Standard fittings.

(a) The minimum metal thickness of threaded fittings may not be less than specified for the pressures and temperatures in the applicable standards referenced in this part, or their equivalent.

(b) Each steel butt-welding fitting must have pressure and temperature ratings based on stresses for pipe of the same or equivalent material. The actual bursting strength of the fitting must at least equal the computed bursting strength of pipe of the designated material

and wall thickness, as determined by a prototype that was tested to at least the pressure required for the pipeline to which it is being added.

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Sec. 192.150 Passage of internal inspection devices.

(a) Except as provided in paragraphs (b) and (c) of this section, each new transmission line and each line section of a transmission line where the line pipe, valve, fitting, or other line component is replaced must be designed and constructed to accommodate the passage of instrumented internal inspection devices.

(b) This section does not apply to: (1) Manifolds;

(2) Station piping such as at compressor stations, meter stations, or regulator stations;

(3) Piping associated with storage facilities, other than a continuous run of transmission line between a compressor station and storage facilities;

(4) Cross-overs;

(5) Sizes of pipe for which an instrumented internal inspection device is not commercially available;

(6) Transmission lines, operated in conjunction with a distribution system which are installed in Class 4 locations;

(7) Offshore pipelines, other than transmission lines 10 inches (254 millimeters) or greater in nominal diameter, that transport gas to onshore facilities; and

(8) Other piping that, under Sec. 190.9 of this chapter, the Administrator finds in a particular case would be impracticable to design and construct to accommodate the passage of instrumented internal inspection devices.

(c) An operator encountering emergencies, construction time constraints or other unforeseen construction problems need not construct a new or replacement segment of a transmission line to meet paragraph (a) of this section, if the operator determines and documents why an impracticability prohibits compliance with paragraph (a) of this section. Within 30 days after discovering the emergency or construction problem the operator must petition, under Sec. 190.9 of this chapter, for approval that design and construction to accommodate passage of instrumented internal inspection devices would be impracticable. If the petition is denied, within 1 year after the date of the notice of the denial, the operator must modify that segment to allow passage of instrumented internal inspection devices.

[Amdt. 192-72, 59 FR 17281, Apr. 12, 1994, as amended by Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.151 Tapping.

(a) Each mechanical fitting used to make a hot tap must be designed for at least the operating pressure of the pipeline.

(b) Where a ductile iron pipe is tapped, the extent of full-thread engagement and the need for the use of outside-sealing service connections, tapping saddles, or other fixtures must be determined by service conditions.

(c) Where a threaded tap is made in cast iron or ductile iron pipe, the diameter of the tapped hole may not be more than 25 percent of the nominal diameter of the pipe unless the pipe is reinforced, except that

(1) Existing taps may be used for replacement service, if they are free of cracks and have good threads; and

(2) A 1 1/4-inch (32 millimeters) tap may be made in a 4-inch (102 millimeters) cast iron or ductile iron pipe, without reinforcement.

However, in areas where climate, soil, and service conditions may create unusual external stresses on cast iron pipe, unreinforced taps may be used only on 6-inch (152 millimeters) or larger pipe.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.153 Components fabricated by welding.

(a) Except for branch connections and assemblies of standard pipe and fittings joined by circumferential welds, the design pressure of each component fabricated by welding, whose strength cannot be determined, must be established in accordance with paragraph UG-101 of section VIII, Division 1, of the ASME Boiler and Pressure Vessel Code.

(b) Each prefabricated unit that uses plate and longitudinal seams must be designed, constructed, and tested in accordance with section I, section VIII, Division 1, or section VIII, Division 2 of the ASME Boiler and Pressure Vessel Code, except for the following:

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(1) Regularly manufactured butt-welding fittings.

(2) Pipe that has been produced and tested under a specification listed in appendix B to this part.

(3) Partial assemblies such as split rings or collars.

(4) Prefabricated units that the manufacturer certifies have been tested to at least twice the maximum pressure to which they will be subjected under the anticipated operating conditions.

(c) Orange-peel bull plugs and orange-peel swages may not be used on pipelines that are to operate at a hoop stress of 20 percent or more of the SMYS of the pipe.

(d) Except for flat closures designed in accordance with section VIII of the ASME Boiler and Pressure Code, flat closures and fish tails may not be used on pipe that either operates at 100 p.s.i. (689 kPa) gage, or more, or is more than 3 inches (76 millimeters) nominal diameter.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-1, 35 FR 17660, Nov. 17, 1970; 58 FR 14521, Mar. 18, 1993; Amdt. 192-68, 58 FR 45268, Aug. 27, 1993; Amdt. 192-85, 63 FR 37502, July 13, 1998]

Sec. 192.155 Welded branch connections.

Each welded branch connection made to pipe in the form of a single connection, or in a header or manifold as a series of connections, must be designed to ensure that the strength of the pipeline system is not reduced, taking into account the stresses in the remaining pipe wall due to the opening in the pipe or header, the shear stresses produced by the pressure acting on the area of the branch opening, and any external loadings due to thermal movement, weight, and vibration.

Sec. 192.157 Extruded outlets.

Each extruded outlet must be suitable for anticipated service conditions and must be at least equal to the design strength of the pipe and other fittings in the pipeline to which it is attached.

Sec. 192.159 Flexibility.

Each pipeline must be designed with enough flexibility to prevent thermal expansion or contraction from causing excessive stresses in the pipe or components, excessive bending or unusual loads at joints, or undesirable forces or moments at points of connection to equipment, or at anchorage or guide points.

Sec. 192.161 Supports and anchors.

(a) Each pipeline and its associated equipment must have enough anchors or supports to:

(1) Prevent undue strain on connected equipment;

(2) Resist longitudinal forces caused by a bend or offset in the pipe; and

(3) Prevent or damp out excessive vibration.

(b) Each exposed pipeline must have enough supports or anchors to protect the exposed pipe joints from the maximum end force caused by internal pressure and any additional forces caused by temperature

expansion or contraction or by the weight of the pipe and its contents.

(c) Each support or anchor on an exposed pipeline must be made of durable, noncombustible material and must be designed and installed as follows:

(1) Free expansion and contraction of the pipeline between supports or anchors may not be restricted.

(2) Provision must be made for the service conditions involved.

(3) Movement of the pipeline may not cause disengagement of the support equipment.

(d) Each support on an exposed pipeline operated at a stress level of 50 percent or more of SMYS must comply with the following:

(1) A structural support may not be welded directly to the pipe.

(2) The support must be provided by a member that completely encircles the pipe.

(3) If an encircling member is welded to a pipe, the weld must be continuous and cover the entire circumference.

(e) Each underground pipeline that is connected to a relatively unyielding line or other fixed object must have enough flexibility to provide for possible movement, or it must have an anchor that will limit the movement of the pipeline.

(f) Except for offshore pipelines, each underground pipeline that is being connected to new branches must have a firm foundation for both the header

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and the branch to prevent detrimental lateral and vertical movement.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988]

Sec. 192.163 Compressor stations: Design and construction.

(a) Location of compressor building. Except for a compressor building on a platform located offshore or in inland navigable waters, each main compressor building of a compressor station must be located on property under the control of the operator. It must be far enough away from adjacent property, not under control of the operator, to minimize the possibility of fire being communicated to the compressor building from structures on adjacent property. There must be enough open space around the main compressor building to allow the free movement of fire-fighting equipment.

(b) Building construction. Each building on a compressor station site must be made of noncombustible materials if it contains either--

(1) Pipe more than 2 inches (51 millimeters) in diameter that is carrying gas under pressure; or

(2) Gas handling equipment other than gas utilization equipment used for domestic purposes.

(c) Exits. Each operating floor of a main compressor building must have at least two separated and unobstructed exits located so as to provide a convenient possibility of escape and an unobstructed passage to a place of safety. Each door latch on an exit must be of a type which can be readily opened from the inside without a key. Each swinging door located in an exterior wall must be mounted to swing outward.

(d) Fenced areas. Each fence around a compressor station must have at least two gates located so as to provide a convenient opportunity for escape to a place of safety, or have other facilities affording a similarly convenient exit from the area. Each gate located within 200 feet (61 meters) of any compressor plant building must open outward and, when occupied, must be openable from the inside without a key.

(e) Electrical facilities. Electrical equipment and wiring installed in compressor stations must conform to the National Electrical Code, ANSI/NFPA 70, so far as that code is applicable.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34605, Aug. 16, 1976; Amdt. 192-37, 46 FR 10159, Feb. 2, 1981; 58 FR 14521, Mar. 18, 1993; Amdt. 192-85, 63 FR 37502, 37503, July 13, 1998]

Sec. 192.165 Compressor stations: Liquid removal.

(a) Where entrained vapors in gas may liquefy under the anticipated pressure and temperature conditions, the compressor must be protected against the introduction of those liquids in quantities that could cause damage.

(b) Each liquid separator used to remove entrained liquids at a compressor station must:

- (1) Have a manually operable means of removing these liquids.
- (2) Where slugs of liquid could be carried into the compressors, have either automatic liquid removal facilities, an automatic compressor shutdown device, or a high liquid level alarm; and
- (3) Be manufactured in accordance with section VIII of the ASME Boiler and Pressure Vessel Code, except that liquid separators constructed of pipe and fittings without internal welding must be fabricated with a design factor of 0.4, or less.

Sec. 192.167 Compressor stations: Emergency shutdown.

(a) Except for unattended field compressor stations of 1,000 horsepower (746 kilowatts) or less, each compressor station must have an emergency shutdown system that meets the following:

- (1) It must be able to block gas out of the station and blow down the station piping.
- (2) It must discharge gas from the blowdown piping at a location where the gas will not create a hazard.
- (3) It must provide means for the shutdown of gas compressing equipment, gas fires, and electrical facilities in the vicinity of gas headers and in the compressor building, except that:
 - (i) Electrical circuits that supply emergency lighting required to assist station personnel in evacuating the compressor building and the area in the vicinity of the gas headers must remain energized; and

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(ii) Electrical circuits needed to protect equipment from damage may remain energized.

(4) It must be operable from at least two locations, each of which is:

- (i) Outside the gas area of the station;
- (ii) Near the exit gates, if the station is fenced, or near emergency exits, if not fenced; and
- (iii) Not more than 500 feet (153 meters) from the limits of the station.

(b) If a compressor station supplies gas directly to a distribution system with no other adequate source of gas available, the emergency shutdown system must be designed so that it will not function at the wrong time and cause an unintended outage on the distribution system.

(c) On a platform located offshore or in inland navigable waters, the emergency shutdown system must be designed and installed to actuate automatically by each of the following events:

- (1) In the case of an unattended compressor station:
 - (i) When the gas pressure equals the maximum allowable operating pressure plus 15 percent; or
 - (ii) When an uncontrolled fire occurs on the platform; and
- (2) In the case of a compressor station in a building:
 - (i) When an uncontrolled fire occurs in the building; or
 - (ii) When the concentration of gas in air reaches 50 percent or more of the lower explosive limit in a building which has a source of ignition.

For the purpose of paragraph (c) (2) (ii) of this section, an electrical facility which conforms to Class 1, Group D, of the National Electrical Code is not a source of ignition.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34605, Aug. 16, 1976; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.169 Compressor stations: Pressure limiting devices.

(a) Each compressor station must have pressure relief or other suitable protective devices of sufficient capacity and sensitivity to ensure that the maximum allowable operating pressure of the station piping and equipment is not exceeded by more than 10 percent.

(b) Each vent line that exhausts gas from the pressure relief valves of a compressor station must extend to a location where the gas may be discharged without hazard.

Sec. 192.171 Compressor stations: Additional safety equipment.

(a) Each compressor station must have adequate fire protection facilities. If fire pumps are a part of these facilities, their operation may not be affected by the emergency shutdown system.

(b) Each compressor station prime mover, other than an electrical induction or synchronous motor, must have an automatic device to shut down the unit before the speed of either the prime mover or the driven unit exceeds a maximum safe speed.

(c) Each compressor unit in a compressor station must have a shutdown or alarm device that operates in the event of inadequate cooling or lubrication of the unit.

(d) Each compressor station gas engine that operates with pressure gas injection must be equipped so that stoppage of the engine automatically shuts off the fuel and vents the engine distribution manifold.

(e) Each muffler for a gas engine in a compressor station must have vent slots or holes in the baffles of each compartment to prevent gas from being trapped in the muffler.

Sec. 192.173 Compressor stations: Ventilation.

Each compressor station building must be ventilated to ensure that employees are not endangered by the accumulation of gas in rooms, sumps, attics, pits, or other enclosed places.

Sec. 192.175 Pipe-type and bottle-type holders.

(a) Each pipe-type and bottle-type holder must be designed so as to prevent the accumulation of liquids in the holder, in connecting pipe, or in auxiliary equipment, that might cause corrosion or interfere with the safe operation of the holder.

(b) Each pipe-type or bottle-type holder must have minimum clearance from other holders in accordance with the following formula:

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$$C = (D \times P \times F) / 48.33 \quad (C = (3D \times P \times F) / 1,000)$$

in which:

C=Minimum clearance between pipe containers or bottles in inches (millimeters).

D=Outside diameter of pipe containers or bottles in inches (millimeters).

P=Maximum allowable operating pressure, p.s.i. (kPa) gage.

F=Design factor as set forth in Sec. 192.111 of this part.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.177 Additional provisions for bottle-type holders.

(a) Each bottle-type holder must be--

(1) Located on a site entirely surrounded by fencing that prevents access by unauthorized persons and with minimum clearance from the fence as follows:

Maximum allowable operating pressure	Minimum clearance feet

	(meters)
Less than 1,000 p.s.i. (7 MPa) gage.....	25 (7.6)
1,000 p.s.i. (7 MPa) gage or more.....	100 (31)

- (2) Designed using the design factors set forth in Sec. 192.111; and
- (3) Buried with a minimum cover in accordance with Sec. 192.327.
- (b) Each bottle-type holder manufactured from steel that is not weldable under field conditions must comply with the following:
 - (1) A bottle-type holder made from alloy steel must meet the chemical and tensile requirements for the various grades of steel in ASTM A 372/A 372M.
 - (2) The actual yield-tensile ratio of the steel may not exceed 0.85.
 - (3) Welding may not be performed on the holder after it has been heat treated or stress relieved, except that copper wires may be attached to the small diameter portion of the bottle end closure for cathodic protection if a localized thermit welding process is used.
 - (4) The holder must be given a mill hydrostatic test at a pressure that produces a hoop stress at least equal to 85 percent of the SMYS.
 - (5) The holder, connection pipe, and components must be leak tested after installation as required by subpart J of this part.

[35 FR 1325, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt 192-62, 54 FR 5628, Feb. 6, 1989; 58 FR 14521, Mar. 18, 1993; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.179 Transmission line valves.

- (a) Each transmission line, other than offshore segments, must have sectionalizing block valves spaced as follows, unless in a particular case the Administrator finds that alternative spacing would provide an equivalent level of safety:
 - (1) Each point on the pipeline in a Class 4 location must be within 2 1/2 miles (4 kilometers) of a valve.
 - (2) Each point on the pipeline in a Class 3 location must be within 4 miles (6.4 kilometers) of a valve.
 - (3) Each point on the pipeline in a Class 2 location must be within 7 1/2 miles (12 kilometers) of a valve.
 - (4) Each point on the pipeline in a Class 1 location must be within 10 miles (16 kilometers) of a valve.
- (b) Each sectionalizing block valve on a transmission line, other than offshore segments, must comply with the following:
 - (1) The valve and the operating device to open or close the valve must be readily accessible and protected from tampering and damage.
 - (2) The valve must be supported to prevent settling of the valve or movement of the pipe to which it is attached.
- (c) Each section of a transmission line, other than offshore segments, between main line valves must have a blowdown valve with enough capacity to allow the transmission line to be blown down as rapidly as practicable. Each blowdown discharge must be located so the gas can be blown to the atmosphere without hazard and, if the transmission line is adjacent to an overhead electric line, so that the gas is directed away from the electrical conductors.
- (d) Offshore segments of transmission lines must be equipped with valves or other components to shut off the flow

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of gas to an offshore platform in an emergency.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34606, Aug. 16, 1976; Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.181 Distribution line valves.

- (a) Each high-pressure distribution system must have valves spaced so as to reduce the time to shut down a section of main in an emergency.

The valve spacing is determined by the operating pressure, the size of the mains, and the local physical conditions.

(b) Each regulator station controlling the flow or pressure of gas in a distribution system must have a valve installed on the inlet piping at a distance from the regulator station sufficient to permit the operation of the valve during an emergency that might preclude access to the station.

(c) Each valve on a main installed for operating or emergency purposes must comply with the following:

(1) The valve must be placed in a readily accessible location so as to facilitate its operation in an emergency.

(2) The operating stem or mechanism must be readily accessible.

(3) If the valve is installed in a buried box or enclosure, the box or enclosure must be installed so as to avoid transmitting external loads to the main.

Sec. 192.183 Vaults: Structural design requirements.

(a) Each underground vault or pit for valves, pressure relieving, pressure limiting, or pressure regulating stations, must be able to meet the loads which may be imposed upon it, and to protect installed equipment.

(b) There must be enough working space so that all of the equipment required in the vault or pit can be properly installed, operated, and maintained.

(c) Each pipe entering, or within, a regulator vault or pit must be steel for sizes 10 inch (254 millimeters), and less, except that control and gage piping may be copper. Where pipe extends through the vault or pit structure, provision must be made to prevent the passage of gases or liquids through the opening and to avert strains in the pipe.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.185 Vaults: Accessibility.

Each vault must be located in an accessible location and, so far as practical, away from:

(a) Street intersections or points where traffic is heavy or dense;

(b) Points of minimum elevation, catch basins, or places where the access cover will be in the course of surface waters; and

(c) Water, electric, steam, or other facilities.

Sec. 192.187 Vaults: Sealing, venting, and ventilation.

Each underground vault or closed top pit containing either a pressure regulating or reducing station, or a pressure limiting or relieving station, must be sealed, vented or ventilated as follows:

(a) When the internal volume exceeds 200 cubic feet (5.7 cubic meters):

(1) The vault or pit must be ventilated with two ducts, each having at least the ventilating effect of a pipe 4 inches (102 millimeters) in diameter;

(2) The ventilation must be enough to minimize the formation of combustible atmosphere in the vault or pit; and

(3) The ducts must be high enough above grade to disperse any gas-air mixtures that might be discharged.

(b) When the internal volume is more than 75 cubic feet (2.1 cubic meters) but less than 200 cubic feet (5.7 cubic meters):

(1) If the vault or pit is sealed, each opening must have a tight fitting cover without open holes through which an explosive mixture might be ignited, and there must be a means for testing the internal atmosphere before removing the cover;

(2) If the vault or pit is vented, there must be a means of preventing external sources of ignition from reaching the vault atmosphere; or

(3) If the vault or pit is ventilated, paragraph (a) or (c) of this section applies.

(c) If a vault or pit covered by paragraph (b) of this section is

ventilated by openings in the covers or gratings

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and the ratio of the internal volume, in cubic feet, to the effective ventilating area of the cover or grating, in square feet, is less than 20 to 1, no additional ventilation is required.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.189 Vaults: Drainage and waterproofing.

(a) Each vault must be designed so as to minimize the entrance of water.

(b) A vault containing gas piping may not be connected by means of a drain connection to any other underground structure.

(c) Electrical equipment in vaults must conform to the applicable requirements of Class 1, Group D, of the National Electrical Code, ANSI/NFPA 70.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-76, 61 FR 26122, May 24, 1996]

Sec. 192.191 Design pressure of plastic fittings.

(a) Thermosetting fittings for plastic pipe must conform to ASTM D 2517.

(b) Thermoplastic fittings for plastic pipe must conform to ASTM D 2513.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988]

Sec. 192.193 Valve installation in plastic pipe.

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 or shutoff is operated, and from any other secondary stresses that might be exerted through the valve or its enclosure.

Sec. 192.195 Protection against accidental overpressuring.

(a) General requirements. Except as provided in Sec. 192.197, each pipeline that is connected to a gas source so that the maximum allowable operating pressure could be exceeded as the result of pressure control failure or of some other type of failure, must have pressure relieving or pressure limiting devices that meet the requirements of Secs. 192.199 and 192.201.

(b) Additional requirements for distribution systems. Each distribution system that is supplied from a source of gas that is at a higher pressure than the maximum allowable operating pressure for the system must--

(1) Have pressure regulation devices capable of meeting the pressure, load, and other service conditions that will be experienced in normal operation of the system, and that could be activated in the event of failure of some portion of the system; and

(2) Be designed so as to prevent accidental overpressuring.

Sec. 192.197 Control of the pressure of gas delivered from high-pressure distribution systems.

(a) If the maximum actual operating pressure of the distribution system is under 60 p.s.i. (414 kPa) gage and a service regulator having the following characteristics is used, no other pressure limiting device is required:

(1) A regulator capable of reducing distribution line pressure to pressures recommended for household appliances.

(2) A single port valve with proper orifice for the maximum gas pressure at the regulator inlet.

(3) A valve seat made of resilient material designed to withstand abrasion of the gas, impurities in gas, cutting by the valve, and to resist permanent deformation when it is pressed against the valve port.

(4) Pipe connections to the regulator not exceeding 2 inches (51 millimeters) in diameter.

(5) A regulator that, under normal operating conditions, is able to regulate the downstream pressure within the necessary limits of accuracy and to limit the build-up of pressure under no-flow conditions to prevent a pressure that would cause the unsafe operation of any connected and properly adjusted gas utilization equipment.

(6) A self-contained service regulator with no external static or control lines.

(b) If the maximum actual operating pressure of the distribution system is 60 p.s.i. (414 kPa) gage, or less, and a service regulator that does not have all of the characteristics listed in paragraph (a) of this section is used, or if the gas contains materials that seriously interfere with the operation of

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service regulators, there must be suitable protective devices to prevent unsafe overpressuring of the customer's appliances if the service regulator fails.

(c) If the maximum actual operating pressure of the distribution system exceeds 60 p.s.i. (414 kPa) gage, one of the following methods must be used to regulate and limit, to the maximum safe value, the pressure of gas delivered to the customer:

(1) A service regulator having the characteristics listed in paragraph (a) of this section, and another regulator located upstream from the service regulator. The upstream regulator may not be set to maintain a pressure higher than 60 p.s.i. (414 kPa) gage. A device must be installed between the upstream regulator and the service regulator to limit the pressure on the inlet of the service regulator to 60 p.s.i. (414 kPa) gage or less in case the upstream regulator fails to function properly. This device may be either a relief valve or an automatic shutoff that shuts, if the pressure on the inlet of the service regulator exceeds the set pressure (60 p.s.i. (414 kPa) gage or less), and remains closed until manually reset.

(2) A service regulator and a monitoring regulator set to limit, to a maximum safe value, the pressure of the gas delivered to the customer.

(3) A service regulator with a relief valve vented to the outside atmosphere, with the relief valve set to open so that the pressure of gas going to the customer does not exceed a maximum safe value. The relief valve may either be built into the service regulator or it may be a separate unit installed downstream from the service regulator. This combination may be used alone only in those cases where the inlet pressure on the service regulator does not exceed the manufacturer's safe working pressure rating of the service regulator, and may not be used where the inlet pressure on the service regulator exceeds 125 p.s.i. (862 kPa) gage. For higher inlet pressures, the methods in paragraph (c) (1) or (2) of this section must be used.

(4) A service regulator and an automatic shutoff device that closes upon a rise in pressure downstream from the regulator and remains closed until manually reset.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-1, 35 FR 17660, Nov. 7, 1970; Amdt 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.199 Requirements for design of pressure relief and limiting devices.

Except for rupture discs, each pressure relief or pressure limiting device must:

(a) Be constructed of materials such that the operation of the device will not be impaired by corrosion;

(b) Have valves and valve seats that are designed not to stick in a position that will make the device inoperative;

(c) Be designed and installed so that it can be readily operated to determine if the valve is free, can be tested to determine the pressure at which it will operate, and can be tested for leakage when in the closed position;

(d) Have support made of noncombustible material;

(e) Have discharge stacks, vents, or outlet ports designed to prevent accumulation of water, ice, or snow, located where gas can be discharged into the atmosphere without undue hazard;

(f) Be designed and installed so that the size of the openings, pipe, and fittings located between the system to be protected and the pressure relieving device, and the size of the vent line, are adequate to prevent hammering of the valve and to prevent impairment of relief capacity;

(g) Where installed at a district regulator station to protect a pipeline system from overpressuring, be designed and installed to prevent any single incident such as an explosion in a vault or damage by a vehicle from affecting the operation of both the overpressure protective device and the district regulator; and

(h) Except for a valve that will isolate the system under protection from its source of pressure, be designed to prevent unauthorized operation of any stop valve that will make the pressure relief valve or pressure limiting device inoperative.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-1, 35 FR 17660, Nov. 17, 1970]

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Sec. 192.201 Required capacity of pressure relieving and limiting stations.

(a) Each pressure relief station or pressure limiting station or group of those stations installed to protect a pipeline must have enough capacity, and must be set to operate, to insure the following:

(1) In a low pressure distribution system, the pressure may not cause the unsafe operation of any connected and properly adjusted gas utilization equipment.

(2) In pipelines other than a low pressure distribution system:

(i) If the maximum allowable operating pressure is 60 p.s.i. (414 kPa) gage or more, the pressure may not exceed the maximum allowable operating pressure plus 10 percent, or the pressure that produces a hoop stress of 75 percent of SMYS, whichever is lower;

(ii) If the maximum allowable operating pressure is 12 p.s.i. (83 kPa) gage or more, but less than 60 p.s.i. (414 kPa) gage, the pressure may not exceed the maximum allowable operating pressure plus 6 p.s.i. (41 kPa) gage; or

(iii) If the maximum allowable operating pressure is less than 12 p.s.i. (83 kPa) gage, the pressure may not exceed the maximum allowable operating pressure plus 50 percent.

(b) When more than one pressure regulating or compressor station feeds into a pipeline, relief valves or other protective devices must be installed at each station to ensure that the complete failure of the largest capacity regulator or compressor, or any single run of lesser capacity regulators or compressors in that station, will not impose pressures on any part of the pipeline or distribution system in excess of those for which it was designed, or against which it was protected, whichever is lower.

(c) Relief valves or other pressure limiting devices must be installed at or near each regulator station in a low-pressure distribution system, with a capacity to limit the maximum pressure in the main to a pressure that will not exceed the safe operating pressure for any connected and properly adjusted gas utilization equipment.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-9, 37 FR 20827, Oct. 4, 1972; Amdt 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.203 Instrument, control, and sampling pipe and components.

(a) Applicability. This section applies to the design of instrument,

control, and sampling pipe and components. It does not apply to permanently closed systems, such as fluid-filled temperature-responsive devices.

(b) Materials and design. All materials employed for pipe and components must be designed to meet the particular conditions of service and the following:

(1) Each takeoff connection and attaching boss, fitting, or adapter must be made of suitable material, be able to withstand the maximum service pressure and temperature of the pipe or equipment to which it is attached, and be designed to satisfactorily withstand all stresses without failure by fatigue.

(2) Except for takeoff lines that can be isolated from sources of pressure by other valving, a shutoff valve must be installed in each takeoff line as near as practicable to the point of takeoff. Blowdown valves must be installed where necessary.

(3) Brass or copper material may not be used for metal temperatures greater than 400 deg. F (204 deg.C).

(4) Pipe or components that may contain liquids must be protected by heating or other means from damage due to freezing.

(5) Pipe or components in which liquids may accumulate must have drains or drips.

(6) Pipe or components subject to clogging from solids or deposits must have suitable connections for cleaning.

(7) The arrangement of pipe, components, and supports must provide safety under anticipated operating stresses.

(8) Each joint between sections of pipe, and between pipe and valves or fittings, must be made in a manner suitable for the anticipated pressure and temperature condition. Slip type expansion joints may not be used. Expansion must be allowed for by providing flexibility within the system itself.

(9) Each control line must be protected from anticipated causes of damage and must be designed and installed to prevent damage to any one control line from making both the regulator

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and the over-pressure protective device inoperative.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Subpart E--Welding of Steel in Pipelines

Sec. 192.221 Scope.

(a) This subpart prescribes minimum requirements for welding steel materials in pipelines.

(b) This subpart does not apply to welding that occurs during the manufacture of steel pipe or steel pipeline components.

Sec. 192.225 Welding--General.

(a) Welding must be performed by a qualified welder in accordance with welding procedures qualified to produce welds meeting the requirements of this subpart. The quality of the test welds used to qualify the procedure shall be determined by destructive testing.

(b) Each welding procedure must be recorded in detail, including the results of the qualifying tests. This record must be retained and followed whenever the procedure is used.

[Amdt. 192-52, 51 FR 20297, June 4, 1986]

Sec. 192.227 Qualification of welders.

(a) Except as provided in paragraph (b) of this section, each welder must be qualified in accordance with section 3 of API Standard 1104 or section IX of the ASME Boiler and Pressure Vessel Code. However, a welder qualified under an earlier edition than listed in appendix A may weld but may not requalify under that earlier edition.

(b) A welder may qualify to perform welding on pipe to be operated at a pressure that produces a hoop stress of less than 20 percent of SMYS by performing an acceptable test weld, for the process to be used, under the test set forth in section I of Appendix C of this part. Each welder who is to make a welded service line connection to a main must first perform an acceptable test weld under section II of Appendix C of this part as a requirement of the qualifying test.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-52, 51 FR 20297, June 4, 1986; Amdt. 192-78, 61 FR 28784, June 6, 1996]

Sec. 192.229 Limitations on welders.

(a) No welder whose qualification is based on nondestructive testing may weld compressor station pipe and components.

(b) No welder may weld with a particular welding process unless, within the preceding 6 calendar months, he has engaged in welding with that process.

(c) A welder qualified under Sec. 192.227(a) --

(1) May not weld on pipe to be operated at a pressure that produces a hoop stress of 20 percent or more of SMYS unless within the preceding 6 calendar months the welder has had one weld tested and found acceptable under section 3 or 6 of API Standard 1104, except that a welder qualified under an earlier edition previously listed in Appendix A of this part may weld but may not requalify under that earlier edition; and

(2) May not weld on pipe to be operated at a pressure that produces a hoop stress of less than 20 percent of SMYS unless the welder is tested in accordance with paragraph (c)(1) of this section or requalifies under paragraph (d)(1) or (d)(2) of this section.

(d) A welder qualified under Sec. 192.227(b) may not weld unless--

(1) Within the preceding 15 calendar months, but at least once each calendar year, the welder has requalified under Sec. 192.227(b); or

(2) Within the preceding 7\1/2\ calendar months, but at least twice each calendar year, the welder has had--

(i) A production weld cut out, tested, and found acceptable in accordance with the qualifying test; or

(ii) For welders who work only on service lines 2 inches (51 millimeters) or smaller in diameter, two sample welds tested and found acceptable in accordance with the test in section III of Appendix C of this part.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-37, 46 FR 10159, Feb. 2, 1981; Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

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Sec. 192.231 Protection from weather.

The welding operation must be protected from weather conditions that would impair the quality of the completed weld.

Sec. 192.233 Miter joints.

(a) A miter joint on steel pipe to be operated at a pressure that produces a hoop stress of 30 percent or more of SMYS may not deflect the pipe more than 3 deg..

(b) A miter joint on steel pipe to be operated at a pressure that produces a hoop stress of less than 30 percent, but more than 10 percent, of SMYS may not deflect the pipe more than 12\1/2\ deg. and must be a distance equal to one pipe diameter or more away from any other miter joint, as measured from the crotch of each joint.

(c) A miter joint on steel pipe to be operated at a pressure that produces a hoop stress of 10 percent or less of SMYS may not deflect the pipe more than 90 deg..

Sec. 192.235 Preparation for welding.

Before beginning any welding, the welding surfaces must be clean and free of any material that may be detrimental to the weld, and the pipe or component must be aligned to provide the most favorable condition for depositing the root bead. This alignment must be preserved while the root bead is being deposited.

Sec. 192.241 Inspection and test of welds.

(a) Visual inspection of welding must be conducted to insure that:

(1) The welding is performed in accordance with the welding procedure; and

(2) The weld is acceptable under paragraph (c) of this section.

(b) The welds on a pipeline to be operated at a pressure that produces a hoop stress of 20 percent or more of SMYS must be nondestructively tested in accordance with Sec. 192.243, except that welds that are visually inspected and approved by a qualified welding inspector need not be nondestructively tested if:

(1) The pipe has a nominal diameter of less than 6 inches (152 millimeters); or

(2) The pipeline is to be operated at a pressure that produces a hoop stress of less than 40 percent of SMYS and the welds are so limited in number that nondestructive testing is impractical.

(c) The acceptability of a weld that is nondestructively tested or visually inspected is determined according to the standards in section 6 of API Standard 1104. However, if a girth weld is unacceptable under those standards for a reason other than a crack, and if the Appendix to API Standard 1104 applies to the weld, the acceptability of the weld may be further determined under that Appendix.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-37, 46 FR 10160, Feb. 2, 1981; Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.243 Nondestructive testing.

(a) Nondestructive testing of welds must be performed by any process, other than trepanning, that will clearly indicate defects that may affect the integrity of the weld.

(b) Nondestructive testing of welds must be performed:

(1) In accordance with written procedures; and

(2) By persons who have been trained and qualified in the established procedures and with the equipment employed in testing.

(c) Procedures must be established for the proper interpretation of each nondestructive test of a weld to ensure the acceptability of the weld under Sec. 192.241(c).

(d) When nondestructive testing is required under Sec. 192.241(b), the following percentages of each day's field butt welds, selected at random by the operator, must be nondestructively tested over their entire circumference:

(1) In Class 1 locations, except offshore, at least 10 percent.

(2) In Class 2 locations, at least 15 percent.

(3) In Class 3 and Class 4 locations, at crossings of major or navigable rivers, offshore, and within railroad or public highway rights-of-way, including tunnels, bridges, and overhead road crossings, 100 percent unless impracticable, in which case at least 90 percent. Nondestructive testing must be impracticable for each girth weld not tested.

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(4) At pipeline tie-ins, including tie-ins of replacement sections, 100 percent.

(e) Except for a welder whose work is isolated from the principal welding activity, a sample of each welder's work for each day must be nondestructively tested, when nondestructive testing is required under Sec. 192.241(b).

(f) When nondestructive testing is required under Sec. 192.241(b), each operator must retain, for the life of the pipeline, a record

showing by milepost, engineering station, or by geographic feature, the number of girth welds made, the number nondestructively tested, the number rejected, and the disposition of the rejects.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34606, Aug. 16, 1976; Amdt. 192-50, 50 FR 37192, Sept. 12, 1985; Amdt. 192-78, 61 FR 28784, June 6, 1996]

Sec. 192.245 Repair or removal of defects.

(a) Each weld that is unacceptable under Sec. 192.241(c) must be removed or repaired. Except for welds on an offshore pipeline being installed from a pipeline vessel, a weld must be removed if it has a crack that is more than 8 percent of the weld length.

(b) Each weld that is repaired must have the defect removed down to sound metal and the segment to be repaired must be preheated if conditions exist which would adversely affect the quality of the weld repair. After repair, the segment of the weld that was repaired must be inspected to ensure its acceptability.

(c) Repair of a crack, or of any defect in a previously repaired area must be in accordance with written weld repair procedures that have been qualified under Sec. 192.225. Repair procedures must provide that the minimum mechanical properties specified for the welding procedure used to make the original weld are met upon completion of the final weld repair.

[Amdt. 192-46, 48 FR 48674, Oct. 20, 1983]

Subpart F--Joining of Materials Other Than by Welding

Sec. 192.271 Scope.

(a) This subpart prescribes minimum requirements for joining materials in pipelines, other than by welding.

(b) This subpart does not apply to joining during the manufacture of pipe or pipeline components.

Sec. 192.273 General.

(a) The pipeline must be designed and installed so that each joint will sustain the longitudinal pullout or thrust forces caused by contraction or expansion of the piping or by anticipated external or internal loading.

(b) Each joint must be made in accordance with written procedures that have been proven by test or experience to produce strong gastight joints.

(c) Each joint must be inspected to insure compliance with this subpart.

Sec. 192.275 Cast iron pipe.

(a) Each caulked bell and spigot joint in cast iron pipe must be sealed with mechanical leak clamps.

(b) Each mechanical joint in cast iron pipe must have a gasket made of a resilient material as the sealing medium. Each gasket must be suitably confined and retained under compression by a separate gland or follower ring.

(c) Cast iron pipe may not be joined by threaded joints.

(d) Cast iron pipe may not be joined by brazing.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-62, 54 FR 5628, Feb. 6, 1989]

Sec. 192.277 Ductile iron pipe.

(a) Ductile iron pipe may not be joined by threaded joints.

(b) Ductile iron pipe may not be joined by brazing.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-62, 54 FR 5628,

Feb. 6, 1989]

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Sec. 192.279 Copper pipe.

Copper pipe may not be threaded except that copper pipe used for joining screw fittings or valves may be threaded if the wall thickness is equivalent to the comparable size of Schedule 40 or heavier wall pipe listed in Table C1 of ASME/ANSI B16.5.

[Amdt. 192-62, 54 FR 5628, Feb. 6, 1989, as amended at 58 FR 14521, Mar. 18, 1993]

Sec. 192.281 Plastic pipe.

(a) General. A plastic pipe joint that is joined by solvent cement, adhesive, or heat fusion may not be disturbed until it has properly set. Plastic pipe may not be joined by a threaded joint or miter joint.

(b) Solvent cement joints. Each solvent cement joint on plastic pipe must comply with the following:

(1) The mating surfaces of the joint must be clean, dry, and free of material which might be detrimental to the joint.

(2) The solvent cement must conform to ASTM Designation D 2513.

(3) The joint may not be heated to accelerate the setting of the cement.

(c) Heat-fusion joints. Each heat-fusion joint on plastic pipe must comply with the following:

(1) A butt heat-fusion joint must be joined by a device that holds the heater element square to the ends of the piping, compresses the heated ends together, and holds the pipe in proper alignment while the plastic hardens.

(2) A socket heat-fusion joint must be joined by a device that heats the mating surfaces of the joint uniformly and simultaneously to essentially the same temperature.

(3) An electrofusion joint must be joined utilizing the equipment and techniques of the fittings manufacturer or equipment and techniques shown, by testing joints to the requirements of Sec. 192.283(a)(1)(iii), to be at least equivalent to those of the fittings manufacturer.

(4) Heat may not be applied with a torch or other open flame.

(d) Adhesive joints. Each adhesive joint on plastic pipe must comply with the following:

(1) The adhesive must conform to ASTM Designation D 2517.

(2) The materials and adhesive must be compatible with each other.

(e) Mechanical joints. Each compression type mechanical joint on plastic pipe must comply with the following:

(1) The gasket material in the coupling must be compatible with the plastic.

(2) A rigid internal tubular stiffener, other than a split tubular stiffener, must be used in conjunction with the coupling.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-34, 44 FR 42973, July 23, 1979; Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-61, 53 FR 36793, Sept. 22, 1988; 58 FR 14521, Mar. 18, 1993; Amdt. 192-78, 61 FR 28784, June 6, 1996]

Sec. 192.283 Plastic pipe: qualifying joining procedures.

(a) Heat fusion, solvent cement, and adhesive joints. Before any written procedure established under Sec. 192.273(b) is used for making plastic pipe joints by a heat fusion, solvent cement, or adhesive method, the procedure must be qualified by subjecting specimen joints made according to the procedure to the following tests:

(1) The burst test requirements of--

(i) In the case of thermoplastic pipe, paragraph 6.6 (Sustained Pressure Test) or paragraph 6.7 (Minimum Hydrostatic Burst Pressure (Quick Burst)) of ASTM D 2513;

(ii) In the case of thermosetting plastic pipe, paragraph 8.5 (Minimum Hydrostatic Burst Pressure) or paragraph 8.9 (Sustained Static

Pressure Test) of ASTM D2517; or

(iii) In the case of electrofusion fittings for polyethylene pipe and tubing, paragraph 9.1 (Minimum Hydraulic Burst Pressure Test), paragraph 9.2 (Sustained Pressure Test), paragraph 9.3 (Tensile Strength Test), or paragraph 9.4 (Joint Integrity Tests) of ASTM Designation F1055.

(2) For procedures intended for lateral pipe connections, subject a specimen joint made from pipe sections joined at right angles according to the procedure to a force on the lateral pipe until failure occurs in the specimen. If failure initiates outside the joint area, the procedure qualifies for use; and

(3) For procedures intended for nonlateral pipe connections, follow the

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tensile test requirements of ASTM D638, except that the test may be conducted at ambient temperature and humidity. If the specimen elongates no less than 25 percent or failure initiates outside the joint area, the procedure qualifies for use.

(b) Mechanical joints. Before any written procedure established under Sec. 192.273(b) is used for making mechanical plastic pipe joints that are designed to withstand tensile forces, the procedure must be qualified by subjecting 5 specimen joints made according to the procedure to the following tensile test:

(1) Use an apparatus for the test as specified in ASTM D 638 (except for conditioning).

(2) The specimen must be of such length that the distance between the grips of the apparatus and the end of the stiffener does not affect the joint strength.

(3) The speed of testing is 0.20 in (5.0 mm) per minute, plus or minus 25 percent.

(4) Pipe specimens less than 4 inches (102 mm) in diameter are qualified if the pipe yields to an elongation of no less than 25 percent or failure initiates outside the joint area.

(5) Pipe specimens 4 inches (102 mm) and larger in diameter shall be pulled until the pipe is subjected to a tensile stress equal to or greater than the maximum thermal stress that would be produced by a temperature change of 100 deg.F (38 deg.C) or until the pipe is pulled from the fitting. If the pipe pulls from the fitting, the lowest value of the five test results or the manufacturer's rating, whichever is lower must be used in the design calculations for stress.

(6) Each specimen that fails at the grips must be retested using new pipe.

(7) Results obtained pertain only to the specific outside diameter, and material of the pipe tested, except that testing of a heavier wall pipe may be used to qualify pipe of the same material but with a lesser wall thickness.

(c) A copy of each written procedure being used for joining plastic pipe must be available to the persons making and inspecting joints.

(d) Pipe or fittings manufactured before July 1, 1980, may be used in accordance with procedures that the manufacturer certifies will produce a joint as strong as the pipe.

[Amdt. 192-34A, 45 FR 9935, Feb. 14, 1980, as amended by Amdt. 192-34B, 46 FR 39, Jan. 2, 1981; 47 FR 32720, July 29, 1982; 47 FR 49973, Nov. 4, 1982; 58 FR 14521, Mar. 18, 1993; Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.285 Plastic pipe: qualifying persons to make joints.

(a) No person may make a plastic pipe joint unless that person has been qualified under the applicable joining procedure by:

(1) Appropriate training or experience in the use of the procedure; and

(2) Making a specimen joint from pipe sections joined according to the procedure that passes the inspection and test set forth in paragraph

(b) of this section.

(b) The specimen joint must be:

(1) Visually examined during and after assembly or joining and found to have the same appearance as a joint or photographs of a joint that is acceptable under the procedure; and

(2) In the case of a heat fusion, solvent cement, or adhesive joint:

(i) Tested under any one of the test methods listed under Sec. 192.283(a) applicable to the type of joint and material being tested;

(ii) Examined by ultrasonic inspection and found not to contain flaws that would cause failure; or

(iii) Cut into at least 3 longitudinal straps, each of which is:

(A) Visually examined and found not to contain voids or discontinuities on the cut surfaces of the joint area; and

(B) Deformed by bending, torque, or impact, and if failure occurs, it must not initiate in the joint area.

(c) A person must be requalified under an applicable procedure, if during any 12-month period that person:

(1) Does not make any joints under that procedure; or

(2) Has 3 joints or 3 percent of the joints made, whichever is greater, under that procedure that are found unacceptable by testing under Sec. 192.513.

(d) Each operator shall establish a method to determine that each person making joints in plastic pipelines in

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his system is qualified in accordance with this section.

[Amdt. 192-34A, 45 FR 9935, Feb. 14, 1980, as amended by Amdt. 192-34B, 46 FR 39, Jan. 2, 1981]

Sec. 192.287 Plastic pipe: inspection of joints.

No person may carry out the inspection of joints in plastic pipes required by Secs. 192.273(c) and 192.285(b) unless that person has been qualified by appropriate training or experience in evaluating the acceptability of plastic pipe joints made under the applicable joining procedure.

[Amdt. 192-34, 44 FR 42974, July 23, 1979]

Subpart G--General Construction Requirements for Transmission Lines and Mains

Sec. 192.301 Scope.

This subpart prescribes minimum requirements for constructing transmission lines and mains.

Sec. 192.303 Compliance with specifications or standards.

Each transmission line or main must be constructed in accordance with comprehensive written specifications or standards that are consistent with this part.

Sec. 192.305 Inspection: General.

Each transmission line or main must be inspected to ensure that it is constructed in accordance with this part.

Sec. 192.307 Inspection of materials.

Each length of pipe and each other component must be visually inspected at the site of installation to ensure that it has not sustained any visually determinable damage that could impair its serviceability.

Sec. 192.309 Repair of steel pipe.

(a) Each imperfection or damage that impairs the serviceability of a

length of steel pipe must be repaired or removed. If a repair is made by grinding, the remaining wall thickness must at least be equal to either:

- (1) The minimum thickness required by the tolerances in the specification to which the pipe was manufactured; or
- (2) The nominal wall thickness required for the design pressure of the pipeline.

(b) Each of the following dents must be removed from steel pipe to be operated at a pressure that produces a hoop stress of 20 percent, or more, of SMYS, unless the dent is repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe:

- (1) A dent that contains a stress concentrator such as a scratch, gouge, groove, or arc burn.
- (2) A dent that affects the longitudinal weld or a circumferential weld.

(3) In pipe to be operated at a pressure that produces a hoop stress of 40 percent or more of SMYS, a dent that has a depth of:

- (i) More than $\frac{1}{4}$ inch (6.4 millimeters) in pipe $12\frac{3}{4}$ inches (324 millimeters) or less in outer diameter; or
- (ii) More than 2 percent of the nominal pipe diameter in pipe over $12\frac{3}{4}$ inches (324 millimeters) in outer diameter.

For the purpose of this section a "dent" is a depression that produces a gross disturbance in the curvature of the pipe wall without reducing the pipe-wall thickness. The depth of a dent is measured as the gap between the lowest point of the dent and a prolongation of the original contour of the pipe.

(c) Each arc burn on steel pipe to be operated at a pressure that produces a hoop stress of 40 percent, or more, of SMYS must be repaired or removed. If a repair is made by grinding, the arc burn must be completely removed and the remaining wall thickness must be at least equal to either:

- (1) The minimum wall thickness required by the tolerances in the specification to which the pipe was manufactured; or
- (2) The nominal wall thickness required for the design pressure of the pipeline.

(d) A gouge, groove, arc burn, or dent may not be repaired by insert patching or by pounding out.

(e) Each gouge, groove, arc burn, or dent that is removed from a length of

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pipe must be removed by cutting out the damaged portion as a cylinder.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-1, 35 FR 17660, Nov. 17, 1970; Amdt. 192-85, 63 FR 37503, July 13, 1998; Amdt. 192-88, 64 FR 69664, Dec. 14, 1999]

Sec. 192.311 Repair of plastic pipe.

Each imperfection or damage that would impair the serviceability of plastic pipe must be repaired by a patching saddle or removed.

Sec. 192.313 Bends and elbows.

(a) Each field bend in steel pipe, other than a wrinkle bend made in accordance with Sec. 192.315, must comply with the following:

- (1) A bend must not impair the serviceability of the pipe.
- (2) Each bend must have a smooth contour and be free from buckling, cracks, or any other mechanical damage.
- (3) On pipe containing a longitudinal weld, the longitudinal weld must be as near as practicable to the neutral axis of the bend unless:
 - (i) The bend is made with an internal bending mandrel; or
 - (ii) The pipe is 12 inches (305 millimeters) or less in outside diameter or has a diameter to wall thickness ratio less than 70.

(b) Each circumferential weld of steel pipe which is located where the stress during bending causes a permanent deformation in the pipe must be nondestructively tested either before or after the bending

process.

(c) Wrought-steel welding elbows and transverse segments of these elbows may not be used for changes in direction on steel pipe that is 2 inches (51 millimeters) or more in diameter unless the arc length, as measured along the crotch, is at least 1 inch (25 millimeters).

[Amdt. No. 192-26, 41 FR 26018, June 24, 1976, as amended by Amdt. 192-29, 42 FR 42866, Aug. 25, 1977; Amdt. 192-29, 42 FR 60148, Nov. 25, 1977; Amdt. 192-49, 50 FR 13225, Apr. 3, 1985; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.315 Wrinkle bends in steel pipe.

(a) A wrinkle bend may not be made on steel pipe to be operated at a pressure that produces a hoop stress of 30 percent, or more, of SMYS.

(b) Each wrinkle bend on steel pipe must comply with the following:

(1) The bend must not have any sharp kinks.

(2) When measured along the crotch of the bend, the wrinkles must be a distance of at least one pipe diameter.

(3) On pipe 16 inches (406 millimeters) or larger in diameter, the bend may not have a deflection of more than 1\1/2\ deg. for each wrinkle.

(4) On pipe containing a longitudinal weld the longitudinal seam must be as near as practicable to the neutral axis of the bend.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.317 Protection from hazards.

(a) The operator must take all practicable steps to protect each transmission line or main from washouts, floods, unstable soil, landslides, or other hazards that may cause the pipeline to move or to sustain abnormal loads. In addition, the operator must take all practicable steps to protect offshore pipelines from damage by mud slides, water currents, hurricanes, ship anchors, and fishing operations.

(b) Each aboveground transmission line or main, not located offshore or in inland navigable water areas, must be protected from accidental damage by vehicular traffic or other similar causes, either by being placed at a safe distance from the traffic or by installing barricades.

(c) Pipelines, including pipe risers, on each platform located offshore or in inland navigable waters must be protected from accidental damage by vessels.

[Amdt. 192-27, 41 FR 34606, Aug. 16, 1976, as amended by Amdt. 192-78, 61 FR 28784, June 6, 1996]

Sec. 192.319 Installation of pipe in a ditch.

(a) When installed in a ditch, each transmission line that is to be operated at a pressure producing a hoop stress of 20 percent or more of SMYS must be installed so that the pipe fits the ditch so as to minimize stresses and protect the pipe coating from damage.

(b) When a ditch for a transmission line or main is backfilled, it must be backfilled in a manner that:

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(1) Provides firm support under the pipe; and

(2) Prevents damage to the pipe and pipe coating from equipment or from the backfill material.

(c) All offshore pipe in water at least 12 feet (3.7 meters) deep but not more than 200 feet (61 meters) deep, as measured from the mean low tide, except pipe in the Gulf of Mexico and its inlets under 15 feet (4.6 meters) of water, must be installed so that the top of the pipe is below the natural bottom unless the pipe is supported by stanchions, held in place by anchors or heavy concrete coating, or protected by an equivalent means. Pipe in the Gulf of Mexico and its inlets under 15

feet (4.6 meters) of water must be installed so that the top of the pipe is 36 inches (914 millimeters) below the seabed for normal excavation or 18 inches (457 millimeters) for rock excavation.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34606, Aug. 16, 1976; Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.321 Installation of plastic pipe.

(a) Plastic pipe must be installed below ground level unless otherwise permitted by paragraph (g) of this section.

(b) Plastic pipe that is installed in a vault or any other below grade enclosure must be completely encased in gas-tight metal pipe and fittings that are adequately protected from corrosion.

(c) Plastic pipe must be installed so as to minimize shear or tensile stresses.

(d) Thermoplastic pipe that is not encased must have a minimum wall thickness of 0.090 inch (2.29 millimeters), except that pipe with an outside diameter of 0.875 inch (22.3 millimeters) or less may have a minimum wall thickness of 0.062 inch (1.58 millimeters).

(e) Plastic pipe that is not encased must have an electrically conductive wire or other means of locating the pipe while it is underground.

(f) Plastic pipe that is being encased must be inserted into the casing pipe in a manner that will protect the plastic. The leading end of the plastic must be closed before insertion.

(g) Uncased plastic pipe may be temporarily installed above ground level under the following conditions:

(1) The operator must be able to demonstrate that the cumulative aboveground exposure of the pipe does not exceed the manufacturer's recommended maximum period of exposure or 2 years, whichever is less.

(2) The pipe either is located where damage by external forces is unlikely or is otherwise protected against such damage.

(3) The pipe adequately resists exposure to ultraviolet light and high and low temperatures.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-78, 61 FR 28784, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.323 Casing.

Each casing used on a transmission line or main under a railroad or highway must comply with the following:

(a) The casing must be designed to withstand the superimposed loads.

(b) If there is a possibility of water entering the casing, the ends must be sealed.

(c) If the ends of an unvented casing are sealed and the sealing is strong enough to retain the maximum allowable operating pressure of the pipe, the casing must be designed to hold this pressure at a stress level of not more than 72 percent of SMYS.

(d) If vents are installed on a casing, the vents must be protected from the weather to prevent water from entering the casing.

Sec. 192.325 Underground clearance.

(a) Each transmission line must be installed with at least 12 inches (305 millimeters) of clearance from any other underground structure not associated with the transmission line. If this clearance cannot be attained, the transmission line must be protected from damage that might result from the proximity of the other structure.

(b) Each main must be installed with enough clearance from any other underground structure to allow proper maintenance and to protect against damage that might result from proximity to other structures.

(c) In addition to meeting the requirements of paragraph (a) or (b) of

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this section, each plastic transmission line or main must be installed with sufficient clearance, or must be insulated, from any source of heat so as to prevent the heat from impairing the serviceability of the pipe.

(d) Each pipe-type or bottle-type holder must be installed with a minimum clearance from any other holder as prescribed in Sec. 192.175(b).

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.327 Cover.

(a) Except as provided in paragraphs (c), (e), (f), and (g) of this section, each buried transmission line must be installed with a minimum cover as follows:

Location	Normal soil	Consolidated rock
Inches (Millimeters).....		
Class 1 locations.....	30 (762)	18 (457)
Class 2, 3, and 4 locations.....	36 (914)	24 (610)
Drainage ditches of public roads and railroad crossings.....	36 (914)	24 (610)

(b) Except as provided in paragraphs (c) and (d) of this section, each buried main must be installed with at least 24 inches (610 millimeters) of cover.

(c) Where an underground structure prevents the installation of a transmission line or main with the minimum cover, the transmission line or main may be installed with less cover if it is provided with additional protection to withstand anticipated external loads.

(d) A main may be installed with less than 24 inches (610 millimeters) of cover if the law of the State or municipality:

- (1) Establishes a minimum cover of less than 24 inches (610 millimeters);
- (2) Requires that mains be installed in a common trench with other utility lines; and
- (3) Provides adequately for prevention of damage to the pipe by external forces.

(e) Except as provided in paragraph (c) of this section, all pipe installed in a navigable river, stream, or harbor must be installed with a minimum cover of 48 inches (1219 millimeters) in soil or 24 inches (610 millimeters) in consolidated rock between the top of the pipe and the natural bottom.

(f) All pipe installed offshore, except in the Gulf of Mexico and its inlets, under water not more than 200 feet (60 meters) deep, as measured from the mean low tide, must be installed as follows:

(1) Except as provided in paragraph (c) of this section, pipe under water less than 12 feet (3.66 meters) deep, must be installed with a minimum cover of 36 inches (914 millimeters) in soil or 18 inches (457 millimeters) in consolidated rock between the top of the pipe and the natural bottom.

(2) Pipe under water at least 12 feet (3.66 meters) deep must be installed so that the top of the pipe is below the natural bottom, unless the pipe is supported by stanchions, held in place by anchors or heavy concrete coating, or protected by an equivalent means.

(g) All pipelines installed under water in the Gulf of Mexico and its inlets, as defined in Sec. 192.3, must be installed in accordance with Sec. 192.612(b) (3).

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27, 41 FR 34606, Aug. 16, 1976; Amdt. 192-78, 61 FR 28785, June 6, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Subpart H--Customer Meters, Service Regulators, and Service Lines

Sec. 192.351 Scope.

This subpart prescribes minimum requirements for installing customer meters, service regulators, service lines, service line valves, and service line connections to mains.

Sec. 192.353 Customer meters and regulators: Location.

(a) Each meter and service regulator, whether inside or outside of a building, must be installed in a readily accessible location and be protected from corrosion and other damage. However, the upstream regulator in a series may be buried.

(b) Each service regulator installed within a building must be located as near as practical to the point of service line entrance.

(c) Each meter installed within a building must be located in a ventilated place and not less than 3 feet (914

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millimeters) from any source of ignition or any source of heat which might damage the meter.

(d) Where feasible, the upstream regulator in a series must be located outside the building, unless it is located in a separate metering or regulating building.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.355 Customer meters and regulators: Protection from damage.

(a) Protection from vacuum or back pressure. If the customer's equipment might create either a vacuum or a back pressure, a device must be installed to protect the system.

(b) Service regulator vents and relief vents. Service regulator vents and relief vents must terminate outdoors, and the outdoor terminal must--

(1) Be rain and insect resistant;

(2) Be located at a place where gas from the vent can escape freely into the atmosphere and away from any opening into the building; and

(3) Be protected from damage caused by submergence in areas where flooding may occur.

(c) Pits and vaults. Each pit or vault that houses a customer meter or regulator at a place where vehicular traffic is anticipated, must be able to support that traffic.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988]

Sec. 192.357 Customer meters and regulators: Installation.

(a) Each meter and each regulator must be installed so as to minimize anticipated stresses upon the connecting piping and the meter.

(b) When close all-thread nipples are used, the wall thickness remaining after the threads are cut must meet the minimum wall thickness requirements of this part.

(c) Connections made of lead or other easily damaged material may not be used in the installation of meters or regulators.

(d) Each regulator that might release gas in its operation must be vented to the outside atmosphere.

Sec. 192.359 Customer meter installations: Operating pressure.

(a) A meter may not be used at a pressure that is more than 67 percent of the manufacturer's shell test pressure.

(b) Each newly installed meter manufactured after November 12, 1970, must have been tested to a minimum of 10 p.s.i. (69 kPa) gage.

(c) A rebuilt or repaired tinned steel case meter may not be used at a pressure that is more than 50 percent of the pressure used to test the meter after rebuilding or repairing.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-1, 35 FR 17660, Nov. 17, 1970; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.361 Service lines: Installation.

(a) Depth. Each buried service line must be installed with at least 12 inches (305 millimeters) of cover in private property and at least 18 inches (457 millimeters) of cover in streets and roads. However, where an underground structure prevents installation at those depths, the service line must be able to withstand any anticipated external load.

(b) Support and backfill. Each service line must be properly supported on undisturbed or well-compacted soil, and material used for backfill must be free of materials that could damage the pipe or its coating.

(c) Grading for drainage. Where condensate in the gas might cause interruption in the gas supply to the customer, the service line must be graded so as to drain into the main or into drips at the low points in the service line.

(d) Protection against piping strain and external loading. Each service line must be installed so as to minimize anticipated piping strain and external loading.

(e) Installation of service lines into buildings. Each underground service line installed below grade through the outer foundation wall of a building must:

(1) In the case of a metal service line, be protected against corrosion;

(2) In the case of a plastic service line, be protected from shearing action and backfill settlement; and

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(3) Be sealed at the foundation wall to prevent leakage into the building.

(f) Installation of service lines under buildings. Where an underground service line is installed under a building:

(1) It must be encased in a gas tight conduit;

(2) The conduit and the service line must, if the service line supplies the building it underlies, extend into a normally usable and accessible part of the building; and

(3) The space between the conduit and the service line must be sealed to prevent gas leakage into the building and, if the conduit is sealed at both ends, a vent line from the annular space must extend to a point where gas would not be a hazard, and extend above grade, terminating in a rain and insect resistant fitting.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-75, 61 FR 18517, Apr. 26, 1996; Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.363 Service lines: Valve requirements.

(a) Each service line must have a service-line valve that meets the applicable requirements of subparts B and D of this part. A valve incorporated in a meter bar, that allows the meter to be bypassed, may not be used as a service-line valve.

(b) A soft seat service line valve may not be used if its ability to control the flow of gas could be adversely affected by exposure to anticipated heat.

(c) Each service-line valve on a high-pressure service line, installed above ground or in an area where the blowing of gas would be hazardous, must be designed and constructed to minimize the possibility of the removal of the core of the valve with other than specialized tools.

Sec. 192.365 Service lines: Location of valves.

(a) Relation to regulator or meter. Each service-line valve must be installed upstream of the regulator or, if there is no regulator, upstream of the meter.

(b) Outside valves. Each service line must have a shut-off valve in a readily accessible location that, if feasible, is outside of the building.

(c) Underground valves. Each underground service-line valve must be located in a covered durable curb box or standpipe that allows ready operation of the valve and is supported independently of the service lines.

Sec. 192.367 Service lines: General requirements for connections to main piping.

(a) Location. Each service line connection to a main must be located at the top of the main or, if that is not practical, at the side of the main, unless a suitable protective device is installed to minimize the possibility of dust and moisture being carried from the main into the service line.

(b) Compression-type connection to main. Each compression-type service line to main connection must:

(1) Be designed and installed to effectively sustain the longitudinal pull-out or thrust forces caused by contraction or expansion of the piping, or by anticipated external or internal loading; and

(2) If gaskets are used in connecting the service line to the main connection fitting, have gaskets that are compatible with the kind of gas in the system.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-75, 61 FR 18517, Apr. 26, 1996]

Sec. 192.369 Service lines: Connections to cast iron or ductile iron mains.

(a) Each service line connected to a cast iron or ductile iron main must be connected by a mechanical clamp, by drilling and tapping the main, or by another method meeting the requirements of Sec. 192.273.

(b) If a threaded tap is being inserted, the requirements of Sec. 192.151 (b) and (c) must also be met.

Sec. 192.371 Service lines: Steel.

Each steel service line to be operated at less than 100 p.s.i. (689 kPa) gage must be constructed of pipe designed for a minimum of 100 p.s.i. (689 kPa) gage.

[Amdt. 192-1, 35 FR 17660, Nov. 17, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.373 Service lines: Cast iron and ductile iron.

(a) Cast or ductile iron pipe less than 6 inches (152 millimeters) in diameter may not be installed for service lines.

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(b) If cast iron pipe or ductile iron pipe is installed for use as a service line, the part of the service line which extends through the building wall must be of steel pipe.

(c) A cast iron or ductile iron service line may not be installed in unstable soil or under a building.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37503, July 13, 1998]

Sec. 192.375 Service lines: Plastic.

(a) Each plastic service line outside a building must be installed below ground level, except that--

- (1) It may be installed in accordance with Sec. 192.321(g); and
- (2) It may terminate above ground level and outside the building,

if--

- (i) The above ground level part of the plastic service line is protected against deterioration and external damage; and
 - (ii) The plastic service line is not used to support external loads.
- (b) Each plastic service line inside a building must be protected against external damage.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-78, 61 FR 28785, June 6, 1996]

Sec. 192.377 Service lines: Copper.

Each copper service line installed within a building must be protected against external damage.

Sec. 192.379 New service lines not in use.

Each service line that is not placed in service upon completion of installation must comply with one of the following until the customer is supplied with gas:

- (a) The valve that is closed to prevent the flow of gas to the customer must be provided with a locking device or other means designed to prevent the opening of the valve by persons other than those authorized by the operator.
- (b) A mechanical device or fitting that will prevent the flow of gas must be installed in the service line or in the meter assembly.
- (c) The customer's piping must be physically disconnected from the gas supply and the open pipe ends sealed.

[Amdt. 192-8, 37 FR 20694, Oct. 3, 1972]

Sec. 192.381 Service lines: Excess flow valve performance standards.

(a) Excess flow valves to be used on single residence service lines that operate continuously throughout the year at a pressure not less than 10 p.s.i. (69 kPa) gage must be manufactured and tested by the manufacturer according to an industry specification, or the manufacturer's written specification, to ensure that each valve will:

- (1) Function properly up to the maximum operating pressure at which the valve is rated;
- (2) Function properly at all temperatures reasonably expected in the operating environment of the service line;
- (3) At 10 p.s.i. (69 kPa) gage:
 - (i) Close at, or not more than 50 percent above, the rated closure flow rate specified by the manufacturer; and
 - (ii) Upon closure, reduce gas flow--
 - (A) For an excess flow valve designed to allow pressure to equalize across the valve, to no more than 5 percent of the manufacturer's specified closure flow rate, up to a maximum of 20 cubic feet per hour (0.57 cubic meters per hour); or
 - (B) For an excess flow valve designed to prevent equalization of pressure across the valve, to no more than 0.4 cubic feet per hour (.01 cubic meters per hour); and
 - (4) Not close when the pressure is less than the manufacturer's minimum specified operating pressure and the flow rate is below the manufacturer's minimum specified closure flow rate.

(b) An excess flow valve must meet the applicable requirements of Subparts B and D of this part.

(c) An operator must mark or otherwise identify the presence of an excess flow valve in the service line.

(d) An operator shall locate an excess flow valve as near as practical to the fitting connecting the service line to its source of gas supply.

(e) An operator should not install an excess flow valve on a service line where the operator has prior experience with contaminants in the gas stream, where these contaminants could be expected to cause the excess flow valve to malfunction or where the excess flow valve would interfere with necessary operation and maintenance

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activities on the service, such as blowing liquids from the line.

[Amdt. 192-79, 61 FR 31459, June 20, 1996, as amended by Amdt. 192-80, 62 FR 2619, Jan. 17, 1997; Amdt. 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.383 Excess flow valve customer notification.

(a) Definitions. As used in this section:

Costs associated with installation means the costs directly connected with installing an excess flow valve, for example, costs of parts, labor, inventory and procurement. It does not include maintenance and replacement costs until such costs are incurred.

Replaced service line means a natural gas service line where the fitting that connects the service line to the main is replaced or the piping connected to this fitting is replaced.

Service line customer means the person who pays the gas bill, or where service has not yet been established, the person requesting service.

(b) Which customers must receive notification. Notification is required on each newly installed service line or replaced service line that operates continuously throughout the year at a pressure not less than 68.9 kPa (10 psig) and that serves a single residence. On these lines an operator of a natural gas distribution system must notify the service line customer once in writing.

(c) What to put in the written notice. (1) An explanation for the customer that an excess flow valve meeting the performance standards prescribed under Sec. 192.381 is available for the operator to install if the customer bears the costs associated with installation;

(2) An explanation for the customer of the potential safety benefits that may be derived from installing an excess flow valve. The explanation must include that an excess flow valve is designed to shut off flow of natural gas automatically if the service line breaks;

(3) A description of installation, maintenance, and replacement costs. The notice must explain that if the customer requests the operator to install an EFV, the customer bears all costs associated with installation, and what those costs are. The notice must alert the customer that the costs for maintaining and replacing an EFV may later be incurred, and what those costs will be, to the extent known.

(d) When notification and installation must be made. (1) After February 3, 1999 an operator must notify each service line customer set forth in paragraph (b) of this section:

(i) On new service lines when the customer applies for service.

(ii) On replaced service lines when the operator determines the service line will be replaced.

(2) If a service line customer requests installation an operator must install the EFV at a mutually agreeable date.

(e) What records are required. (1) An operator must make the following records available for inspection by the Administrator or a State agency participating under 49 U.S.C. 60105 or 60106:

(i) A copy of the notice currently in use; and

(ii) Evidence that notice has been sent to the service line customers set forth in paragraph (b) of this section, within the previous three years.

(2) [Reserved]

(f) When notification is not required. The notification requirements do not apply if the operator can demonstrate--

(1) That the operator will voluntarily install an excess flow valve or that the state or local jurisdiction requires installation;

(2) That excess flow valves meeting the performance standards in Sec. 192.381 are not available to the operator;

(3) That the operator has prior experience with contaminants in the gas stream that could interfere with the operation of an excess flow valve, cause loss of service to a residence, or interfere with necessary operation or maintenance activities, such as blowing liquids from the line.

(4) That an emergency or short time notice replacement situation made it impractical for the operator to notify a service line customer

before replacing a service line. Examples of these situations would be where an operator has to replace a service line quickly because of--

- (i) Third party excavation damage;
- (ii) Grade 1 leaks as defined in the Appendix G-192-11 of the Gas Piping

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- (iii) A short notice service line relocation request.

[Amdt. 192-82, 63 FR 5471, Feb. 3, 1998; Amdt. 192-83, 63 FR 20135, Apr. 23, 1998]

Subpart I--Requirements for Corrosion Control

Source: Amdt. 192-4, 36 FR 12302, June 30, 1971, unless otherwise noted.

Sec. 192.451 Scope.

(a) This subpart prescribes minimum requirements for the protection of metallic pipelines from external, internal, and atmospheric corrosion.

- (b) [Reserved]

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-27, 41 FR 34606, Aug. 16, 1976; Amdt. 192-33, 43 FR 39389, Sept. 5, 1978]

Sec. 192.452 Applicability to converted pipelines.

Notwithstanding the date the pipeline was installed or any earlier deadlines for compliance, each pipeline which qualifies for use under this part in accordance with Sec. 192.14 must meet the requirements of this subpart specifically applicable to pipelines installed before August 1, 1971, and all other applicable requirements within 1 year after the pipeline is readied for service. However, the requirements of this subpart specifically applicable to pipelines installed after July 31, 1971, apply if the pipeline substantially meets those requirements before it is readied for service or it is a segment which is replaced, relocated, or substantially altered.

[Amdt. 192-30, 42 FR 60148, Nov. 25, 1977]

Sec. 192.453 General.

The corrosion control procedures required by Sec. 192.605(b)(2), including those for the design, installation, operation, and maintenance of cathodic protection systems, must be carried out by, or under the direction of, a person qualified in pipeline corrosion control methods.

[Amdt. 192-71, 59 FR 6584, Feb. 11, 1994]

Sec. 192.455 External corrosion control: Buried or submerged pipelines installed after July 31, 1971.

(a) Except as provided in paragraphs (b), (c), and (f) of this section, each buried or submerged pipeline installed after July 31, 1971, must be protected against external corrosion, including the following:

(1) It must have an external protective coating meeting the requirements of Sec. 192.461.

(2) It must have a cathodic protection system designed to protect the pipeline in accordance with this subpart, installed and placed in operation within 1 year after completion of construction.

(b) An operator need not comply with paragraph (a) of this section, if the operator can demonstrate by tests, investigation, or experience in the area of application, including, as a minimum, soil resistivity

measurements and tests for corrosion accelerating bacteria, that a corrosive environment does not exist. However, within 6 months after an installation made pursuant to the preceding sentence, the operator shall conduct tests, including pipe-to-soil potential measurements with respect to either a continuous reference electrode or an electrode using close spacing, not to exceed 20 feet (6 meters), and soil resistivity measurements at potential profile peak locations, to adequately evaluate the potential profile along the entire pipeline. If the tests made indicate that a corrosive condition exists, the pipeline must be cathodically protected in accordance with paragraph (a)(2) of this section.

(c) An operator need not comply with paragraph (a) of this section, if the operator can demonstrate by tests, investigation, or experience that--

(1) For a copper pipeline, a corrosive environment does not exist; or

(2) For a temporary pipeline with an operating period of service not to exceed 5 years beyond installation, corrosion during the 5-year period of service of the pipeline will not be detrimental to public safety.

(d) Notwithstanding the provisions of paragraph (b) or (c) of this section, if a pipeline is externally coated, it must

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be cathodically protected in accordance with paragraph (a)(2) of this section.

(e) Aluminum may not be installed in a buried or submerged pipeline if that aluminum is exposed to an environment with a natural pH in excess of 8, unless tests or experience indicate its suitability in the particular environment involved.

(f) This section does not apply to electrically isolated, metal alloy fittings in plastic pipelines, if:

(1) For the size fitting to be used, an operator can show by test, investigation, or experience in the area of application that adequate corrosion control is provided by the alloy composition; and

(2) The fitting is designed to prevent leakage caused by localized corrosion pitting.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended at Amdt. 192-28, 42 FR 35654, July 11, 1977; Amdt. 192-39, 47 FR 9844, Mar. 8, 1982; Amdt. 192-78, 61 FR 28785, June 6, 1996; Amdt. 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.457 External corrosion control: Buried or submerged pipelines installed before August 1, 1971.

(a) Except for buried piping at compressor, regulator, and measuring stations, each buried or submerged transmission line installed before August 1, 1971, that has an effective external coating must be cathodically protected along the entire area that is effectively coated, in accordance with this subpart. For the purposes of this subpart, a pipeline does not have an effective external coating if its cathodic protection current requirements are substantially the same as if it were bare. The operator shall make tests to determine the cathodic protection current requirements.

(b) Except for cast iron or ductile iron, each of the following buried or submerged pipelines installed before August 1, 1971, must be cathodically protected in accordance with this subpart in areas in which active corrosion is found:

(1) Bare or ineffectively coated transmission lines.

(2) Bare or coated pipes at compressor, regulator, and measuring stations.

(3) Bare or coated distribution lines. The operator shall determine the areas of active corrosion by electrical survey, or where electrical survey is impractical, by the study of corrosion and leak history records, by leak detection survey, or by other means.

(c) For the purpose of this subpart, active corrosion means continuing corrosion which, unless controlled, could result in a

condition that is detrimental to public safety.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 39390, Sept. 5, 1978]

Sec. 192.459 External corrosion control: Examination of buried pipeline when exposed.

Whenever an operator has knowledge that any portion of a buried pipeline is exposed, the exposed portion must be examined for evidence of external corrosion if the pipe is bare, or if the coating is deteriorated. If external corrosion requiring remedial action under Secs. 192.483 through 192.489 is found, the operator shall investigate circumferentially and longitudinally beyond the exposed portion (by visual examination, indirect method, or both) to determine whether additional corrosion requiring remedial action exists in the vicinity of the exposed portion.

[Amdt. 192-87, 64 FR 56981, Oct. 22, 1999]

Sec. 192.461 External corrosion control: Protective coating.

(a) Each external protective coating, whether conductive or insulating, applied for the purpose of external corrosion control must--

- (1) Be applied on a properly prepared surface;
- (2) Have sufficient adhesion to the metal surface to effectively resist underfilm migration of moisture;
- (3) Be sufficiently ductile to resist cracking;
- (4) Have sufficient strength to resist damage due to handling and soil stress; and
- (5) Have properties compatible with any supplemental cathodic protection.

(b) Each external protective coating which is an electrically insulating type must also have low moisture absorption and high electrical resistance.

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(c) Each external protective coating must be inspected just prior to lowering the pipe into the ditch and backfilling, and any damage detrimental to effective corrosion control must be repaired.

(d) Each external protective coating must be protected from damage resulting from adverse ditch conditions or damage from supporting blocks.

(e) If coated pipe is installed by boring, driving, or other similar method, precautions must be taken to minimize damage to the coating during installation.

Sec. 192.463 External corrosion control: Cathodic protection.

(a) Each cathodic protection system required by this subpart must provide a level of cathodic protection that complies with one or more of the applicable criteria contained in appendix D of this part. If none of these criteria is applicable, the cathodic protection system must provide a level of cathodic protection at least equal to that provided by compliance with one or more of these criteria.

(b) If amphoteric metals are included in a buried or submerged pipeline containing a metal of different anodic potential--

- (1) The amphoteric metals must be electrically isolated from the remainder of the pipeline and cathodically protected; or
- (2) The entire buried or submerged pipeline must be cathodically protected at a cathodic potential that meets the requirements of appendix D of this part for amphoteric metals.

(c) The amount of cathodic protection must be controlled so as not to damage the protective coating or the pipe.

Sec. 192.465 External corrosion control: Monitoring.

(a) Each pipeline that is under cathodic protection must be tested

at least once each calendar year, but with intervals not exceeding 15 months, to determine whether the cathodic protection meets the requirements of Sec. 192.463. However, if tests at those intervals are impractical for separately protected short sections of mains or transmission lines, not in excess of 100 feet (30 meters), or separately protected service lines, these pipelines may be surveyed on a sampling basis. At least 10 percent of these protected structures, distributed over the entire system must be surveyed each calendar year, with a different 10 percent checked each subsequent year, so that the entire system is tested in each 10-year period.

(b) Each cathodic protection rectifier or other impressed current power source must be inspected six times each calendar year, but with intervals not exceeding 2½ months, to insure that it is operating.

(c) Each reverse current switch, each diode, and each interference bond whose failure would jeopardize structure protection must be electrically checked for proper performance six times each calendar year, but with intervals not exceeding 2½ months. Each other interference bond must be checked at least once each calendar year, but with intervals not exceeding 15 months.

(d) Each operator shall take prompt remedial action to correct any deficiencies indicated by the monitoring.

(e) After the initial evaluation required by paragraphs (b) and (c) of Sec. 192.455 and paragraph (b) of Sec. 192.457, each operator shall, at intervals not exceeding 3 years, reevaluate its unprotected pipelines and cathodically protect them in accordance with this subpart in areas in which active corrosion is found. The operator shall determine the areas of active corrosion by electrical survey, or where electrical survey is impractical, by the study of corrosion and leak history records, by leak detection survey, or by other means.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 39390, Sept. 5, 1978; Amdt. 192-35A, 45 FR 23441, Apr. 7, 1980; Amdt. 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.467 External corrosion control: Electrical isolation.

(a) Each buried or submerged pipeline must be electrically isolated from other underground metallic structures, unless the pipeline and the other structures are electrically interconnected and cathodically protected as a single unit.

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(b) One or more insulating devices must be installed where electrical isolation of a portion of a pipeline is necessary to facilitate the application of corrosion control.

(c) Except for unprotected copper inserted in ferrous pipe, each pipeline must be electrically isolated from metallic casings that are a part of the underground system. However, if isolation is not achieved because it is impractical, other measures must be taken to minimize corrosion of the pipeline inside the casing.

(d) Inspection and electrical tests must be made to assure that electrical isolation is adequate.

(e) An insulating device may not be installed in an area where a combustible atmosphere is anticipated unless precautions are taken to prevent arcing.

(f) Where a pipeline is located in close proximity to electrical transmission tower footings, ground cables or counterpoise, or in other areas where fault currents or unusual risk of lightning may be anticipated, it must be provided with protection against damage due to fault currents or lightning, and protective measures must also be taken at insulating devices.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 39390, Sept. 5, 1978]

Sec. 192.469 External corrosion control: Test stations.

Each pipeline under cathodic protection required by this subpart

must have sufficient test stations or other contact points for electrical measurement to determine the adequacy of cathodic protection.

[Amdt. 192-27, 41 FR 34606, Aug. 16, 1976]

Sec. 192.471 External corrosion control: Test leads.

(a) Each test lead wire must be connected to the pipeline so as to remain mechanically secure and electrically conductive.

(b) Each test lead wire must be attached to the pipeline so as to minimize stress concentration on the pipe.

(c) Each bared test lead wire and bared metallic area at point of connection to the pipeline must be coated with an electrical insulating material compatible with the pipe coating and the insulation on the wire.

Sec. 192.473 External corrosion control: Interference currents.

(a) Each operator whose pipeline system is subjected to stray currents shall have in effect a continuing program to minimize the detrimental effects of such currents.

(b) Each impressed current type cathodic protection system or galvanic anode system must be designed and installed so as to minimize any adverse effects on existing adjacent underground metallic structures.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 39390, Sept. 5, 1978]

Sec. 192.475 Internal corrosion control: General.

(a) Corrosive gas may not be transported by pipeline, unless the corrosive effect of the gas on the pipeline has been investigated and steps have been taken to minimize internal corrosion.

(b) Whenever any pipe is removed from a pipeline for any reason, the internal surface must be inspected for evidence of corrosion. If internal corrosion is found--

(1) The adjacent pipe must be investigated to determine the extent of internal corrosion;

(2) Replacement must be made to the extent required by the applicable paragraphs of Secs. 192.485, 192.487, or 192.489; and

(3) Steps must be taken to minimize the internal corrosion.

(c) Gas containing more than 0.25 grain of hydrogen sulfide per 100 cubic feet (5.8 milligrams/m³) at standard conditions (4 parts per million) may not be stored in pipe-type or bottle-type holders.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 39390, Sept. 5, 1978; Amdt. 192-78, 61 FR 28785, June 6, 1996; Amdt. 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.477 Internal corrosion control: Monitoring.

If corrosive gas is being transported, coupons or other suitable means must be used to determine the effectiveness of the steps taken to minimize internal corrosion. Each coupon or other means

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of monitoring internal corrosion must be checked two times each calendar year, but with intervals not exceeding 7 $\frac{1}{2}$ months.

[Amdt. 192-33, 43 FR 39390, Sept. 5, 1978]

Sec. 192.479 Atmospheric corrosion control: General.

(a) Pipelines installed after July 31, 1971. Each aboveground pipeline or portion of a pipeline installed after July 31, 1971 that is exposed to the atmosphere must be cleaned and either coated or jacketed with a material suitable for the prevention of atmospheric corrosion. An

operator need not comply with this paragraph, if the operator can demonstrate by test, investigation, or experience in the area of application, that a corrosive atmosphere does not exist.

(b) Pipelines installed before August 1, 1971. Each operator having an above-ground pipeline or portion of a pipeline installed before August 1, 1971 that is exposed to the atmosphere, shall--

- (1) Determine the areas of atmospheric corrosion on the pipeline;
- (2) If atmospheric corrosion is found, take remedial measures to the extent required by the applicable paragraphs of Secs. 192.485, 192.487, or 192.489; and
- (3) Clean and either coat or jacket the areas of atmospheric corrosion on the pipeline with a material suitable for the prevention of atmospheric corrosion.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43 FR 39390, Sept. 5, 1978]

Sec. 192.481 Atmospheric corrosion control: Monitoring.

After meeting the requirements of Sec. 192.479 (a) and (b), each operator shall, at intervals not exceeding 3 years for onshore pipelines and at least once each calendar year, but with intervals not exceeding 15 months, for offshore pipelines, reevaluate each pipeline that is exposed to the atmosphere and take remedial action whenever necessary to maintain protection against atmospheric corrosion.

[Amdt. 192-33, 43 FR 39390, Sept. 5, 1978]

Sec. 192.483 Remedial measures: General.

(a) Each segment of metallic pipe that replaces pipe removed from a buried or submerged pipeline because of external corrosion must have a properly prepared surface and must be provided with an external protective coating that meets the requirements of Sec. 192.461.

(b) Each segment of metallic pipe that replaces pipe removed from a buried or submerged pipeline because of external corrosion must be cathodically protected in accordance with this subpart.

(c) Except for cast iron or ductile iron pipe, each segment of buried or submerged pipe that is required to be repaired because of external corrosion must be cathodically protected in accordance with this subpart.

Sec. 192.485 Remedial measures: Transmission lines.

(a) General corrosion. Each segment of transmission line with general corrosion and with a remaining wall thickness less than that required for the MAOP of the pipeline must be replaced or the operating pressure reduced commensurate with the strength of the pipe based on actual remaining wall thickness. However, corroded pipe may be repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe. Corrosion pitting so closely grouped as to affect the overall strength of the pipe is considered general corrosion for the purpose of this paragraph.

(b) Localized corrosion pitting. Each segment of transmission line pipe with localized corrosion pitting to a degree where leakage might result must be replaced or repaired, or the operating pressure must be reduced commensurate with the strength of the pipe, based on the actual remaining wall thickness in the pits.

(c) Under paragraphs (a) and (b) of this section, the strength of pipe based on actual remaining wall thickness may be determined by the procedure in ASME/ANSI B31G or the procedure in AGA Pipeline Research Committee Project PR 3-805 (with RSTRENG disk). Both procedures apply to corroded regions that do not penetrate the

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pipe wall, subject to the limitations prescribed in the procedures.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-33, 43

FR 39390, Sept. 5, 1978; Amdt. 192-78, 61 FR 28785, June 6, 1996; Amdt. 192-88, 64 FR 69664, Dec. 14, 1999]

Sec. 192.487 Remedial measures: Distribution lines other than cast iron or ductile iron lines.

(a) General corrosion. Except for cast iron or ductile iron pipe, each segment of generally corroded distribution line pipe with a remaining wall thickness less than that required for the MAOP of the pipeline, or a remaining wall thickness less than 30 percent of the nominal wall thickness, must be replaced. However, corroded pipe may be repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe. Corrosion pitting so closely grouped as to affect the overall strength of the pipe is considered general corrosion for the purpose of this paragraph.

(b) Localized corrosion pitting. Except for cast iron or ductile iron pipe, each segment of distribution line pipe with localized corrosion pitting to a degree where leakage might result must be replaced or repaired.

[Amdt. 192-4, 36 FR 12302, June 30, 1971, as amended by Amdt. 192-88, 64 FR 69665, Dec. 14, 1999]

Sec. 192.489 Remedial measures: Cast iron and ductile iron pipelines.

(a) General graphitization. Each segment of cast iron or ductile iron pipe on which general graphitization is found to a degree where a fracture or any leakage might result, must be replaced.

(b) Localized graphitization. Each segment of cast iron or ductile iron pipe on which localized graphitization is found to a degree where any leakage might result, must be replaced or repaired, or sealed by internal sealing methods adequate to prevent or arrest any leakage.

Sec. 192.491 Corrosion control records.

(a) Each operator shall maintain records or maps to show the location of cathodically protected piping, cathodic protection facilities, galvanic anodes, and neighboring structures bonded to the cathodic protection system. Records or maps showing a stated number of anodes, installed in a stated manner or spacing, need not show specific distances to each buried anode.

(b) Each record or map required by paragraph (a) of this section must be retained for as long as the pipeline remains in service.

(c) Each operator shall maintain a record of each test, survey, or inspection required by this subpart in sufficient detail to demonstrate the adequacy of corrosion control measures or that a corrosive condition does not exist. These records must be retained for at least 5 years, except that records related to Secs. 192.465 (a) and (e) and 192.475 (b) must be retained for as long as the pipeline remains in service.

[Amdt. 192-78, 61 FR 28785, June 6, 1996]

Subpart J--Test Requirements

Sec. 192.501 Scope.

This subpart prescribes minimum leak-test and strength-test requirements for pipelines.

Sec. 192.503 General requirements.

(a) No person may operate a new segment of pipeline, or return to service a segment of pipeline that has been relocated or replaced, until--

(1) It has been tested in accordance with this subpart and Sec. 192.619 to substantiate the maximum allowable operating pressure; and

(2) Each potentially hazardous leak has been located and eliminated.

(b) The test medium must be liquid, air, natural gas, or inert gas

that is--

- (1) Compatible with the material of which the pipeline is constructed;
 - (2) Relatively free of sedimentary materials; and
 - (3) Except for natural gas, nonflammable.
- (c) Except as provided in Sec. 192.505(a), if air, natural gas, or inert gas is used as the test medium, the following maximum hoop stress limitations apply:

Class location	Maximum hoop stress allowed as percentage of SMYS	
	Natural gas	Air or inert gas
1.....	80	80
2.....	30	75
3.....	30	50

4.....	30	40

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(d) Each joint used to tie in a test segment of pipeline is excepted from the specific test requirements of this subpart, but each non-welded joint must be leak tested at not less than its operating pressure.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-60, 53 FR 36029, Sept. 16, 1988; Amdt. 192-60A, 54 FR 5485, Feb. 3, 1989]

Sec. 192.505 Strength test requirements for steel pipeline to operate at a hoop stress of 30 percent or more of SMYS.

(a) Except for service lines, each segment of a steel pipeline that is to operate at a hoop stress of 30 percent or more of SMYS must be strength tested in accordance with this section to substantiate the proposed maximum allowable operating pressure. In addition, in Class 1 or Class 2 location, if there is a building intended for human occupancy within 300 feet (91 meters) of a pipeline, a hydrostatic test must be conducted to a test pressure of at least 125 percent of maximum operating pressure on that segment of the pipeline within 300 feet (91 meters) of such a building, but in no event may the test section be less than 600 feet (183 meters) unless the length of the newly installed or relocated pipe is less than 600 feet (183 meters). However, if the buildings are evacuated while the hoop stress exceeds 50 percent of SMYS, air or inert gas may be used as the test medium.

(b) In a Class 1 or Class 2 location, each compressor station regulator station, and measuring station, must be tested to at least Class 3 location test requirements.

(c) Except as provided in paragraph (e) of this section, the strength test must be conducted by maintaining the pressure at or above the test pressure for at least 8 hours.

(d) If a component other than pipe is the only item being replaced or added to a pipeline, a strength test after installation is not required, if the manufacturer of the component certifies that--

(1) The component was tested to at least the pressure required for the pipeline to which it is being added; or

(2) The component was manufactured under a quality control system that ensures that each item manufactured is at least equal in strength to a prototype and that the prototype was tested to at least the pressure required for the pipeline to which it is being added.

(e) For fabricated units and short sections of pipe, for which a post installation test is impractical, a preinstallation strength test must be conducted by maintaining the pressure at or above the test pressure for at least 4 hours.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.507 Test requirements for pipelines to operate at a hoop stress less than 30 percent of SMYS and at or above 100 p.s.i. (689 kPa) gage.

Except for service lines and plastic pipelines, each segment of a pipeline that is to be operated at a hoop stress less than 30 percent of SMYS and at or above 100 p.s.i. (689 kPa) gage must be tested in accordance with the following:

(a) The pipeline operator must use a test procedure that will ensure discovery of all potentially hazardous leaks in the segment being tested.

(b) If, during the test, the segment is to be stressed to 20 percent or more of SMYS and natural gas, inert gas, or air is the test medium--

(1) A leak test must be made at a pressure between 100 p.s.i. (689 kPa) gage and the pressure required to produce a hoop stress of 20 percent of SMYS; or

(2) The line must be walked to check for leaks while the hoop stress is held at approximately 20 percent of SMYS.

(c) The pressure must be maintained at or above the test pressure for at least 1 hour.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-85, 63 FR 37504, July 13, 1998]

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Sec. 192.509 Test requirements for pipelines to operate below 100 p.s.i. (689 kPa) gage.

Except for service lines and plastic pipelines, each segment of a pipeline that is to be operated below 100 p.s.i. (689 kPa) gage must be leak tested in accordance with the following:

(a) The test procedure used must ensure discovery of all potentially hazardous leaks in the segment being tested.

(b) Each main that is to be operated at less than 1 p.s.i. (6.9 kPa) gage must be tested to at least 10 p.s.i. (69 kPa) gage and each main to be operated at or above 1 p.s.i. (6.9 kPa) gage must be tested to at least 90 p.s.i. (621 kPa) gage.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.511 Test requirements for service lines.

(a) Each segment of a service line (other than plastic) must be leak tested in accordance with this section before being placed in service. If feasible, the service line connection to the main must be included in the test; if not feasible, it must be given a leakage test at the operating pressure when placed in service.

(b) Each segment of a service line (other than plastic) intended to be operated at a pressure of at least 1 p.s.i. (6.9 kPa) gage but not more than 40 p.s.i. (276 kPa) gage must be given a leak test at a pressure of not less than 50 p.s.i. (345 kPa) gage.

(c) Each segment of a service line (other than plastic) intended to be operated at pressures of more than 40 p.s.i. (276 kPa) gage must be tested to at least 90 p.s.i. (621 kPa) gage, except that each segment of a steel service line stressed to 20 percent or more of SMYS must be tested in accordance with Sec. 192.507 of this subpart.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-74, 61 FR 18517, Apr. 26, 1996; Amdt 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.513 Test requirements for plastic pipelines.

(a) Each segment of a plastic pipeline must be tested in accordance with this section.

(b) The test procedure must insure discovery of all potentially hazardous leaks in the segment being tested.

(c) The test pressure must be at least 150 percent of the maximum operating pressure or 50 p.s.i. (345 kPa) gage, whichever is greater. However, the maximum test pressure may not be more than three times the pressure determined under Sec. 192.121, at a temperature not less than the pipe temperature during the test.

(d) During the test, the temperature of thermoplastic material may not be more than 100 deg.F (38 deg.C), or the temperature at which the material's long-term hydrostatic strength has been determined under the listed specification, whichever is greater.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-77, 61 FR 27793, June 3, 1996; 61 FR 45905, Aug. 30, 1996; Amdt. 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.515 Environmental protection and safety requirements.

(a) In conducting tests under this subpart, each operator shall insure that every reasonable precaution is taken to protect its employees and the general public during the testing. Whenever the hoop stress of the segment of the pipeline being tested will exceed 50 percent of SMYS, the operator shall take all practicable steps to keep persons not working on the testing operation outside of the testing area until the pressure is reduced to or below the proposed maximum allowable operating pressure.

(b) The operator shall insure that the test medium is disposed of in a manner that will minimize damage to the environment.

Sec. 192.517 Records.

Each operator shall make, and retain for the useful life of the pipeline, a record of each test performed under Secs. 192.505 and 192.507. The record must contain at least the following information:

- (a) The operator's name, the name of the operator's employee responsible for making the test, and the name of any test company used.
- (b) Test medium used.
- (c) Test pressure.
- (d) Test duration.

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- (e) Pressure recording charts, or other record of pressure readings.
- (f) Elevation variations, whenever significant for the particular test.
- (g) Leaks and failures noted and their disposition.

Subpart K--Uprating

Sec. 192.551 Scope.

This subpart prescribes minimum requirements for increasing maximum allowable operating pressures (uprating) for pipelines.

Sec. 192.553 General requirements.

(a) Pressure increases. Whenever the requirements of this subpart require that an increase in operating pressure be made in increments, the pressure must be increased gradually, at a rate that can be controlled, and in accordance with the following:

(1) At the end of each incremental increase, the pressure must be held constant while the entire segment of pipeline that is affected is checked for leaks.

(2) Each leak detected must be repaired before a further pressure increase is made, except that a leak determined not to be potentially hazardous need not be repaired, if it is monitored during the pressure increase and it does not become potentially hazardous.

(b) Records. Each operator who uprates a segment of pipeline shall retain for the life of the segment a record of each investigation

required by this subpart, of all work performed, and of each pressure test conducted, in connection with the uprating.

(c) Written plan. Each operator who uprates a segment of pipeline shall establish a written procedure that will ensure that each applicable requirement of this subpart is complied with.

(d) Limitation on increase in maximum allowable operating pressure. Except as provided in Sec. 192.555(c), a new maximum allowable operating pressure established under this subpart may not exceed the maximum that would be allowed under this part for a new segment of pipeline constructed of the same materials in the same location. However, when uprating a steel pipeline, if any variable necessary to determine the design pressure under the design formula (Sec. 192.105) is unknown, the MAOP may be increased as provided in Sec. 192.619(a)(1).

[35 FR 13257, Aug. 10, 1970, as amended by Amdt. 192-78, 61 FR 28785, June 6, 1996]

Sec. 192.555 Uprating to a pressure that will produce a hoop stress of 30 percent or more of SMYS in steel pipelines.

(a) Unless the requirements of this section have been met, no person may subject any segment of a steel pipeline to an operating pressure that will produce a hoop stress of 30 percent or more of SMYS and that is above the established maximum allowable operating pressure.

(b) Before increasing operating pressure above the previously established maximum allowable operating pressure the operator shall:

(1) Review the design, operating, and maintenance history and previous testing of the segment of pipeline and determine whether the proposed increase is safe and consistent with the requirements of this part; and

(2) Make any repairs, replacements, or alterations in the segment of pipeline that are necessary for safe operation at the increased pressure.

(c) After complying with paragraph (b) of this section, an operator may increase the maximum allowable operating pressure of a segment of pipeline constructed before September 12, 1970, to the highest pressure that is permitted under Sec. 192.619, using as test pressure the highest pressure to which the segment of pipeline was previously subjected (either in a strength test or in actual operation).

(d) After complying with paragraph (b) of this section, an operator that does not qualify under paragraph (c) of this section may increase the previously established maximum allowable operating pressure if at least one of the following requirements is met:

(1) The segment of pipeline is successfully tested in accordance with the requirements of this part for a new line of the same material in the same location.

(2) An increased maximum allowable operating pressure may be established for a segment of pipeline in a Class 1

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location if the line has not previously been tested, and if:

(i) It is impractical to test it in accordance with the requirements of this part;

(ii) The new maximum operating pressure does not exceed 80 percent of that allowed for a new line of the same design in the same location; and

(iii) The operator determines that the new maximum allowable operating pressure is consistent with the condition of the segment of pipeline and the design requirements of this part.

(e) Where a segment of pipeline is uprated in accordance with paragraph (c) or (d)(2) of this section, the increase in pressure must be made in increments that are equal to:

- (1) 10 percent of the pressure before the uprating; or
- (2) 25 percent of the total pressure increase,

whichever produces the fewer number of increments.

Sec. 192.557 Uprating: Steel pipelines to a pressure that will produce

a hoop stress less than 30 percent of SMYS: plastic, cast iron, and ductile iron pipelines.

(a) Unless the requirements of this section have been met, no person may subject:

(1) A segment of steel pipeline to an operating pressure that will produce a hoop stress less than 30 percent of SMYS and that is above the previously established maximum allowable operating pressure; or

(2) A plastic, cast iron, or ductile iron pipeline segment to an operating pressure that is above the previously established maximum allowable operating pressure.

(b) Before increasing operating pressure above the previously established maximum allowable operating pressure, the operator shall:

(1) Review the design, operating, and maintenance history of the segment of pipeline;

(2) Make a leakage survey (if it has been more than 1 year since the last survey) and repair any leaks that are found, except that a leak determined not to be potentially hazardous need not be repaired, if it is monitored during the pressure increase and it does not become potentially hazardous;

(3) Make any repairs, replacements, or alterations in the segment of pipeline that are necessary for safe operation at the increased pressure;

(4) Reinforce or anchor offsets, bends and dead ends in pipe joined by compression couplings or bell and spigot joints to prevent failure of the pipe joint, if the offset, bend, or dead end is exposed in an excavation;

(5) Isolate the segment of pipeline in which the pressure is to be increased from any adjacent segment that will continue to be operated at a lower pressure; and

(6) If the pressure in mains or service lines, or both, is to be higher than the pressure delivered to the customer, install a service regulator on each service line and test each regulator to determine that it is functioning. Pressure may be increased as necessary to test each regulator, after a regulator has been installed on each pipeline subject to the increased pressure.

(c) After complying with paragraph (b) of this section, the increase in maximum allowable operating pressure must be made in increments that are equal to 10 p.s.i. (69 kPa) gage or 25 percent of the total pressure increase, whichever produces the fewer number of increments. Whenever the requirements of paragraph (b)(6) of this section apply, there must be at least two approximately equal incremental increases.

(d) If records for cast iron or ductile iron pipeline facilities are not complete enough to determine stresses produced by internal pressure, trench loading, rolling loads, beam stresses, and other bending loads, in evaluating the level of safety of the pipeline when operating at the proposed increased pressure, the following procedures must be followed:

(1) In estimating the stresses, if the original laying conditions cannot be ascertained, the operator shall assume that cast iron pipe was supported on blocks with tamped backfill and that ductile iron pipe was laid without blocks with tamped backfill.

(2) Unless the actual maximum cover depth is known, the operator shall measure the actual cover in at least

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three places where the cover is most likely to be greatest and shall use the greatest cover measured.

(3) Unless the actual nominal wall thickness is known, the operator shall determine the wall thickness by cutting and measuring coupons from at least three separate pipe lengths. The coupons must be cut from pipe lengths in areas where the cover depth is most likely to be the greatest. The average of all measurements taken must be increased by the allowance indicated in the following table:

	Allowance inch
----- Cast iron pipe	-----

Pipe size inches (millimeters)	Pit cast pipe	Centri cast
3 to 8 (76 to 203)	0.075 (1.91)	0.0
10 to 12 (254 to 305)	0.08 (2.03)	0.
14 to 24 (356 to 610)	0.08 (2.03)	0.
30 to 42 (762 to 1067)	0.09 (2.29)	0.
48 (1219)	0.09 (2.29)	0.
54 to 60 (1372 to 1524)	0.09 (2.29)

(4) For cast iron pipe, unless the pipe manufacturing process is known, the operator shall assume that the pipe is pit cast pipe with a bursting tensile strength of 11,000 p.s.i. (76 MPa) gage and a modulus of rupture of 31,000 p.s.i. (214 MPa) gage.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-37, 46 FR 10160, Feb. 2, 1981; Amdt. 192-62, 54 FR 5628, Feb. 6, 1989; Amdt. 195-85, 63 FR 37504, July 13, 1998]

Subpart L--Operations

Sec. 192.601 Scope.

This subpart prescribes minimum requirements for the operation of pipeline facilities.

Sec. 192.603 General provisions.

(a) No person may operate a segment of pipeline unless it is operated in accordance with this subpart.

(b) Each operator shall keep records necessary to administer the procedures established under Sec. 192.605.

(c) The Administrator or the State Agency that has submitted a current certification under the pipeline safety laws, (49 U.S.C. 60101 et seq.) with respect to the pipeline facility governed by an operator's plans and procedures may, after notice and opportunity for hearing as provided in 49 CFR 190.237 or the relevant State procedures, require the operator to amend its plans and procedures as necessary to provide a reasonable level of safety.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-66, 56 FR 31090, July 9, 1991; Amdt. 192-71, 59 FR 6584, Feb. 11, 1994; Amdt. 192-75, 61 FR 18517, Apr. 26, 1996]

Sec. 192.605 Procedural manual for operations, maintenance, and emergencies.

(a) General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. This manual must be prepared before operations of a pipeline system commence. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted.

(b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.

(1) Operating, maintaining, and repairing the pipeline in accordance with each of the requirements of this subpart and subpart M of this part.

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(2) Controlling corrosion in accordance with the operations and maintenance requirements of subpart I of this part.

(3) Making construction records, maps, and operating history available to appropriate operating personnel.

(4) Gathering of data needed for reporting incidents under Part 191 of this chapter in a timely and effective manner.

(5) Starting up and shutting down any part of the pipeline in a manner designed to assure operation within the MAOP limits prescribed by this part, plus the build-up allowed for operation of pressure-limiting and control devices.

(6) Maintaining compressor stations, including provisions for isolating units or sections of pipe and for purging before returning to service.

(7) Starting, operating and shutting down gas compressor units.

(8) Periodically reviewing the work done by operator personnel to determine the effectiveness, and adequacy of the procedures used in normal operation and maintenance and modifying the procedures when deficiencies are found.

(9) Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapor or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and, a rescue harness and line.

(10) Systematic and routine testing and inspection of pipe-type or bottle-type holders including--

(i) Provision for detecting external corrosion before the strength of the container has been impaired;

(ii) Periodic sampling and testing of gas in storage to determine the dew point of vapors contained in the stored gas which, if condensed, might cause internal corrosion or interfere with the safe operation of the storage plant; and

(iii) Periodic inspection and testing of pressure limiting equipment to determine that it is in safe operating condition and has adequate capacity.

(c) Abnormal operation. For transmission lines, the manual required by paragraph (a) of this section must include procedures for the following to provide safety when operating design limits have been exceeded:

(1) Responding to, investigating, and correcting the cause of:

(i) Unintended closure of valves or shutdowns;

(ii) Increase or decrease in pressure or flow rate outside normal operating limits;

(iii) Loss of communications;

(iv) Operation of any safety device; and

(v) Any other foreseeable malfunction of a component, deviation from normal operation, or personnel error, which may result in a hazard to persons or property.

(2) Checking variations from normal operation after abnormal operation has ended at sufficient critical locations in the system to determine continued integrity and safe operation.

(3) Notifying responsible operator personnel when notice of an abnormal operation is received.

(4) Periodically reviewing the response of operator personnel to determine the effectiveness of the procedures controlling abnormal operation and taking corrective action where deficiencies are found.

(5) The requirements of this paragraph (c) do not apply to natural gas distribution operators that are operating transmission lines in connection with their distribution system.

(d) Safety-related condition reports. The manual required by paragraph (a) of this section must include instructions enabling personnel who perform operation and maintenance activities to recognize conditions that potentially may be safety-related conditions that are subject to the reporting requirements of Sec. 191.23 of this subchapter.

(e) Surveillance, emergency response, and accident investigation. The procedures required by Secs. 192.613(a), 192.615, and 192.617 must be included in the manual required by paragraph (a) of this section.

[Amdt. 192-71, 59 FR 6584, Feb. 11, 1994, as amended by Amdt. 192-71A, 60 FR 14381, Mar. 17, 1995]

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Sec. 192.607 [Reserved]

Sec. 192.609 Change in class location: Required study.

Whenever an increase in population density indicates a change in class location for a segment of an existing steel pipeline operating at hoop stress that is more than 40 percent of SMYS, or indicates that the hoop stress corresponding to the established maximum allowable operating pressure for a segment of existing pipeline is not commensurate with the present class location, the operator shall immediately make a study to determine:

- (a) The present class location for the segment involved.
- (b) The design, construction, and testing procedures followed in the original construction, and a comparison of these procedures with those required for the present class location by the applicable provisions of this part.
- (c) The physical condition of the segment to the extent it can be ascertained from available records;
- (d) The operating and maintenance history of the segment;
- (e) The maximum actual operating pressure and the corresponding operating hoop stress, taking pressure gradient into account, for the segment of pipeline involved; and
- (f) The actual area affected by the population density increase, and physical barriers or other factors which may limit further expansion of the more densely populated area.

Sec. 192.611 Change in class location: Confirmation or revision of maximum allowable operating pressure.

(a) If the hoop stress corresponding to the established maximum allowable operating pressure of a segment of pipeline is not commensurate with the present class location, and the segment is in satisfactory physical condition, the maximum allowable operating pressure of that segment of pipeline must be confirmed or revised according to one of the following requirements:

- (1) If the segment involved has been previously tested in place for a period of not less than 8 hours, the maximum allowable operating pressure is 0.8 times the test pressure in Class 2 locations, 0.667 times the test pressure in Class 3 locations, or 0.555 times the test pressure in Class 4 locations. The corresponding hoop stress may not exceed 72 percent of the SMYS of the pipe in Class 2 locations, 60 percent of SMYS in Class 3 locations, or 50 percent of SMYS in Class 4 locations.
 - (2) The maximum allowable operating pressure of the segment involved must be reduced so that the corresponding hoop stress is not more than that allowed by this part for new segments of pipelines in the existing class location.
 - (3) The segment involved must be tested in accordance with the applicable requirements of subpart J of this part, and its maximum allowable operating pressure must then be established according to the following criteria:
 - (i) The maximum allowable operating pressure after the requalification test is 0.8 times the test pressure for Class 2 locations, 0.667 times the test pressure for Class 3 locations, and 0.555 times the test pressure for Class 4 locations.
 - (ii) The corresponding hoop stress may not exceed 72 percent of the SMYS of the pipe in Class 2 locations, 60 percent of SMYS in Class 3 locations, or 50 percent of SMYS in Class 4 locations.
- (b) The maximum allowable operating pressure confirmed or revised in accordance with this section, may not exceed the maximum allowable operating pressure established before the confirmation or revision.
- (c) Confirmation or revision of the maximum allowable operating pressure of a segment of pipeline in accordance with this section does not preclude the application of Secs. 192.553 and 192.555.
- (d) Confirmation or revision of the maximum allowable operating pressure that is required as a result of a study under Sec. 192.609 must be completed within 18 months of the change in class location. Pressure reduction under paragraph (a) (1) or (2) of this section within the 18-

month period does not preclude establishing a maximum allowable operating pressure under paragraph (a) (3) of this section at a later date.

[Amdt. 192-63A, 54 FR 24174, June 6, 1989 as amended by Amdt. 192-78, 61 FR 28785, June 6, 1996]

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Sec. 192.612 Underwater inspection and re-burial of pipelines in the Gulf of Mexico and its inlets.

(a) Each operator shall, in accordance with this section, conduct an underwater inspection of its pipelines in the Gulf of Mexico and its inlets. The inspection must be conducted after October 3, 1989 and before November 16, 1992.

(b) If, as a result of an inspection under paragraph (a) of this section, or upon notification by any person, an operator discovers that a pipeline it operates is exposed on the seabed or constitutes a hazard to navigation, the operator shall--

(1) Promptly, but not later than 24 hours after discovery, notify the National Response Center, telephone: 1-800-424-8802 of the location, and, if available, the geographic coordinates of that pipeline;

(2) Promptly, but not later than 7 days after discovery, mark the location of the pipeline in accordance with 33 CFR part 64 at the ends of the pipeline segment and at intervals of not over 500 yards (457 meters) long, except that a pipeline segment less than 200 yards (183 meters) long need only be marked at the center; and

(3) Within 6 months after discovery, or not later than November 1 of the following year if the 6 month period is later than November 1 of the year the discovery is made, place the pipeline so that the top of the pipe is 36 inches (914 millimeters) below the seabed for normal excavation or 18 inches (457 millimeters) for rock excavation.

[Amdt. 192-67, 56 FR 63771, Dec. 5, 1991, as amended by Amdt. 192-85, 63 FR 37504, July 13, 1998]

Sec. 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.

(b) If a segment of pipeline is determined to be in unsatisfactory condition but no immediate hazard exists, the operator shall initiate a program to recondition or phase out the segment involved, or, if the segment cannot be reconditioned or phased out, reduce the maximum allowable operating pressure in accordance with Sec. 192.619 (a) and (b).

Sec. 192.614 Damage prevention program.

(a) Except as provided in paragraphs (d) and (e) of this section, each operator of a buried pipeline must carry out, in accordance with this section, a written program to prevent damage to that pipeline from excavation activities. For the purposes of this section, the term "excavation activities" includes excavation, blasting, boring, tunneling, backfilling, the removal of aboveground structures by either explosive or mechanical means, and other earthmoving operations.

(b) An operator may comply with any of the requirements of paragraph (c) of this section through participation in a public service program, such as a one-call system, but such participation does not relieve the operator of responsibility for compliance with this section. However, an operator must perform the duties of paragraph (c) (3) of this section through participation in a one-call system, if that one-call system is a qualified one-call system. In areas that are covered by more than one qualified one-call system, an operator need only join one of the qualified one-call systems if there is a central telephone number for

excavators to call for excavation activities, or if the one-call systems in those areas communicate with one another. An operator's pipeline system must be covered by a qualified one-call system where there is one in place. For the purpose of this section, a one-call system is considered a "qualified one-call system" if it meets the requirements of section (b)(1) or (b)(2) of this section.

(1) The state has adopted a one-call damage prevention program under Sec. 198.37 of this chapter; or

(2) The one-call system:

(i) Is operated in accordance with Sec. 198.39 of this chapter;

(ii) Provides a pipeline operator an opportunity similar to a voluntary participant to have a part in management responsibilities; and

(iii) Assesses a participating pipeline operator a fee that is proportionate to

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the costs of the one-call system's coverage of the operator's pipeline.

(c) The damage prevention program required by paragraph (a) of this section must, at a minimum:

(1) Include the identity, on a current basis, of persons who normally engage in excavation activities in the area in which the pipeline is located.

(2) Provides for notification of the public in the vicinity of the pipeline and actual notification of the persons identified in paragraph (c)(1) of this section of the following as often as needed to make them aware of the damage prevention program:

(i) The program's existence and purpose; and

(ii) How to learn the location of underground pipelines before excavation activities are begun.

(3) Provide a means of receiving and recording notification of planned excavation activities.

(4) If the operator has buried pipelines in the area of excavation activity, provide for actual notification of persons who give notice of their intent to excavate of the type of temporary marking to be provided and how to identify the markings.

(5) Provide for temporary marking of buried pipelines in the area of excavation activity before, as far as possible, the activity begins.

(6) Provide as follows for inspection of pipelines that an operator has reason to believe could be damaged by excavation activities:

(i) The inspection must be done as frequently as necessary during

and after the activities to verify the integrity of the pipeline; and

(ii) In the case of blasting, any inspection must include leakage surveys.

(d) A damage prevention program under this section is not required for the following pipelines:

(1) Pipelines located offshore.

(2) Pipelines, other than those located offshore, in Class 1 or 2 locations until September 20, 1995.

(3) Pipelines to which access is physically controlled by the operator.

(e) Pipelines operated by persons other than municipalities (including operators of master meters) whose primary activity does not include the transportation of gas need not comply with the following:

(1) The requirement of paragraph (a) of this section that the damage prevention program be written; and

(2) The requirements of paragraphs (c)(1) and (c)(2) of this section.

[Amdt. 192-40, 47 FR 13824, Apr. 1, 1982, as amended by Amdt. 192-57, 52 FR 32800, Aug. 31, 1987; Amdt. 192-73, 60 FR 14650, Mar. 20, 1995; Amdt. 192-78, 61 FR 28785, June 6, 1996; Amdt. 192-82, 62 FR 61699, Nov. 19, 1997; Amdt. 192-84, 63 FR 38758, July 20, 1998]

Sec. 192.615 Emergency plans.

(a) Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency. At a minimum, the procedures must provide for the following:

- (1) Receiving, identifying, and classifying notices of events which require immediate response by the operator.
- (2) Establishing and maintaining adequate means of communication with appropriate fire, police, and other public officials.
- (3) Prompt and effective response to a notice of each type of emergency, including the following:
 - (i) Gas detected inside or near a building.
 - (ii) Fire located near or directly involving a pipeline facility.
 - (iii) Explosion occurring near or directly involving a pipeline facility.
 - (iv) Natural disaster.
- (4) The availability of personnel, equipment, tools, and materials, as needed at the scene of an emergency.
- (5) Actions directed toward protecting people first and then property.
- (6) Emergency shutdown and pressure reduction in any section of the operator's pipeline system necessary to minimize hazards to life or property.
- (7) Making safe any actual or potential hazard to life or property.
- (8) Notifying appropriate fire, police, and other public officials of gas pipeline emergencies and coordinating with them both planned responses and actual responses during an emergency.
- (9) Safely restoring any service outage.
- (10) Beginning action under Sec. 192.617, if applicable, as soon after the end of the emergency as possible.

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(b) Each operator shall:

- (1) Furnish its supervisors who are responsible for emergency action a copy of that portion of the latest edition of the emergency procedures established under paragraph (a) of this section as necessary for compliance with those procedures.
 - (2) Train the appropriate operating personnel to assure that they are knowledgeable of the emergency procedures and verify that the training is effective.
 - (3) Review employee activities to determine whether the procedures were effectively followed in each emergency.
- (c) Each operator shall establish and maintain liaison with appropriate fire, police, and other public officials to:
- (1) Learn the responsibility and resources of each government organization that may respond to a gas pipeline emergency;
 - (2) Acquaint the officials with the operator's ability in responding to a gas pipeline emergency;
 - (3) Identify the types of gas pipeline emergencies of which the operator notifies the officials; and
 - (4) Plan how the operator and officials can engage in mutual assistance to minimize hazards to life or property.

[Amdt. 192-24, 41 FR 13587, Mar. 31, 1976, as amended by Amdt. 192-71, 59 FR 6585, Feb. 11, 1994]

Sec. 192.616 Public education.

Each operator shall establish a continuing educational program to enable customers, the public, appropriate government organizations, and persons engaged in excavation related activities to recognize a gas pipeline emergency for the purpose of reporting it to the operator or the appropriate public officials. The program and the media used must be as comprehensive as necessary to reach all areas in which the operator transports gas. The program must be conducted in English and in other languages commonly understood by a significant number and concentration of the non-English speaking population in the operator's area.

[Amdt. 192-71, 59 FR 6585, Feb. 11, 1994]

Sec. 192.617 Investigation of failures.

Each operator shall establish procedures for analyzing accidents and

failures, including the selection of samples of the failed facility or equipment for laboratory examination, where appropriate, for the purpose of determining the causes of the failure and minimizing the possibility of a recurrence.

Sec. 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:

(1) The design pressure of the weakest element in the segment, determined in accordance with subparts C and D of this part. However, for steel pipe in pipelines being converted under Sec. 192.14 or uprated under subpart K of this part, if any variable necessary to determine the design pressure under the design formula (Sec. 192.105) is unknown, one of the following pressures is to be used as design pressure:

(i) Eighty percent of the first test pressure that produces yield under section N5.0 of Appendix N of ASME B31.8, reduced by the appropriate factor in paragraph (a)(2)(ii) of this section; or

(ii) If the pipe is 12 3/4 inches (324 mm) or less in outside diameter and is not tested to yield under this paragraph, 200 p.s.i. (1379 kPa).

(2) The pressure obtained by dividing the pressure to which the segment was tested after construction as follows:

(i) For plastic pipe in all locations, the test pressure is divided by a factor of 1.5.

(ii) For steel pipe operated at 100 p.s.i. (689 kPa) gage or more, the test pressure is divided by a factor determined in accordance with the following table:

Class location	Factors \1\, segment--		
	Installed before (Nov. 12, 1970)	Installed after (Nov. 11, 1970)	Converted under Sec. 192.14
1.....	1.1	1.1	1.25
2.....	1.25	1.25	1.25
3.....	1.4	1.5	1.5

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4..... 1.4 1.5 1.5

\1\ For offshore segments installed, uprated or converted after July 31, 1977, that are not located on an offshore platform, the factor is 1.25. For segments installed, uprated or converted after July 31, 1977, that are located on an offshore platform or on a platform in inland navigable waters, including a pipe riser, the factor is 1.5.

(3) The highest actual operating pressure to which the segment was subjected during the 5 years preceding July 1, 1970 (or in the case of offshore gathering lines, July 1, 1976); unless the segment was tested in accordance with paragraph (a)(2) of this section after July 1, 1965 (or in the case of offshore gathering lines, July 1, 1971), or the segment was uprated in accordance with subpart K of this part.

(4) The pressure determined by the operator to be the maximum safe pressure after considering the history of the segment, particularly known corrosion and the actual operating pressure.

(b) No person may operate a segment to which paragraph (a)(4) of this section is applicable, unless over-pressure protective devices are installed on the segment in a manner that will prevent the maximum allowable operating pressure from being exceeded, in accordance with Sec. 192.195.

(c) Notwithstanding the other requirements of this section, an

operator may operate a segment of pipeline found to be in satisfactory condition, considering its operating and maintenance history, at the highest actual operating pressure to which the segment was subjected during the 5 years preceding July 1, 1970, or in the case of offshore gathering lines, July 1, 1976, subject to the requirements of Sec. 192.611.

[35 FR 13257, Aug. 19, 1970]

Editorial Note: For Federal Register citations affecting Sec. 192.619, see the List of CFR Sections Affected in the Finding Aids section of this volume.

Sec. 192.621 Maximum allowable operating pressure: High-pressure distribution systems.

(a) No person may operate a segment of a high pressure distribution system at a pressure that exceeds the lowest of the following pressures, as applicable:

(1) The design pressure of the weakest element in the segment, determined in accordance with subparts C and D of this part.

(2) 60 p.s.i. (414 kPa) gage, for a segment of a distribution system otherwise designed to operate at over 60 p.s.i. (414 kPa) gage, unless the service lines in the segment are equipped with service regulators or other pressure limiting devices in series that meet the requirements of Sec. 192.197(c).

(3) 25 p.s.i. (172 kPa) gage in segments of cast iron pipe in which there are unreinforced bell and spigot joints.

(4) The pressure limits to which a joint could be subjected without the possibility of its parting.

(5) The pressure determined by the operator to be the maximum safe pressure after considering the history of the segment, particularly known corrosion and the actual operating pressures.

(b) No person may operate a segment of pipeline to which paragraph (a)(5) of this section applies, unless overpressure protective devices are installed on the segment in a manner that will prevent the maximum allowable operating pressure from being exceeded, in accordance with Sec. 192.195.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.623 Maximum and minimum allowable operating pressure; Low-pressure distribution systems.

(a) No person may operate a low-pressure distribution system at a pressure high enough to make unsafe the operation of any connected and properly adjusted low-pressure gas burning equipment.

(b) No person may operate a low pressure distribution system at a pressure lower than the minimum pressure at which the safe and continuing operation of any connected and properly adjusted low-pressure gas burning equipment can be assured.

Sec. 192.625 Odorization of gas.

(a) A combustible gas in a distribution line must contain a natural odorant or be odorized so that at a concentration in air of one-fifth of the lower explosive limit, the gas is readily

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detectable by a person with a normal sense of smell.

(b) After December 31, 1976, a combustible gas in a transmission line in a Class 3 or Class 4 location must comply with the requirements of paragraph (a) of this section unless:

(1) At least 50 percent of the length of the line downstream from that location is in a Class 1 or Class 2 location;

(2) The line transports gas to any of the following facilities which received gas without an odorant from that line before May 5, 1975;

- (i) An underground storage field;
- (ii) A gas processing plant;
- (iii) A gas dehydration plant; or
- (iv) An industrial plant using gas in a process where the presence of an odorant:
 - (A) Makes the end product unfit for the purpose for which it is intended;
 - (B) Reduces the activity of a catalyst; or
 - (C) Reduces the percentage completion of a chemical reaction;
- (3) In the case of a lateral line which transports gas to a distribution center, at least 50 percent of the length of that line is in a Class 1 or Class 2 location; or
- (4) The combustible gas is hydrogen intended for use as a feedstock in a manufacturing process.
 - (c) In the concentrations in which it is used, the odorant in combustible gases must comply with the following:
 - (1) The odorant may not be deleterious to persons, materials, or pipe.
 - (2) The products of combustion from the odorant may not be toxic when breathed nor may they be corrosive or harmful to those materials to which the products of combustion will be exposed.
 - (d) The odorant may not be soluble in water to an extent greater than 2.5 parts to 100 parts by weight.
 - (e) Equipment for odorization must introduce the odorant without wide variations in the level of odorant.
 - (f) Each operator shall conduct periodic sampling of combustible gases to assure the proper concentration of odorant in accordance with this section. Operators of master meter systems may comply with this requirement by--
 - (1) Receiving written verification from their gas source that the gas has the proper concentration of odorant; and
 - (2) Conducting periodic "sniff" tests at the extremities of the system to confirm that the gas contains odorant.

[35 FR 13257, Aug. 19, 1970]

Editorial Note: For Federal Register citations affecting Sec. 192.625, see the List of CFR Sections Affected in the Finding Aids section of this volume.

Sec. 192.627 Tapping pipelines under pressure.

Each tap made on a pipeline under pressure must be performed by a crew qualified to make hot taps.

Sec. 192.629 Purging of pipelines.

(a) When a pipeline is being purged of air by use of gas, the gas must be released into one end of the line in a moderately rapid and continuous flow. If gas cannot be supplied in sufficient quantity to prevent the formation of a hazardous mixture of gas and air, a slug of inert gas must be released into the line before the gas.

(b) When a pipeline is being purged of gas by use of air, the air must be released into one end of the line in a moderately rapid and continuous flow. If air cannot be supplied in sufficient quantity to prevent the formation of a hazardous mixture of gas and air, a slug of inert gas must be released into the line before the air.

Subpart M--Maintenance

Sec. 192.701 Scope.

This subpart prescribes minimum requirements for maintenance of pipeline facilities.

Sec. 192.703 General.

(a) No person may operate a segment of pipeline, unless it is maintained in accordance with this subpart.

- (b) Each segment of pipeline that becomes unsafe must be replaced, repaired, or removed from service.
- (c) Hazardous leaks must be repaired promptly.

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Sec. 192.705 Transmission lines: Patrolling.

(a) Each operator shall have a patrol program to observe surface conditions on and adjacent to the transmission line right-of-way for indications of leaks, construction activity, and other factors affecting safety and operation.

(b) The frequency of patrols is determined by the size of the line, the operating pressures, the class location, terrain, weather, and other relevant factors, but intervals between patrols may not be longer than prescribed in the following table:

Class location of line	Maximum interval between patrols	
	At highway and railroad crossings	At all other places
1, 2.....	7\1/2\ months; but at least twice each calendar year.	15 months; but at least once each calendar year.
3.....	4\1/2\ months; but at least four times each calendar year.	7\1/2\ months; but at least twice each calendar year.
4.....	4\1/2\ months; but at least four times each calendar year.	4\1/2\ months; but at least four times each calendar year.

(c) Methods of patrolling include walking, driving, flying or other appropriate means of traversing the right-of-way.

[Amdt. 192-21, 40 FR 20283, May 9, 1975, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-78, 61 FR 28786, June 6, 1996]

Sec. 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. However, in the case of a transmission line which transports gas in conformity with Sec. 192.625 without an odor or odorant, leakage surveys using leak detector equipment must be conducted--

- (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.

[Amdt. 192-21, 40 FR 20283, May 9, 1975, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-71, 59 FR 6585, Feb. 11, 1994]

Sec. 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.
- (b) Exceptions for buried pipelines. Line markers are not required for the following pipelines:
 - (1) Mains and transmission lines located offshore, or at crossings

of or under waterways and other bodies of water.

(2) Mains in Class 3 or Class 4 locations where a damage prevention program is in effect under Sec. 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 aboveground. Line markers must be placed and maintained along each section of a main and transmission line that is located aboveground in an area accessible to the public.

(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 the telephone number (including area code) where the operator can be reached at all times.

[Amdt. 192-20, 40 FR 13505, Mar. 27, 1975; Amdt. 192-27, 41 FR 39752, Sept. 16, 1976, as amended by Amdt. 192-20A, 41 FR 56808, Dec. 30, 1976; Amdt. 192-44, 48 FR 25208, June 6, 1983; Amdt. 192-73, 60 FR 14650, Mar. 20, 1995; Amdt. 192-85, 63 FR 37504, July 13, 1998]

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Sec. 192.709 Transmission lines: Record keeping.

Each operator shall maintain the following records for transmission lines for the periods specified:

(a) The date, location, and description of each repair made to pipe (including pipe-to-pipe connections) must be retained for as long as the pipe remains in service.

(b) The date, location, and description of each repair made to parts of the pipeline system other than pipe must be retained for at least 5 years. However, repairs generated by patrols, surveys, inspections, or tests required by subparts L and M of this part must be retained in accordance with paragraph (c) of this section.

(c) A record of each patrol, survey, inspection, and test required by subparts L and M of this part must be retained for at least 5 years or until the next patrol, survey, inspection, or test is completed, whichever is longer.

[Amdt. 192-78, 61 FR 28786, June 6, 1996]

Sec. 192.711 Transmission lines: General requirements for repair procedures.

(a) Each operator shall take immediate temporary measures to protect the public whenever:

(1) A leak, imperfection, or damage that impairs its serviceability is found in a segment of steel transmission line operating at or above 40 percent of the SMYS; and

(2) It is not feasible to make a permanent repair at the time of discovery.

As soon as feasible, the operator shall make permanent repairs.

(b) Except as provided in Sec. 192.717(b)(3), no operator may use a welded patch as a means of repair.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-27B, 45 FR 3272, Jan. 17, 1980; Amdt. 192-88, 64 FR 69665, Dec. 14, 1999]

Sec. 192.713 Transmission lines: Permanent field repair of imperfections and damages.

(a) Each imperfection or damage that impairs the serviceability of pipe in a steel transmission line operating at or above 40 percent of

SMYS must be--

- (1) Removed by cutting out and replacing a cylindrical piece of pipe; or
 - (2) Repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe.
- (b) Operating pressure must be at a safe level during repair operations.

[Amdt. 192-88, 64 FR 69665, Dec. 14, 1999]

Sec. 192.715 Transmission lines: Permanent field repair of welds.

Each weld that is unacceptable under Sec. 192.241(c) must be repaired as follows:

- (a) If it is feasible to take the segment of transmission line out of service, the weld must be repaired in accordance with the applicable requirements of Sec. 192.245.
- (b) A weld may be repaired in accordance with Sec. 192.245 while the segment of transmission line is in service if:
 - (1) The weld is not leaking;
 - (2) The pressure in the segment is reduced so that it does not produce a stress that is more than 20 percent of the SMYS of the pipe; and
 - (3) Grinding of the defective area can be limited so that at least $\frac{1}{8}$ -inch (3.2 millimeters) thickness in the pipe weld remains.
- (c) A defective weld which cannot be repaired in accordance with paragraph (a) or (b) of this section must be repaired by installing a full encirclement welded split sleeve of appropriate design.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.717 Transmission lines: Permanent field repair of leaks.

Each permanent field repair of a leak on a transmission line must be made by--

- (a) Removing the leak by cutting out and replacing a cylindrical piece of pipe; or
- (b) Repairing the leak by one of the following methods:
 - (1) Install a full encirclement welded split sleeve of appropriate design, unless the transmission line is joined by mechanical couplings and operates at less than 40 percent of SMYS.
 - (2) If the leak is due to a corrosion pit, install a properly designed bolt-on-leak clamp.
 - (3) If the leak is due to a corrosion pit and on pipe of not more than 40,000 psi (267 Mpa) SMYS, fillet weld over

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the pitted area a steel plate patch with rounded corners, of the same or greater thickness than the pipe, and not more than one-half of the diameter of the pipe in size.

- (4) If the leak is on a submerged offshore pipeline or submerged pipeline in inland navigable waters, mechanically apply a full encirclement split sleeve of appropriate design.
- (5) Apply a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe.

[Amdt. 192-88, 64 FR 69665, Dec. 14, 1999]

Sec. 192.719 Transmission lines: Testing of repairs.

- (a) Testing of replacement pipe. 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 tested to the pressure required for a new line installed in the same location. This test may be made on the pipe before it is installed.
- (b) Testing of repairs made by welding. Each repair made by welding in accordance with Secs. 192.713, 192.715, and 192.717 must be examined

in accordance with Sec. 192.241.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-54, 51 FR 41635, Nov. 18, 1986]

Sec. 192.721 Distribution systems: Patrolling.

(a) The frequency of patrolling mains 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.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-78, 61 FR 28786, June 6, 1996]

Sec. 192.723 Distribution systems: Leakage surveys.

(a) Each operator of a distribution system shall conduct periodic leakage surveys in accordance with this section.

(b) The type and scope of the leakage control program must be determined by the nature of the operations and the local conditions, but it must meet the following minimum requirements:

(1) A leakage survey with leak detector equipment must be conducted in business districts, including tests of the atmosphere in gas, electric, telephone, sewer, and water system manholes, at cracks in pavement and sidewalks, and at other locations providing an opportunity for finding gas leaks, at intervals not exceeding 15 months, but at least once each calendar year.

(2) A leakage survey with leak detector equipment must be conducted outside business districts as frequently as necessary, but at intervals not exceeding 5 years. However, for cathodically unprotected distribution lines subject to Sec. 192.465(e) on which electrical surveys for corrosion are impractical, survey intervals may not exceed 3 years.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-70, 58 FR 54528, 54529, Oct. 22, 1993; Amdt. 192-71, 59 FR 6585, Feb. 11, 1994]

Sec. 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.

Sec. 192.727 Abandonment or deactivation of facilities.

(a) Each operator shall conduct abandonment or deactivation of pipelines in

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accordance with the requirements of this section.

(b) Each pipeline abandoned in place must be disconnected from all sources and supplies of gas; purged of gas; in the case of offshore pipelines, filled with water or inert materials; and sealed at the ends. However, the pipeline need not be purged when the volume of gas is so

small that there is no potential hazard.

(c) Except for service lines, each inactive pipeline that is not being maintained under this part must be disconnected from all sources and supplies of gas; purged of gas; in the case of offshore pipelines, filled with water or inert materials; and sealed at the ends. However, the pipeline need not be purged when the volume of gas is so small that there is no potential hazard.

(d) Whenever service to a customer is discontinued, one of the following must be complied with:

(1) The valve that is closed to prevent the flow of gas to the customer must be provided with a locking device or other means designed to prevent the opening of the valve by persons other than those authorized by the operator.

(2) A mechanical device or fitting that will prevent the flow of gas must be installed in the service line or in the meter assembly.

(3) The customer's piping must be physically disconnected from the gas supply and the open pipe ends sealed.

(e) If air is used for purging, the operator shall insure that a combustible mixture is not present after purging.

(f) Each abandoned vault must be filled with a suitable compacted material.

(g) For each abandoned offshore pipeline facility or each abandoned onshore pipeline facility that crosses over, under or through a commercially navigable waterway, the last operator of that facility must file a report upon abandonment of that facility.

(1) The preferred method to submit data on pipeline facilities abandoned after October 10, 2000 is to the National Pipeline Mapping System (NPMS) in accordance with the NPMS "Standards for Pipeline and Liquefied Natural Gas Operator Submissions." To obtain a copy of the NPMS Standards, please refer to the NPMS homepage at www.npms.rspa.dot.gov or contact the NPMS National Repository at 703-317-3073. A digital data format is preferred, but hard copy submissions are acceptable if they comply with the NPMS Standards. In addition to the NPMS-required attributes, operators must submit the date of abandonment, diameter, method of abandonment, and certification that, to the best of the operator's knowledge, all of the reasonably available information requested was provided and, to the best of the operator's knowledge, the abandonment was completed in accordance with applicable laws. Refer to the NPMS Standards for details in preparing your data for submission. The NPMS Standards also include details of how to submit data. Alternatively, operators may submit reports by mail, fax or e-mail to the Information Officer, Research and Special Programs Administration, Department of Transportation, Room 7128, 400 Seventh Street, SW, Washington DC 20590; fax (202) 366-4566; e-mail, roger.little@rspa.dot.gov. The information in the report must contain all reasonably available information related to the facility, including information in the possession of a third party. The report must contain the location, size, date, method of abandonment, and a certification that the facility has been abandoned in accordance with all applicable laws.

(2) Data on pipeline facilities abandoned before October 10, 2000 must be filed by before April 10, 2001. Operators may submit reports by mail, fax or e-mail to the Information Officer, Research and Special Programs Administration, Department of Transportation, Room 7128, 400 Seventh Street, SW, Washington DC 20590; fax (202) 366-4566; e-mail, roger.little@rspa.dot.gov. The information in the report must contain all reasonably available information related to the facility, including information in the possession of a third

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party. The report must contain the location, size, date, method of abandonment, and a certification that the facility has been abandoned in accordance with all applicable laws.

[Amdt. 192-8, 37 FR 20695, Oct. 3, 1972, as amended by Amdt. 192-27, 41 FR 34607, Aug. 16, 1976; Amdt. 192-71, 59 FR 6585, Feb. 11, 1994; Amdt. 192-89, 65 FR 54443, Sept. 8, 2000; 65 FR 57861, Sept. 26, 2000]

Effective Date Note: At 65 FR 54443, Sept. 8, 2000, Sec. 192.727 was amended by adding paragraph (g), effective Oct. 10, 2000. At 65 FR 57861, Sept. 26, 2000, paragraph (g)(2) was corrected by revising ``April 10, 2000'' to read ``April 10, 2001''.

Sec. 192.731 Compressor stations: Inspection and testing of relief devices.

(a) Except for rupture discs, each pressure relieving device in a compressor station must be inspected and tested in accordance with Secs. 192.739 and 192.743, and must be operated periodically to determine that it opens at the correct set pressure.

(b) Any defective or inadequate equipment found must be promptly repaired or replaced.

(c) Each remote control shutdown device must be inspected and tested at intervals not exceeding 15 months, but at least once each calendar year, to determine that it functions properly.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982]

Sec. 192.735 Compressor stations: Storage of combustible materials.

(a) Flammable or combustible materials in quantities beyond those required for everyday use, or other than those normally used in compressor buildings, must be stored a safe distance from the compressor building.

(b) Aboveground oil or gasoline storage tanks must be protected in accordance with National Fire Protection Association Standard No. 30.

Sec. 192.736 Compressor stations: Gas detection.

(a) Not later than September 16, 1996, each compressor building in a compressor station must have a fixed gas detection and alarm system, unless the building is--

(1) Constructed so that at least 50 percent of its upright side area is permanently open; or

(2) Located in an unattended field compressor station of 1,000 horsepower (746 kW) or less.

(b) Except when shutdown of the system is necessary for maintenance under paragraph (c) of this section, each gas detection and alarm system required by this section must--

(1) Continuously monitor the compressor building for a concentration of gas in air of not more than 25 percent of the lower explosive limit; and

(2) If that concentration of gas is detected, warn persons about to enter the building and persons inside the building of the danger.

(c) Each gas detection and alarm system required by this section must be maintained to function properly. The maintenance must include performance tests.

[58 FR 48464, Sept. 16, 1993, as amended by Amdt. 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.739 Pressure limiting and regulating stations: Inspection and testing.

Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is--

(a) In good mechanical condition;

(b) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed;

(c) Set to function at the correct pressure; and

(d) Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851,

Oct. 21, 1982]

Sec. 192.741 Pressure limiting and regulating stations: Telemetering or recording gauges.

(a) Each distribution system supplied by more than one district pressure regulating station must be equipped with telemetering or recording pressure gauges to indicate the gas pressure in the district.

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(b) On distribution systems supplied by a single district pressure regulating station, the operator shall determine the necessity of installing telemetering or recording gauges in the district, taking into consideration the number of customers supplied, the operating pressures, the capacity of the installation, and other operating conditions.

(c) If there are indications of abnormally high or low pressure, the regulator and the auxiliary equipment must be inspected and the necessary measures employed to correct any unsatisfactory operating conditions.

Sec. 192.743 Pressure limiting and regulating stations: Testing of relief devices.

(a) If feasible, pressure relief devices (except rupture discs) must be tested in place, at intervals not exceeding 15 months, but at least once each calendar year, to determine that they have enough capacity to limit the pressure on the facilities to which they are connected to the desired maximum pressure.

(b) If a test is not feasible, review and calculation of the required capacity of the relieving device at each station must be made at intervals not exceeding 15 months, but at least once each calendar year, and these required capacities compared with the rated or experimentally determined relieving capacity of the device for the operating conditions under which it works. After the initial calculations, subsequent calculations are not required if the review documents that parameters have not changed in a manner which would cause the capacity to be less than required.

(c) If the relieving device is of insufficient capacity, a new or additional device must be installed to provide the additional capacity required.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-55, 51 FR 41634, Nov. 18, 1986]

Sec. 192.745 Valve maintenance: Transmission lines.

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.

[Amdt. 192-43, 47 FR 46851, Oct. 21, 1982]

Sec. 192.747 Valve maintenance: Distribution systems.

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.

[Amdt. 192-43, 47 FR 46851, Oct. 21, 1982]

Sec. 192.749 Vault maintenance.

(a) Each vault housing pressure regulating and pressure limiting equipment, and having a volumetric internal content of 200 cubic feet (5.66 cubic meters) or more, must be inspected at intervals not exceeding 15 months, but at least once each calendar year, to determine that it is in good physical condition and adequately ventilated.

(b) If gas is found in the vault, the equipment in the vault must be

inspected for leaks, and any leaks found must be repaired.

(c) The ventilating equipment must also be inspected to determine that it is functioning properly.

(d) Each vault cover must be inspected to assure that it does not present a hazard to public safety.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-43, 47 FR 46851, Oct. 21, 1982; Amdt. 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.751 Prevention of accidental ignition.

Each operator shall take steps to minimize the danger of accidental ignition of gas in any structure or area where the presence of gas constitutes a hazard of fire or explosion, including the following:

(a) When a hazardous amount of gas is being vented into open air, each potential source of ignition must be removed from the area and a fire extinguisher must be provided.

(b) Gas or electric welding or cutting may not be performed on pipe or on pipe components that contain a combustible mixture of gas and air in the area of work.

(c) Post warning signs, where appropriate.

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Sec. 192.753 Caulked bell and spigot joints.

(a) Each cast-iron caulked bell and spigot joint that is subject to pressures of 25 p.s.i. (172 kPa) gage or more must be sealed with:

(1) A mechanical leak clamp; or

(2) A material or device which:

(i) Does not reduce the flexibility of the joint;

(ii) Permanently bonds, either chemically or mechanically, or both, with the bell and spigot metal surfaces or adjacent pipe metal surfaces; and

(iii) Seals and bonds in a manner that meets the strength, environmental, and chemical compatibility requirements of Secs. 192.53 (a) and (b) and 192.143.

(b) Each cast iron caulked bell and spigot joint that is subject to pressures of less than 25 p.s.i. (172 kPa) gage and is exposed for any reason, must be sealed by a means other than caulking.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-25, 41 FR 23680, June 11, 1976; Amdt. 192-85, 63 FR 37504, July 13, 1998]

Sec. 192.755 Protecting cast-iron pipelines.

When an operator has knowledge that the support for a segment of a buried cast-iron pipeline is disturbed:

(a) That segment of the pipeline must be protected, as necessary, against damage during the disturbance by:

(1) Vibrations from heavy construction equipment, trains, trucks, buses, or blasting;

(2) Impact forces by vehicles;

(3) Earth movement;

(4) Apparent future excavations near the pipeline; or

(5) Other foreseeable outside forces which may subject that segment of the pipeline to bending stress.

(b) As soon as feasible, appropriate steps must be taken to provide permanent protection for the disturbed segment from damage that might result from external loads, including compliance with applicable requirements of Secs. 192.317(a), 192.319, and 192.361(b)-(d).

[Amdt. 192-23, 41 FR 13589, Mar. 31, 1976]

Subpart N

Source: Amdt. 192-86, 64 FR 46865, Aug. 27, 1999, unless otherwise noted.

192.801 Scope.

(a) This subpart prescribes the minimum requirements for operator qualification of individuals performing covered tasks on a pipeline facility.

(b) For the purpose of this subpart, a covered task is an activity, identified by the operator, that:

- (1) Is performed on a pipeline facility;
- (2) Is an operations or maintenance task;
- (3) Is performed as a requirement of this part; and
- (4) Affects the operation or integrity of the pipeline.

Sec. 192.803 Definitions.

Abnormal operating condition means a condition identified by the operator that may indicate a malfunction of a component or deviation from normal operations that may:

- (a) Indicate a condition exceeding design limits; or
- (b) Result in a hazard(s) to persons, property, or the environment.

Evaluation means a process, established and documented by the operator, to determine an individual's ability to perform a covered task by any of the following:

- (a) Written examination;
- (b) Oral examination;
- (c) Work performance history review;
- (d) Observation during:
- (e) Performance on the job,
- (f) On the job training, or
- (g) Simulations; or
- (h) Other forms of assessment.

Qualified means that an individual has been evaluated and can:

- (a) Perform assigned covered tasks; and
- (b) Recognize and react to abnormal operating conditions.

Sec. 192.805 Qualification program.

Each operator shall have and follow a written qualification program. The program shall include provisions to:

- (a) Identify covered tasks;
- (b) Ensure through evaluation that individuals performing covered tasks are qualified;
- (c) Allow individuals that are not qualified pursuant to this subpart to perform a covered task if directed and observed by an individual that is qualified;

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(d) Evaluate an individual if the operator has reason to believe that the individual's performance of a covered task contributed to an incident as defined in Part 191;

(e) Evaluate an individual if the operator has reason to believe that the individual is no longer qualified to perform a covered task;

(f) Communicate changes that affect covered tasks to individuals performing those covered tasks; and

(g) Identify those covered tasks and the intervals at which evaluation of the individual's qualifications is needed.

Sec. 192.807 Recordkeeping.

Each operator shall maintain records that demonstrate compliance with this subpart.

(a) Qualification records shall include:

- (1) Identification of qualified individual(s);
- (2) Identification of the covered tasks the individual is qualified to perform;
- (3) Date(s) of current qualification; and
- (4) Qualification method(s).

(b) Records supporting an individual's current qualification shall be maintained while the individual is performing the covered task.

Records of prior qualification and records of individuals no longer performing covered tasks shall be retained for a period of five years.

Sec. 192.809 General.

(a) Operators must have a written qualification program by April 27, 2001.

(b) Operators must complete the qualification of individuals performing covered tasks by October 28, 2002.

(c) Work performance history review may be used as a sole evaluation method for individuals who were performing a covered task prior to August 27, 1999.

(d) After October 28, 2002, work performance history may not be used as a sole evaluation method.

Appendix A to Part 192--Incorporated by Reference

I. List of Organizations and Addresses

A. American Gas Association (AGA), 1515 Wilson Boulevard, Arlington, VA 22209.

B. American National Standards Institute (ANSI), 11 West 42nd Street, New York, NY 10036.

C. American Petroleum Institute (API), 1220 L Street, NW., Washington, DC 20005.

D. The American Society of Mechanical Engineers (ASME), United Engineering Center, 345 East 47th Street, New York, NY 10017.

E. American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA 19428.

F. Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. (MSS), 127 Park Street, NW., Vienna, VA 22180.

G. National Fire Protection Association (NFPA), 1 Batterymarch Park, P.O. 9101, Quincy, MA 02269-9101.

II. Documents Incorporated by Reference (Numbers in Parentheses Indicate Applicable Editions)

A. American Gas Association (AGA):

(1) AGA Pipeline Research Committee, Project PR-3-805, "A Modified Criterion for Evaluating the Remaining Strength of Corroded Pipe" (December 22, 1989).

B. American Petroleum Institute (API):

(1) API Specification 5L "Specification for Line Pipe (41st edition, 1995).

(2) API Recommended Practice 5L1 "Recommended Practice for Railroad Transportation of Line Pipe" (4th edition, 1990).

(3) API Specification 6D "Specification for Pipeline Valves (Gate, Plug, Ball, and Check Valves)" (21st edition, 1994).

(4) API Standard 1104 "Welding of Pipelines and Related Facilities" (18th edition, 1994).

C. American Society for Testing and Materials (ASTM):

(1) ASTM Designation: A 53 "Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless" (A53-96).

(2) ASTM Designation: A 106 "Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service" (A106-95).

(3) ASTM Designation: A 333/A 333M "Standard Specification for Seamless and Welded Steel Pipe for Low-Temperature Service" (A 333/A 333M-94).

(4) ASTM Designation: A 372/A 372M "Standard Specification for Carbon and Alloy Steel Forgings for Thin-Walled Pressure Vessels" (A 372/A 372M-95).

(5) ASTM Designation: A 381 "Standard Specification for Metal-Arc-Welded Steel Pipe for Use With High-Pressure Transmission Systems (A 381-93).

(6) ASTM Designation: A 671 "Standard Specification for Electric-Fusion-Welded Steel Pipe for Atmospheric and Lower Temperatures" (A 671-94).

(7) ASTM Designation: A 672 "Standard Specification for Electric-Fusion-Welded

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Steel Pipe for High-Pressure Service at Moderate Temperatures'' (A 672-94).

(8) ASTM Designation A 691 ``Standard Specification for Carbon and Alloy Steel Pipe, Electric-Fusion-Welded for High- Pressure Service at High Temperatures'' (A 691-93).

(9) ASTM Designation D638 ``Standard Test Method for Tensile Properties of Plastics'' (D638-96).

(10) ASTM Designation D2513 ``Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing and Fittings'' (D 2513-87 edition for Sec. 192.63(a)(1), otherwise D 2513-96a).

(11) ASTM Designation D 2517 ``Standard Specification for Reinforced Epoxy Resin Gas Pressure Pipe and Fittings'' (D 2517-94).

(12) ASTM Designation: F1055 ``Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing'' (F1055-95).

D. The American Society of Mechanical Engineers (ASME):

(1) ASME/ANSI B16.1 ``Cast Iron Pipe Flanges and Flanged Fittings'' (1989).

(2) ASME/ANSI B16.5 ``Pipe Flanges and Flanged Fittings'' (1988 with October 1988 Errata and ASME/ANSI B16.5a-1992 Addenda).

(3) ASME/ANSI B31.9 ``Manual for Determining the Remaining Strength of Corroded Pipelines'' (1991).

(4) ASME/ANSI B31.8 ``Gas Transmission and Distribution Piping Systems'' (1995).

(5) ASME Boiler and Pressure Vessel Code, Section I ``Power Boilers'' (1995 edition with 1995 Addenda).

(6) ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 ``Pressure Vessels'' (1995 edition with 1995 Addenda).

(7) ASME Boiler and Pressure Vessel Code, Section VIII, Division 2 ``Pressure Vessels: Alternative Rules'' (1995 edition with 1995 Addenda).

(8) ASME Boiler and Pressure Vessel Code, Section IX ``Welding and Brazing Qualifications'' (1995 edition with 1995 Addenda).

E. Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. (MSS):

1. MSS SP44-96 ``Steel Pipe Line Flanges'' (includes 1996 errata) (1996).

2. [Reserved]

F. National Fire Protection Association (NFPA):

(1) NFPA 30 ``Flammable and Combustible Liquids Code'' (1996).

(2) ANSI/NFPA 58 ``Standard for the Storage and Handling of Liquefied Petroleum Gases'' (1995).

(3) ANSI/NFPA 59 ``Standard for the Storage and Handling of Liquefied Petroleum Gases at Utility Gas Plants'' (1995).

(4) ANSI/NFPA 70 ``National Electrical Code'' (1996).

[58 FR 14521, Mar. 18, 1993, as amended by Amdt. 192-68, 58 FR 45268-45269, Aug. 27, 1993; Amdt. 192-76, 61 FR 26123, May 24, 1996; Amdt. 192-78, 61 FR 28786, June 6, 1996; 61 FR 41020, Aug. 7, 1996; Amdt 192-83, 63 FR 7723, Feb. 17, 1998; Amdt. 192-84, 63 FR 38758, July 20, 1998]

Appendix B to Part 192--Qualification of Pipe

I. Listed Pipe Specifications (Numbers in Parentheses Indicate Applicable Editions)

API 5L--Steel pipe (1995).

ASTM A 53--Steel pipe (1995a).

ASTM A 106--Steel pipe (1994a).

ASTM A 333/A 333M--Steel pipe (1994).

ASTM A 381--Steel pipe (1993).

ASTM A 671--Steel pipe (1994).

ASTM A 672--Steel pipe (1994).

ASTM A 691--Steel pipe (1993).

ASTM D 2513--Thermoplastic pipe and tubing (1995c).

ASTM D 2517--Thermosetting plastic pipe and tubing (1994).

II. Steel pipe of unknown or unlisted specification.

A. Bending Properties. For pipe 2 inches (51 millimeters) or less in diameter, a length of pipe must be cold bent through at least 90 degrees around a cylindrical mandrel that has a diameter 12 times the diameter of the pipe, without developing cracks at any portion and without opening the longitudinal weld.

For pipe more than 2 inches (51 millimeters) in diameter, the pipe must meet the requirements of the flattening tests set forth in ASTM A53, except that the number of tests must be at least equal to the minimum required in paragraph II-D of this appendix to determine yield strength.

B. Weldability. A girth weld must be made in the pipe by a welder who is qualified under subpart E of this part. The weld must be made under the most severe conditions under which welding will be allowed in the field and by means of the same procedure that will be used in the field. On pipe more than 4 inches (102 millimeters) in diameter, at least one test weld must be made for each 100 lengths of pipe. On pipe 4 inches (102 millimeters) or less in diameter, at least one test weld must be made for each 400 lengths of pipe. The weld must be tested in accordance with API Standard 1104. If the requirements of API Standard 1104 cannot be met, weldability may be established by making chemical tests for carbon and manganese, and proceeding in accordance with section IX of the ASME Boiler and Pressure Vessel Code. The same number of chemical tests must be made as are required for testing a girth weld.

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C. Inspection. The pipe must be clean enough to permit adequate inspection. It must be visually inspected to ensure that it is reasonably round and straight and there are no defects which might impair the strength or tightness of the pipe.

D. Tensile Properties. If the tensile properties of the pipe are not known, the minimum yield strength may be taken as 24,000 p.s.i. (165 MPa) or less, or the tensile properties may be established by performing tensile tests as set forth in API Specification 5L. All test specimens shall be selected at random and the following number of tests must be performed:

Number of Tensile Tests--All Sizes

10 lengths or less.....	1 set of tests for each length.
11 to 100 lengths.....	1 set of tests for each 5 lengths, but not less than 10 tests.
Over 100 lengths.....	1 set of tests for each 10 lengths, but not less than 20 tests.

If the yield-tensile ratio, based on the properties determined by those tests, exceeds 0.85, the pipe may be used only as provided in Sec. 192.55(c).

III. Steel pipe manufactured before November 12, 1970, to earlier editions of listed specifications. Steel pipe manufactured before November 12, 1970, in accordance with a specification of which a later edition is listed in section I of this appendix, is qualified for use under this part if the following requirements are met:

A. Inspection. The pipe must be clean enough to permit adequate inspection. It must be visually inspected to ensure that it is reasonably round and straight and that there are no defects which might impair the strength or tightness of the pipe.

B. Similarity of specification requirements. The edition of the listed specification under which the pipe was manufactured must have substantially the same requirements with respect to the following properties as a later edition of that specification listed in section I

of this appendix:

(1) Physical (mechanical) properties of pipe, including yield and tensile strength, elongation, and yield to tensile ratio, and testing requirements to verify those properties.

(2) Chemical properties of pipe and testing requirements to verify those properties.

C. Inspection or test of welded pipe. On pipe with welded seams, one of the following requirements must be met:

(1) The edition of the listed specification to which the pipe was manufactured must have substantially the same requirements with respect to nondestructive inspection of welded seams and the standards for acceptance or rejection and repair as a later edition of the specification listed in section I of this appendix.

(2) The pipe must be tested in accordance with subpart J of this part to at least 1.25 times the maximum allowable operating pressure if it is to be installed in a class 1 location and to at least 1.5 times the maximum allowable operating pressure if it is to be installed in a class 2, 3, or 4 location. Notwithstanding any shorter time period permitted under subpart J of this part, the test pressure must be maintained for at least 8 hours.

[35 FR 13257, Aug. 19, 1970]

Editorial Note: For Federal Register citations affecting appendix B of part 192, see the List of CFR Sections Affected in the Finding Aids section of this volume.

Appendix C to Part 192--Qualification of Welders for Low Stress Level Pipe

I. Basic test. The test is made on pipe 12 inches (305 millimeters) or less in diameter. The test weld must be made with the pipe in a horizontal fixed position so that the test weld includes at least one section of overhead position welding. The beveling, root opening, and other details must conform to the specifications of the procedure under which the welder is being qualified. Upon completion, the test weld is cut into four coupons and subjected to a root bend test. If, as a result of this test, two or more of the four coupons develop a crack in the weld material, or between the weld material and base metal, that is more than $\frac{1}{8}$ -inch (3.2 millimeters) long in any direction, the weld is unacceptable. Cracks that occur on the corner of the specimen during testing are not considered.

II. Additional tests for welders of service line connections to mains. A service line connection fitting is welded to a pipe section with the same diameter as a typical main. The weld is made in the same position as it is made in the field. The weld is unacceptable if it shows a serious undercutting or if it has rolled edges. The weld is tested by attempting to break the fitting off the run pipe. The weld is unacceptable if it breaks and shows incomplete fusion, overlap, or poor penetration at the junction of the fitting and run pipe.

III. Periodic tests for welders of small service lines. Two samples of the welder's work, each about 8 inches (203 millimeters) long with the weld located approximately in the center, are cut from steel service line and tested as follows:

(1) One sample is centered in a guided bend testing machine and bent to the contour of the die for a distance of 2 inches (51 millimeters) on each side of the weld. If the sample

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shows any breaks or cracks after removal from the bending machine, it is unacceptable.

(2) The ends of the second sample are flattened and the entire joint subjected to a tensile strength test. If failure occurs adjacent to or in the weld metal, the weld is unacceptable. If a tensile strength testing machine is not available, this sample must also pass the bending test prescribed in subparagraph (1) of this paragraph.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37504,

July 13, 1998]

Appendix D to Part 192--Criteria for Cathodic Protection and
Determination of Measurements

I. Criteria for cathodic protection-- A. Steel, cast iron, and ductile iron structures. (1) A negative (cathodic) voltage of at least 0.85 volt, with reference to a saturated copper-copper sulfate half cell. Determination of this voltage must be made with the protective current applied, and in accordance with sections II and IV of this appendix.

(2) A negative (cathodic) voltage shift of at least 300 millivolts. Determination of this voltage shift must be made with the protective current applied, and in accordance with sections II and IV of this appendix. This criterion of voltage shift applies to structures not in contact with metals of different anodic potentials.

(3) A minimum negative (cathodic) polarization voltage shift of 100 millivolts. This polarization voltage shift must be determined in accordance with sections III and IV of this appendix.

(4) A voltage at least as negative (cathodic) as that originally established at the beginning of the Tafel segment of the E-log-I curve. This voltage must be measured in accordance with section IV of this appendix.

(5) A net protective current from the electrolyte into the structure surface as measured by an earth current technique applied at predetermined current discharge (anodic) points of the structure.

B. Aluminum structures. (1) Except as provided in paragraphs (3) and (4) of this paragraph, a minimum negative (cathodic) voltage shift of 150 millivolts, produced by the application of protective current. The voltage shift must be determined in accordance with sections II and IV of this appendix.

(2) Except as provided in paragraphs (3) and (4) of this paragraph, a minimum negative (cathodic) polarization voltage shift of 100 millivolts. This polarization voltage shift must be determined in accordance with sections III and IV of this appendix.

(3) Notwithstanding the alternative minimum criteria in paragraphs (1) and (2) of this paragraph, aluminum, if cathodically protected at voltages in excess of 1.20 volts as measured with reference to a copper-copper sulfate half cell, in accordance with section IV of this appendix, and compensated for the voltage (IR) drops other than those across the structure-electrolyte boundary may suffer corrosion resulting from the build-up of alkali on the metal surface. A voltage in excess of 1.20 volts may not be used unless previous test results indicate no appreciable corrosion will occur in the particular environment.

(4) Since aluminum may suffer from corrosion under high pH conditions, and since application of cathodic protection tends to increase the pH at the metal surface, careful investigation or testing must be made before applying cathodic protection to stop pitting attack on aluminum structures in environments with a natural pH in excess of 8.

C. Copper structures. A minimum negative (cathodic) polarization voltage shift of 100 millivolts. This polarization voltage shift must be determined in accordance with sections III and IV of this appendix.

D. Metals of different anodic potentials. A negative (cathodic) voltage, measured in accordance with section IV of this appendix, equal to that required for the most anodic metal in the system must be maintained. If amphoteric structures are involved that could be damaged by high alkalinity covered by paragraphs (3) and (4) of paragraph B of this section, they must be electrically isolated with insulating flanges, or the equivalent.

II. Interpretation of voltage measurement. Voltage (IR) drops other than those across the structure-electrolyte boundary must be considered for valid interpretation of the voltage measurement in paragraphs A(1) and (2) and paragraph B(1) of section I of this appendix.

III. Determination of polarization voltage shift. The polarization voltage shift must be determined by interrupting the protective current and measuring the polarization decay. When the current is initially interrupted, an immediate voltage shift occurs. The voltage reading after the immediate shift must be used as the base reading from which to measure polarization decay in paragraphs A(3), B(2), and C of section I

of this appendix.

IV. Reference half cells. A. Except as provided in paragraphs B and C of this section, negative (cathodic) voltage must be measured between the structure surface and a saturated copper-copper sulfate half cell contacting the electrolyte.

B. Other standard reference half cells may be substituted for the saturated copper-copper sulfate half cell. Two commonly used reference half cells are listed below along with their voltage equivalent to -0.85 volt as referred to a saturated copper-copper sulfate half cell:

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(1) Saturated KCl calomel half cell: -0.78 volt.

(2) Silver-silver chloride half cell used in sea water: -0.80 volt.

C. In addition to the standard reference half cells, an alternate metallic material or structure may be used in place of the saturated copper-copper sulfate half cell if its potential stability is assured and if its voltage equivalent referred to a saturated copper-copper sulfate half cell is established.

[Amdt. 192-4, 36 FR 12305, June 30, 1971]

[Code of Federal Regulations]
 [Title 49, Volume 3, Parts 186 to 199]
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TITLE 49--TRANSPORTATION

CHAPTER I--RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF
 TRANSPORTATION--Continued

PART 199--DRUG AND ALCOHOL TESTING

Subpart A

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- 199.3 Definitions.
- 199.5 DOT procedures.
- 199.7 Anti-drug plan.
- 199.9 Use of persons who fail or refuse a drug test.
- 199.11 Drug tests required.
- 199.13 Drug testing laboratory.
- 199.15 Review of drug testing results.
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- 199.23 Recordkeeping.
- 199.25 Reporting of anti-drug testing results.

Subpart B--Alcohol Misuse Prevention Program

- 199.200 Purpose.
- 199.201 Applicability.
- 199.202 Alcohol misuse plan.
- 199.203 Alcohol testing procedures.
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- 199.207 Preemption of State and local laws.
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- 199.211 Requirement for notice.
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- 199.217 On-duty use.
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- 199.223 Refusal to submit to a required alcohol test.
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- 199.237 Other alcohol-related conduct.
- 199.239 Operator obligation to promulgate a policy on the misuse of alcohol.
- 199.241 Training for supervisors.
- 199.243 Referral, evaluation, and treatment.
- 199.245 Contractor employees.

Authority: 49 U.S.C. 5103, 60102, 60104, 60108, 60117, and 60118; 49 CFR 1.53.

Source: 53 FR 47096, Nov. 21, 1988, unless otherwise noted.

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Subpart A

Sec. 199.1 Scope and compliance.

(a) This part requires operators of pipeline facilities subject to part 192, 193, or 195 of this chapter to test employees for the presence of prohibited drugs and provide an employee assistance program. However, this subpart does not apply to operators of "master meter systems" as defined in Sec. 191.3 of this chapter or to liquefied petroleum gas (LPG) operators.

(b) Operators with more than 50 employees subject to drug testing under this part need not comply with this part until April 20, 1990. Operators with 50 or fewer employees subject to drug testing under this part need not comply with this part until August 21, 1990.

(c) This part shall not apply to any person for whom compliance with this part would violate the domestic laws or policies of another country.

(d) This part applies to pipeline operators, only with respect to pipeline employees located within the territory of the United States, including those employees located within the limits of the outer continental shelf as that term is defined in the Outer Continental Shelf Lands Act (43 U.S.C. 1331).

[53 FR 47096, Nov. 21, 1988, as amended by Amdt. 199-1, 54 FR 14923, Apr. 13, 1989; Amdt. No. 7, 57 FR 31280, July 14, 1992; 58 FR 68260, Dec. 23, 1993; Amdt. 199-16, 62 FR 67294, Dec. 24, 1997]

Sec. 199.3 Definitions.

As used in this part--

Accident means an incident reportable under part 191 of this chapter involving gas pipeline facilities or LNG facilities, or an accident reportable under part 195 of this chapter involving hazardous liquid pipeline facilities.

Administrator means the Administrator of the Research and Special Programs Administration or any person to whom authority in the matter concerned has been delegated by the Secretary of Transportation.

Covered employee means a person who performs, on a pipeline or LNG facility, an operations, maintenance, or emergency-response function regulated by part 192, 193, or 195 of this chapter. This does not include clerical, truck driving, accounting, or other functions not subject to part 192, 193, or 195. The person may be employed by the operator, be a contractor engaged by the operator, or be employed by such a contractor.

Covered function means an operations, maintenance, or emergency-response function conducted on the pipeline or LNG facility that is regulated by part 192, 193, or 195.

DOT Procedures means the Procedures for Transportation Workplace Drug Testing Programs published by the Office of the Secretary of Transportation in part 40 of this title.

Fail a drug test means that the confirmation test result shows positive evidence of the presence under DOT Procedures of a prohibited drug in an employee's system.

Operator means a person who owns or operates pipeline facilities subject to part 192, 193, or 195 of this chapter.

Pass a drug test means that initial testing or confirmation testing under DOT Procedures does not show evidence of the presence of a prohibited drug in a person's system.

Positive rate means the number of positive results for random drug tests conducted under this subpart plus the number of refusals of random tests required by this subpart, divided by the total number of random drug tests conducted under this subpart plus the number of refusals of random tests required by this subpart.

Prohibited drug means any of the following substances specified in Schedule I or Schedule II of the Controlled Substances Act, 21 U.S.C. 801.812 (1981 & 2007 Cum.P.P.): marijuana, cocaine, opiates, amphetamines, and phencyclidine (PCP). In addition, for the purposes of reasonable cause testing, "prohibited drug" includes any substance in Schedule I or II if an operator has obtained prior approval from RSPA, pursuant to the "DOT Procedures" in 49 CFR part 40, to test for such

substance, and if the Department of Health and Human Services has established an approved testing protocol and positive threshold for such substance.

Refuse to submit means that a covered employee fails to provide a urine sample as required by 49 CFR Part 40, without a genuine inability to provide a

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specimen (as determined by a medical evaluation), after he or she has received notice of the requirement to be tested in accordance with the provisions of this subpart, or engages in conduct that clearly obstructs the testing process.

State agency means an agency of any of the several states, the District of Columbia, or Puerto Rico that participates under the pipeline safety laws (49 U.S.C. 60101 et seq.)

[53 FR 47096, Nov. 21, 1988, as amended by Amdt. 199-2, 54 FR 51850, Dec. 18, 1989; 59 FR 62227, Dec. 2, 1994; Amdt. 199-13, 61 FR 18518, Apr. 26, 1996; Amdt. 199-15, 63 FR 13000, Mar. 17, 1998]

Sec. 199.5 DOT procedures.

The anti-drug program required by this part must be conducted according to the requirements of this part and the DOT Procedures. In the event of conflict, the provisions of this part prevail. Terms and concepts used in this part have the same meaning as in the DOT Procedures.

Sec. 199.7 Anti-drug plan.

(a) Each operator shall maintain and follow a written anti-drug plan that conforms to the requirements of this part and the DOT Procedures. The plan must contain--

- (1) Methods and procedures for compliance with all the requirements of this part, including the employee assistance program;
- (2) The name and address of each laboratory that analyzes the specimens collected for drug testing;
- (3) The name and address of the operator's Medical Review Officer, and Substance Abuse Professional; and
- (4) Procedures for notifying employees of the coverage and provisions of the plan.

(b) The Administrator or the State Agency that has submitted a current certification under the pipeline safety laws (49 U.S.C. 60101 et seq.) with respect to the pipeline facility governed by an operator's plans and procedures may, after notice and opportunity for hearing as provided in 49 CFR 190.237 or the relevant State procedures, require the operator to amend its plans and procedures as necessary to provide a reasonable level of safety.

[53 FR 47096, Nov. 21, 1988, as amended by Amdt. 199-2, 54 FR 51850, Dec. 18, 1989; Amdt. 199-4, 56 FR 31091, July 9, 1991; 56 FR 41077, Aug. 19, 1991; Amdt. 199-13, 61 FR 18518, Apr. 26, 1996; Amdt. 199-15, 63 FR 36863, July 8, 1998]

Sec. 199.9 Use of persons who fail or refuse a drug test.

(a) An operator may not knowingly use as an employee any person who--

- (1) Fails a drug test required by this part and the medical review officer makes a determination under Sec. 199.15(d)(2); or
- (2) Refuses to take a drug test required by this part.

(b) Paragraph (a)(1) of this section does not apply to a person who has--

- (1) Passed a drug test under DOT Procedures;
- (2) Been recommended by the medical review officer for return to duty in accordance with Sec. 199.15(c); and
- (3) Not failed a drug test required by this part after returning to duty.

[53 FR 47096, Nov. 21, 1988, as amended by Amdt. 199-2, 54 FR 51850, Dec. 18, 1989]

Sec. 199.11 Drug tests required.

Each operator shall conduct the following drug tests for the presence of a prohibited drug:

(a) Pre-employment testing. No operator may hire or contract for the use of any person as an employee unless that person passes a drug test or is covered by an anti-drug program that conforms to the requirements of this part.

(b) Post-accident testing. As soon as possible but no later than 32 hours after an accident, an operator shall drug test each employee whose performance either contributed to the accident or cannot be completely discounted as a contributing factor to the accident. If an employee is injured, unconscious, or otherwise unable to evidence consent to the drug test, all reasonable steps must be taken to obtain a urine sample. An operator may decide not to test under this paragraph but such a decision must be based on the best information available immediately after the accident that the employee's performance could not have

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contributed to the accident or that, because of the time between that performance and the accident, it is not likely that a drug test would reveal whether the performance was affected by drug use.

(c) Random testing. (1) Except as provided in paragraphs (c) (2) through (4) of this section, the minimum annual percentage rate for random drug testing shall be 50 percent of covered employees.

(2) The Administrator's decision to increase or decrease the minimum annual percentage rate for random drug testing is based on the reported positive rate for the entire industry. All information used for this determination is drawn from the drug MIS reports required by this subpart. In order to ensure reliability of the data, the Administrator considers the quality and completeness of the reported data, may obtain additional information or reports from operators, and may make appropriate modifications in calculating the industry positive rate. Each year, the Administrator will publish in the Federal Register the minimum annual percentage rate for random drug testing of covered employees. The new minimum annual percentage rate for random drug testing will be applicable starting January 1 of the calendar year following publication.

(3) When the minimum annual percentage rate for random drug testing is 50 percent, the Administrator may lower this rate to 25 percent of all covered employees if the Administrator determines that the data received under the reporting requirements of Sec. 199.25 for two consecutive calendar years indicate that the reported positive rate is less than 1.0 percent.

(4) When the minimum annual percentage rate for random drug testing is 25 percent, and the data received under the reporting requirements of Sec. 199.25 for any calendar year indicate that the reported positive rate is equal to or greater than 1.0 percent, the Administrator will increase the minimum annual percentage rate for random drug testing to 50 percent of all covered employees.

(5) The selection of employees for random drug testing shall be made by a scientifically valid method, such as a random number table or a computer-based random number generator that is matched with employees' Social Security numbers, payroll identification numbers, or other comparable identifying numbers. Under the selection process used, each covered employee shall have an equal chance of being tested each time selections are made.

(6) The operator shall randomly select a sufficient number of covered employees for testing during each calendar year to equal an annual rate not less than the minimum annual percentage rate for random drug testing determined by the Administrator. If the operator conducts random drug testing through a consortium, the number of employees to be tested may be calculated for each individual operator or may be based on the total number of covered employees covered by the consortium who are

subject to random drug testing at the same minimum annual percentage rate under this subpart or any DOT drug testing rule.

(7) Each operator shall ensure that random drug tests conducted under this subpart are unannounced and that the dates for administering random tests are spread reasonably throughout the calendar year.

(8) If a given covered employee is subject to random drug testing under the drug testing rules of more than one DOT agency for the same operator, the employee shall be subject to random drug testing at the percentage rate established for the calendar year by the DOT agency regulating more than 50 percent of the employee's function.

(9) If an operator is required to conduct random drug testing under the drug testing rules of more than one DOT agency, the operator may--

(i) Establish separate pools for random selection, with each pool containing the covered employees who are subject to testing at the same required rate; or

(ii) Randomly select such employees for testing at the highest percentage rate established for the calendar year by any DOT agency to which the operator is subject.

(d) Testing based on reasonable cause. Each operator shall drug test each employee when there is reasonable cause

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to believe the employee is using a prohibited drug. The decision to test must be based on a reasonable and articulable belief that the employee is using a prohibited drug on the basis of specific, contemporaneous physical, behavioral, or performance indicators of probable drug use. At least two of the employee's supervisors, one of whom is trained in detection of the possible symptoms of drug use, shall substantiate and concur in the decision to test an employee. The concurrence between the two supervisors may be by telephone. However, in the case of operators with 50 or fewer employees subject to testing under this part, only one supervisor of the employee trained in detecting possible drug use symptoms shall substantiate the decision to test.

(e) Return to duty testing. A covered employee who refuses to take or has a positive drug test may not return to duty in the covered function until the covered employee has been evaluated face-to-face by a SAP, has properly followed any prescribed assistance, has passed a return-to-duty drug test administered under this part, and the SAP has determined that the employee may return to duty.

(f) Follow-up testing. A covered employee who refuses to take or has a positive drug test shall be subject to unannounced follow-up drug tests administered by the operator following the covered employee's return to duty. The number and frequency of such follow-up testing shall be determined by a substance abuse professional, but shall consist of at least six tests in the first 12 months following the covered employee's return to duty. In addition, follow-up testing may include testing for alcohol as directed by the substance abuse professional, to be performed in accordance with 49 CFR part 40. Follow-up testing shall not exceed 60 months from the date of the covered employee's return to duty. The substance abuse professional may terminate the requirement for follow-up testing at any time after the first six tests have been administered, if the substance abuse professional determines that such testing is no longer necessary.

[53 FR 47096, Nov. 21, 1988, as amended by Amdt. 199-2, 54 FR 51850, Dec. 18, 1989; 59 FR 62227, Dec. 2, 1994; Amdt. 199-15, 63 FR 13000, Mar. 17, 1998; Amdt 199-15, 63 FR 36863, July 8, 1998]
Sec. 199.13 Drug testing laboratory.

(a) Each operator shall use for the drug testing required by this part only drug testing laboratories certified by the Department of Health and Human Services under the DOT Procedures.

(b) The drug testing laboratory must permit--

(1) Inspections by the operator before the laboratory is awarded a testing contract; and

(2) Unannounced inspections, including examination of records, at any time, by the operator, the Administrator, and if the operator is subject to state agency jurisdiction, a representative of that state

agency.

Sec. 199.15 Review of drug testing results.

(a) MRO appointment. Each operator shall designate or appoint a medical review officer (MRO). If an operator does not have a qualified individual on staff to serve as MRO, the operator may contract for the provision of MRO services as part of its anti-drug program.

(b) MRO qualifications. The MRO must be a licensed physician with knowledge of drug abuse disorders.

(c) MRO duties. The MRO shall perform the following functions for the operator:

(1) Review the results of drug testing before they are reported to the operator.

(2) Review and interpret each confirmed positive test result as follows to determine if there is an alternative medical explanation for the confirmed positive test result:

(i) Conduct a medical interview with the individual tested.

(ii) Review the individual's medical history and any relevant biomedical factors.

(iii) Review all medical records made available by the individual tested to determine if a confirmed positive test resulted from legally prescribed medication.

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(iv) If necessary, require that the original specimen be reanalyzed to determine the accuracy of the reported test result.

(v) Verify that the laboratory report and assessment are correct.

(3) Ensure that an employee has been drug tested in accordance with the DOT Procedures before the employee returns to duty.

(d) MRO determinations. The following rules govern MRO determinations:

(1) If the MRO determines, after appropriate review, that there is a legitimate medical explanation for the confirmed positive test result other than the unauthorized use of a prohibited drug, the MRO is not required to take further action.

(2) If the MRO determines, after appropriate review, that there is no legitimate medical explanation for the confirmed positive test result other than the unauthorized use of a prohibited drug, the MRO shall refer:

(i) The individual tested to a personnel or administrative office for further proceedings in accordance with the operator's anti-drug plan; and

(ii) For evaluation by a SAP who shall determine what assistance, if any, the employee needs in resolving problems associated with drug misuse.

(3) Based on a review of laboratory inspection reports, quality assurance and quality control data, and other drug test results, the MRO may conclude that a particular drug test result is scientifically insufficient for further action. Under these circumstances, the MRO should conclude that the test is negative for the presence of a prohibited drug or drug metabolite in an individual's system.

(e) Evaluation and rehabilitation may be provided by the operator, by a substance abuse professional under contract with the operator, or by a substance abuse professional not affiliated with the operator. The choice of substance abuse professional and assignment of costs shall be made in accordance with the operator/employee agreements and operator/employee policies.

(f) The operator shall ensure that a substance abuse professional, who determines that a covered employee requires assistance in resolving problems with drug abuse, does not refer the covered employee to the substance abuse professional's private practice or to a person or organization from which the substance abuse professional receives remuneration or in which the substance abuse professional has a financial interest. This paragraph does not prohibit a substance abuse professional from referring a covered employee for assistance provided through:

(1) A public agency, such as a State, county, or municipality;

- (2) The operator or a person under contract to provide treatment for drug problems on behalf of the operator;
- (3) The sole source of therapeutically appropriate treatment under the employee's health insurance program; or
- (4) The sole source of therapeutically appropriate treatment reasonably accessible to the employee.

[53 FR 47096, Nov. 21, 1988, as amended by Amdt. 199-2, 54 FR 51850, Dec. 18, 1989; Amdt. 199-15, 63 FR 13000, Mar. 17, 1998; Amdt. 199-15, 63 FR 36863, July 8, 1998]

Sec. 199.17 Retention of samples and retesting.

(a) Samples that yield positive results on confirmation must be retained by the laboratory in properly secured, long-term, frozen storage for at least 365 days as required by the DOT Procedures. Within this 365-day period, the employee or the employee's representative, the operator, the Administrator, or, if the operator is subject to the jurisdiction of a state agency, the state agency may request that the laboratory retain the sample for an additional period. If, within the 365-day period, the laboratory has not received a proper written request to retain the sample for a further reasonable period specified in the request, the sample may be discarded following the end of the 365-day period.

(b) If the medical review officer (MRO) determines there is no legitimate medical explanation for a confirmed positive test result other than the unauthorized use of a prohibited drug, the original sample must be retested if the employee makes a written request for retesting within 60 days of receipt of the final test result from the MRO. The employee may specify retesting by the original laboratory or by a second laboratory that is certified by

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the Department of Health and Human Services. The operator may require the employee to pay in advance the cost of shipment (if any) and reanalysis of the sample, but the employee must be reimbursed for such expense if the retest is negative.

(c) If the employee specifies retesting by a second laboratory, the original laboratory must follow approved chain-of-custody procedures in transferring a portion of the sample.

(d) Since some analytes may deteriorate during storage, detected levels of the drug below the detection limits established in the DOT Procedures, but equal to or greater than the established sensitivity of the assay, must, as technically appropriate, be reported and considered corroborative of the original positive results.

[53 FR 47096, Nov. 21, 1988; 55 FR 797, Jan. 9, 1990, as amended by Amdt. 199-17, 63 FR 7723, Feb. 17, 1998]

Sec. 199.19 Employee assistance program.

(a) Each operator shall provide an employee assistance program (EAP) for its employees and supervisory personnel who will determine whether an employee must be drug tested based on reasonable cause. The operator may establish the EAP as a part of its internal personnel services or the operator may contract with an entity that provides EAP services. Each EAP must include education and training on drug use. At the discretion of the operator, the EAP may include an opportunity for employee rehabilitation.

(b) Education under each EAP must include at least the following elements: display and distribution of informational material; display and distribution of a community service hot-line telephone number for employee assistance; and display and distribution of the employer's policy regarding the use of prohibited drugs.

(c) Training under each EAP for supervisory personnel who will determine whether an employee must be drug tested based on reasonable cause must include one 60-minute period of training on the specific, contemporaneous physical, behavioral, and performance indicators of

probable drug use.

Sec. 199.21 Contractor employees.

With respect to those employees who are contractors or employed by a contractor, an operator may provide by contract that the drug testing, education, and training required by this part be carried out by the contractor provided:

- (a) The operator remains responsible for ensuring that the requirements of this part are complied with; and
- (b) The contractor allows access to property and records by the operator, the Administrator, and if the operator is subject to the jurisdiction of a state agency, a representative of the state agency for the purpose of monitoring the operator's compliance with the requirements of this part.

Sec. 199.23 Recordkeeping.

(a) Each operator shall keep the following records for the periods specified and permit access to the records as provided by paragraph (b) of this section:

(1) Records that demonstrate the collection process conforms to this part must be kept for at least 3 years.

(2) Records of employee drug test results that show employees who had a positive test, and the type of test (e.g., post-accident), and records that demonstrate rehabilitation, if any, must be kept for at least 5 years, and include the following information:

(i) The function performed by each employee who had a positive drug test result.

(ii) The prohibited drug(s) that were used by an employee who had a positive drug test.

(iii) The disposition of each employee who had a positive drug test or refused a drug test (e.g., termination, rehabilitation, removed from covered function, other).

(3) Records of employee drug test results that show employees passed a drug test must be kept for at least 1 year.

(4) A record of the number of employees tested, by type of test (e.g., post-accident), must be kept for at least 5 years.

(5) Records confirming that supervisors and employees have been trained as required by this part must be kept for at least 3 years.

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(b) Information regarding an individual's drug testing results or rehabilitation may be released only upon the written consent of the individual, except that such information must be released regardless of consent to the Administrator or the representative of a state agency upon request as part of an accident investigation. Statistical data related to drug testing and rehabilitation that is not name-specific and training records must be made available to the Administrator or the representative of a state agency upon request.

[53 FR 47096, Nov. 21, 1988, as amended at 58 FR 68260, Dec. 23, 1993]

Sec. 199.25 Reporting of anti-drug testing results.

(a) Each large operator (having more than 50 covered employees) shall submit an annual MIS report to RSPA of its anti-drug testing results in the form and manner prescribed by the Administrator, not later than March 15 of each year for the prior calendar year (January 1 through December 31). The Administrator shall require by written notice that small operators (50 or fewer covered employees) not otherwise required to submit annual MIS reports to prepare and submit such reports to RSPA.

(b) Each report, required under this section, shall be submitted to the Office of Pipeline Safety Compliance (OPS), Research and Special Programs Administration, Department of Transportation, room 2335, 400 Seventh Street, SW., Washington, DC 20590.

(c) Each report shall be submitted in the form and manner prescribed

by the Administrator. No other form, including another DOT Operating Administration's MIS form, is acceptable for submission to RSPA.

(d) Each report shall be signed by the Operator's anti-drug manager or designated representative. RSPA will allow the operator the option of sending the report on the computer disk provided by RSPA. If this option is used, a signature page attesting to the validity of the information on the computer disk must be sent to the address in paragraph (b) of this section.

(e) Each operator's report with verified positive test results or refusals to test shall include all of the following informational elements:

- (1) Number of covered employees.
- (2) Number of covered employees subject to testing under the anti-drug rules of another operating administration.
- (3) Number of specimens collected by type of test.
- (4) Number of positive test results, verified by a Medical Review Officer (MRO), by type of test and type of drug.
- (5) Number of employee action(s) taken following verified positive(s), by type of action(s).
- (6) Number of negative tests reported by an MRO by type of test.
- (7) Number of persons denied a position as a covered employee following a verified positive drug test.
- (8) Number of covered employees, returned to duty during this reporting period after having failed or refused a drug test required under the RSPA rule.
- (9) Number of covered employees with tests verified positive by an MRO for multiple drugs.
- (10) Number of covered employees who refused to submit to a random or non-random (post-accident, reasonable cause, return-to-duty, or follow-up) drug test and the action taken in response to each refusal.
- (11) Number of supervisors who have received required initial training during the reporting period.

(f) Each operator's report with only negative test results shall include all of the following informational elements:

- (1) Number of covered employees.
- (2) Number of covered employees subject to testing under the anti-drug rules of another operating administration.
- (3) Number of specimens collected by type of test.
- (4) Number of negative tests reported by an MRO by type of test.
- (5) Number of covered employees who refused to submit to a random or non-random (post-accident, reasonable cause, return-to-duty, or follow-up) drug test and the action taken in response to each refusal.

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(6) Number of supervisors who have received required initial training during the reporting period.

[58 FR 68261, Dec. 23, 1993, as amended by Amdt. 199-14, 61 FR 65365, Dec. 12, 1996]

Subpart B--Alcohol Misuse Prevention Program

Source: Amdt. 199-9, 59 FR 7430, Feb. 15, 1994, unless otherwise noted.

Sec. 199.200 Purpose.

The purpose of this subpart is to establish programs designed to help prevent accidents and injuries resulting from the misuse of alcohol by employees who perform covered functions for operators of certain pipeline facilities subject to parts 192, 193, or 195 of this chapter.

Sec. 199.201 Applicability.

This subpart applies to gas, hazardous liquid and carbon dioxide pipeline operators and liquefied natural gas operators subject to parts 192, 193, or 195 of this chapter. However, this subpart does not apply to operators of master meter systems defined in Sec. 191.3 or liquefied

petroleum gas (LPG) operators as discussed in Sec. 192.11 of this chapter.

Sec. 199.202 Alcohol misuse plan.

Each operator shall maintain and follow a written alcohol misuse plan that conforms to the requirements of this subpart and the DOT procedures in part 40 of this title. The plan shall contain methods and procedures for compliance with all the requirements of this subpart, including required testing, recordkeeping, reporting, education and training elements.

Sec. 199.203 Alcohol testing procedures.

Each operator shall ensure that all alcohol testing conducted under this subpart complies with the procedures set forth in part 40 of this title. The provisions of 49 CFR part 40 that address alcohol testing are made applicable to operators by this subpart.

Sec. 199.205 Definitions.

As used in this subpart:

Accident means an incident reportable under part 191 of this chapter involving gas pipeline facilities or LNG facilities, or an accident reportable under part 195 of this chapter involving hazardous liquid or carbon dioxide pipeline facilities.

Administrator means the Administrator of the Research and Special Programs Administration (RSPA), or any person who has been delegated authority in the matter concerned.

Alcohol means the intoxicating agent in beverage alcohol, ethyl alcohol or other low molecular weight alcohols, including methyl or isopropyl alcohol.

Alcohol concentration (or content) means the alcohol in a volume of breath expressed in terms of grams of alcohol per 210 liters of breath as indicated by an evidential breath test under this subpart.

Alcohol use means the consumption of any beverage, mixture, or preparation, including any medication, containing alcohol.

Confirmation test means a second test, following a screening test with a result 0.02 or greater, that provides quantitative data of alcohol concentration.

Consortium means an entity, including a group or association of employers, recipients, or contractors, that provides alcohol testing as required by this subpart or other DOT alcohol testing rules and that acts on behalf of the operators.

Covered employee means a person who performs on a pipeline or at an LNG facility an operation, maintenance, or emergency-response function regulated by parts 192, 193, or 195 of this chapter. Covered employee and individual or individual to be tested have the same meaning for the purposes of this subpart. The term covered employee does not include clerical, truck driving, accounting, or other functions not subject to parts 192, 193, or 195. The person may be employed by the operator, be a contractor engaged by the operator, or be employed by such a contractor.

Covered function (safety-sensitive function) means an operation, maintenance, or emergency-response function that is performed on a pipeline or LNG facility and the function is regulated by parts 192, 193, or 195.

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DOT agency An agency (or operating administration) of the United States Department of Transportation administering regulations requiring alcohol testing (14 CFR parts 61, 63, 65, 121, 135; 49 CFR parts 199, 219, 382, and 654) in accordance with part 40 of this title.

Employer or operator means a person who owns or operates a pipeline or LNG facility subject to parts 192, 193, or 195 of this chapter.

Performing (a covered function): An employee is considered to be performing a covered function (safety-sensitive function) during any period in which he or she is actually performing, ready to perform, or immediately available to perform such covered functions.

Refuse to submit (to an alcohol test) means that a covered employee fails to provide adequate breath for testing without a valid medical explanation after he or she has received notice of the requirement to be tested in accordance with the provisions of this subpart, or engages in conduct that clearly obstructs the testing process.

Screening test means an analytical procedure to determine whether a covered employee may have a prohibited concentration of alcohol in his or her system.

State agency means an agency of any of the several states, the District of Columbia, or Puerto Rico that participates under the pipeline safety laws (49 U.S.C. 60101 et seq.).

[Amdt. 199-9, 59 FR 7430, Feb. 15, 1994, as amended by Amdt. 199-13, 61 FR 18519, Apr. 26, 1996; 61 FR 37224, July 17, 1996]

Sec. 199.207 Preemption of State and local laws.

(a) Except as provided in paragraph (b) of this section, this subpart preempts any State or local law, rule, regulation, or order to the extent that:

(1) Compliance with both the State or local requirement and this subpart is not possible;

(2) Compliance with the State or local requirement is an obstacle to the accomplishment and execution of any requirement in this subpart; or

(3) The State or local requirement is a pipeline safety standard applicable to interstate pipeline facilities.

(b) This subpart shall not be construed to preempt provisions of State criminal law that impose sanctions for reckless conduct leading to actual loss of life, injury, or damage to property, whether the provisions apply specifically to transportation employees or employers or to the general public.

Sec. 199.209 Other requirements imposed by operators.

Except as expressly provided in this subpart, nothing in this subpart shall be construed to affect the authority of operators, or the rights of employees, with respect to the use or possession of alcohol, including authority and rights with respect to alcohol testing and rehabilitation.

Sec. 199.211 Requirement for notice.

Before performing an alcohol test under this subpart, each operator shall notify a covered employee that the alcohol test is required by this subpart. No operator shall falsely represent that a test is administered under this subpart.

Sec. 199.213 Starting date for alcohol testing programs.

(a) Large operators. Each operator with more than fifty covered employees on February 15, 1994 shall implement the requirements of this subpart beginning on January 1, 1995.

(b) Small operators. Each operator with fifty or fewer covered employees on February 15, 1994 shall implement the requirements of this subpart beginning on January 1, 1996.

(c) All operators commencing operations after February 15, 1994 shall have an alcohol misuse program that conforms to this subpart by January 1, 1996, or by the date an operator begins operations, whichever is later.

Sec. 199.215 Alcohol concentration.

Each operator shall prohibit a covered employee from reporting for duty or remaining on duty requiring the performance of covered functions while having an alcohol concentration of 0.04 or greater. No operator having actual knowledge that a covered employee has an alcohol concentration of 0.04 or greater shall permit the employee to

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perform or continue to perform covered functions.

Sec. 199.217 On-duty use.

Each operator shall prohibit a covered employee from using alcohol while performing covered functions. No operator having actual knowledge that a covered employee is using alcohol while performing covered functions shall permit the employee to perform or continue to perform covered functions.

Sec. 199.219 Pre-duty use.

Each operator shall prohibit a covered employee from using alcohol within four hours prior to performing covered functions, or, if an employee is called to duty to respond to an emergency, within the time period after the employee has been notified to report for duty. No operator having actual knowledge that a covered employee has used alcohol within four hours prior to performing covered functions or within the time period after the employee has been notified to report for duty shall permit that covered employee to perform or continue to perform covered functions.

Sec. 199.221 Use following an accident.

Each operator shall prohibit a covered employee who has actual knowledge of an accident in which his or her performance of covered functions has not been discounted by the operator as a contributing factor to the accident from using alcohol for eight hours following the accident, unless he or she has been given a post-accident test under Sec. 199.225(a), or the operator has determined that the employee's performance could not have contributed to the accident.

Sec. 199.223 Refusal to submit to a required alcohol test.

Each operator shall require a covered employee to submit to a post-accident alcohol test required under Sec. 199.225(a), a reasonable suspicion alcohol test required under Sec. 199.225(b), or a follow-up alcohol test required under Sec. 199.225(d). No operator shall permit an employee who refuses to submit to such a test to perform or continue to perform covered functions.

Sec. 199.225 Alcohol tests required.

Each operator shall conduct the following types of alcohol tests for the presence of alcohol:

(a) Post-accident. (1) As soon as practicable following an accident, each operator shall test each surviving covered employee for alcohol if that employee's performance of a covered function either contributed to the accident or cannot be completely discounted as a contributing factor to the accident. The decision not to administer a test under this section shall be based on the operator's determination, using the best available information at the time of the determination, that the covered employee's performance could not have contributed to the accident.

(2) (i) If a test required by this section is not administered within 2 hours following the accident, the operator shall prepare and maintain on file a record stating the reasons the test was not promptly administered. If a test required by paragraph (a) is not administered within 8 hours following the accident, the operator shall cease attempts to administer an alcohol test and shall state in the record the reasons for not administering the test.

(ii) For the years stated in this paragraph, employers who submit MIS reports shall submit to RSPA each record of a test required by this section that is not completed within 8 hours. The employer's records of tests that could not be completed within 8 hours shall be submitted to RSPA by March 15, 1996; March 15, 1997; and March 15, 1998; for calendar years 1995, 1996, and 1997, respectively. Employers shall append these records to their MIS submissions. Each record shall include the following information:

- (A) Type of test (reasonable suspicion/post-accident);
- (B) Triggering event (including date, time, and location);
- (C) Employee category (do not include employee name or other identifying information);
- (D) Reason(s) test could not be completed within 8 hours; and
- (E) If blood alcohol testing could have been completed within eight hours, the name, address, and telephone number of the testing site where blood testing could have occurred.

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(3) A covered employee who is subject to post-accident testing who fails to remain readily available for such testing, including notifying the operator or operator representative of his/her location if he/she leaves the scene of the accident prior to submission to such test, may be deemed by the operator to have refused to submit to testing. Nothing in this section shall be construed to require the delay of necessary medical attention for injured people following an accident or to prohibit a covered employee from leaving the scene of an accident for the period necessary to obtain assistance in responding to the accident or to obtain necessary emergency medical care.

(b) Reasonable suspicion testing. (1) Each operator shall require a covered employee to submit to an alcohol test when the operator has reasonable suspicion to believe that the employee has violated the prohibitions in this subpart.

(2) The operator's determination that reasonable suspicion exists to require the covered employee to undergo an alcohol test shall be based on specific, contemporaneous, articulable observations concerning the appearance, behavior, speech, or body odors of the employee. The required observations shall be made by a supervisor who is trained in detecting the symptoms of alcohol misuse. The supervisor who makes the determination that reasonable suspicion exists shall not conduct the breath alcohol test on that employee.

(3) Alcohol testing is authorized by this section only if the observations required by paragraph (b) (2) of this section are made during, just preceding, or just after the period of the work day that the employee is required to be in compliance with this subpart. A covered employee may be directed by the operator to undergo reasonable suspicion testing for alcohol only while the employee is performing covered functions; just before the employee is to perform covered functions; or just after the employee has ceased performing covered functions.

(4) (i) If a test required by this section is not administered within 2 hours following the determination under paragraph (b) (2) of this section, the operator shall prepare and maintain on file a record stating the reasons the test was not promptly administered. If a test required by this section is not administered within 8 hours following the determination under paragraph (b) (2) of this section, the operator shall cease attempts to administer an alcohol test and shall state in the record the reasons for not administering the test. Records shall be submitted to RSPA upon request of the Administrator.

(ii) For the years stated in this paragraph, employers who submit MIS reports shall submit to RSPA each record of a test required by this section that is not completed within 8 hours. The employer's records of tests that could not be completed within 8 hours shall be submitted to RSPA by March 15, 1996; March 15, 1997; and March 15, 1998; for calendar years 1995, 1996, and 1997, respectively. Employers shall append these records to their MIS submissions. Each record shall include the following information:

- (A) Type of test (reasonable suspicion/post-accident);
- (B) Triggering event (including date, time, and location);
- (C) Employee category (do not include employee name or other identifying information);
- (D) Reason(s) test could not be completed within 8 hours; and
- (E) If blood alcohol testing could have been completed within eight hours, the name, address, and telephone number of the testing site where blood testing could have occurred.

(iii) Notwithstanding the absence of a reasonable suspicion alcohol test under this section, an operator shall not permit a covered employee

to report for duty or remain on duty requiring the performance of covered functions while the employee is under the influence of or impaired by alcohol, as shown by the behavioral, speech, or performance indicators of alcohol misuse, nor shall an operator permit the covered employee to perform or continue to perform covered functions, until:

(A) An alcohol test is administered and the employee's alcohol concentration measures less than 0.02; or

(B) The start of the employee's next regularly scheduled duty period, but

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not less than 8 hours following the determination under paragraph (b)(2) of this section that there is reasonable suspicion to believe that the employee has violated the prohibitions in this subpart.

(iv) Except as provided in paragraph (b)(4)(ii), no operator shall take any action under this subpart against a covered employee based solely on the employee's behavior and appearance in the absence of an alcohol test. This does not prohibit an operator with the authority independent of this subpart from taking any action otherwise consistent with law.

(c) Return-to-duty testing. Each operator shall ensure that before a covered employee returns to duty requiring the performance of a covered function after engaging in conduct prohibited by Secs. 199.215 through 199.223, the employee shall undergo a return-to-duty alcohol test with a result indicating an alcohol concentration of less than 0.02.

(d) Follow-up testing. (1) Following a determination under Sec. 199.243(b) that a covered employee is in need of assistance in resolving problems associated with alcohol misuse, each operator shall ensure that the employee is subject to unannounced follow-up alcohol testing as directed by a substance abuse professional in accordance with the provisions of Sec. 199.243(c)(2)(ii).

(2) Follow-up testing shall be conducted when the covered employee is performing covered functions; just before the employee is to perform covered functions; or just after the employee has ceased performing such functions.

(e) Retesting of covered employees with an alcohol concentration of 0.02 or greater but less than 0.04. Each operator shall retest a covered employee to ensure compliance with the provisions of Sec. 199.237, if an operator chooses to permit the employee to perform a covered function within 8 hours following the administration of an alcohol test indicating an alcohol concentration of 0.02 or greater but less than 0.04.

[Amdt. 199-9, 59 FR 7430, Feb. 15, 1994, as amended at 59 FR 62239 and 62246, Dec. 2, 1994]

Sec. 199.227 Retention of records.

(a) General requirement. Each operator shall maintain records of its alcohol misuse prevention program as provided in this section. The records shall be maintained in a secure location with controlled access.

(b) Period of retention. Each operator shall maintain the records in accordance with the following schedule:

(1) Five years. Records of employee alcohol test results with results indicating an alcohol concentration of 0.02 or greater, documentation of refusals to take required alcohol tests, calibration documentation, employee evaluation and referrals, and MIS annual report data shall be maintained for a minimum of five years.

(2) Two years. Records related to the collection process (except calibration of evidential breath testing devices), and training shall be maintained for a minimum of two years.

(3) One year. Records of all test results below 0.02 (as defined in 49 CFR part 40) shall be maintained for a minimum of one year.

(c) Types of records. The following specific records shall be maintained:

(1) Records related to the collection process:

(i) Collection log books, if used.

(ii) Calibration documentation for evidential breath testing

devices.

- (iii) Documentation of breath alcohol technician training.
- (iv) Documents generated in connection with decisions to administer reasonable suspicion alcohol tests.
- (v) Documents generated in connection with decisions on post-accident tests.
- (vi) Documents verifying existence of a medical explanation of the inability of a covered employee to provide adequate breath for testing.
- (2) Records related to test results:
 - (i) The operator's copy of the alcohol test form, including the results of the test.
 - (ii) Documents related to the refusal of any covered employee to submit to an alcohol test required by this subpart.
 - (iii) Documents presented by a covered employee to dispute the result of an alcohol test administered under this subpart.

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- (3) Records related to other violations of this subpart.
- (4) Records related to evaluations:
 - (i) Records pertaining to a determination by a substance abuse professional concerning a covered employee's need for assistance.
 - (ii) Records concerning a covered employee's compliance with the recommendations of the substance abuse professional.
- (5) Record(s) related to the operator's MIS annual testing data.
- (6) Records related to education and training:
 - (i) Materials on alcohol misuse awareness, including a copy of the operator's policy on alcohol misuse.
 - (ii) Documentation of compliance with the requirements of Sec. 199.231.
 - (iii) Documentation of training provided to supervisors for the purpose of qualifying the supervisors to make a determination concerning the need for alcohol testing based on reasonable suspicion.
 - (iv) Certification that any training conducted under this subpart complies with the requirements for such training.

Sec. 199.229 Reporting of alcohol testing results.

(a) Each large operator (having more than 50 covered employees) shall submit an annual management information system (MIS) report to RSPA of its alcohol testing results in the form and manner prescribed by the Administrator, by March 15 of each year for the previous calendar year (January 1 through December 31). The Administrator may require by written notice that a small operator (50 or fewer covered employees), not otherwise required to submit annual MIS reports, submit such a report to RSPA.

(b) Each operator that is subject to more than one DOT agency alcohol rule shall identify each employee covered by the regulations of more than one DOT agency. The identification will be by the total number of covered employees. Prior to conducting any alcohol test on a covered employee subject to the rules of more than one DOT agency, the employer shall determine which DOT agency rule or rules authorizes or requires the test. The test result information shall be directed to the appropriate DOT agency or agencies.

(c) Each report, required under this section, shall be submitted to the Office of Pipeline Safety, Research and Special Programs Administration, Department of Transportation, room 2335, 400 Seventh Street, SW., Washington, DC 20590. RSPA will allow the operator the option of sending the report on the computer disk provided by RSPA. If this option is used, a signature page attesting to the validity of the information on the computer disk must be sent to the address in this section.

(d) Each report that contains information on an alcohol screening test result of 0.02 or greater or a violation of the alcohol misuse provisions of Secs. 199.215 through 199.223 of this subpart shall be submitted on "RSPA Alcohol Testing MIS Data Collection Form" and include the following informational elements:

- (1) Number of covered employees.
- (2) Number of covered employees subject to testing under the alcohol

misuse rule of another operating administration by each agency.

- (3) (i) Number of screening tests by type of test.
- (ii) Number of confirmation tests by type of test.
- (4) Number of confirmation tests indicating an alcohol concentration of 0.02 or greater but less than 0.04, by type of test.
- (5) Number of confirmation tests indicating an alcohol concentration of 0.04 or greater, by type of test.
- (6) Number of covered employees with a confirmation test indicating an alcohol concentration of 0.04 or greater or who have violations of other alcohol misuse provisions who were returned to duty in covered positions (having complied with the recommendations of a substance abuse professional as described in Secs. 199.235 and 199.243).
- (7) Number of covered employees who were administered alcohol and drug tests at the same time, with both a positive drug test and an alcohol test indicating an alcohol concentration of 0.04 or greater.
- (8) Number of covered employees who were found to have violated other provisions of Secs. 199.215 through 199.221, and

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any action taken in response to the violation.

- (9) Number of covered employees who refused to submit to an alcohol test required under this subpart, and the action taken in response to the refusal.
 - (10) Number of supervisors who have received required training during the reporting period in determining the existence of reasonable suspicion of alcohol misuse.
- (e) Each report with no screening alcohol test results of 0.02, or greater or violations of the alcohol misuse provisions of Secs. 199.215 through 199.223 of this subpart shall be submitted on "RSPA Alcohol Testing MIS Data Collection EZ Form" and include the following informational elements. (This "EZ" report may only be submitted if the program results meet these criteria)
- (1) Number of covered employees.
 - (2) Number of covered employees subject to testing under the alcohol misuse rule of another operating administration identified by each agency.
 - (3) Number of screening tests by type of test.
 - (4) Number of covered employees who refused to submit to an alcohol test required under this subpart, and the action taken in response to the refusal.
 - (5) Number of supervisors who have received required training during the reporting period in determining the existence of reasonable suspicion of alcohol misuse.
- (f) A consortium may prepare reports on behalf of individual pipeline operators for purposes of compliance with this reporting requirement. However, the pipeline operator shall sign and submit such a report and shall remain responsible for ensuring the accuracy and timeliness of each report prepared on its behalf by a consortium.

[Amdt. 199-9, 59 FR 7430, Feb. 15, 1994, as amended by Amdt. 199-14, 61 FR 65365, Dec. 12, 1996]

Sec. 199.231 Access to facilities and records.

- (a) Except as required by law or expressly authorized or required in this subpart, no employer shall release covered employee information that is contained in records required to be maintained in Sec. 199.227.
- (b) A covered employee is entitled, upon written request, to obtain copies of any records pertaining to the employee's use of alcohol, including any records pertaining to his or her alcohol tests. The operator shall promptly provide the records requested by the employee. Access to a employee's records shall not be contingent upon payment for records other than those specifically requested.
- (c) Each operator shall permit access to all facilities utilized in complying with the requirements of this subpart to the Secretary of Transportation, any DOT agency, or a representative of a state agency with regulatory authority over the operator.
- (d) Each operator shall make available copies of all results for

employer alcohol testing conducted under this subpart and any other information pertaining to the operator's alcohol misuse prevention program, when requested by the Secretary of Transportation, any DOT agency with regulatory authority over the operator, or a representative of a state agency with regulatory authority over the operator. The information shall include name-specific alcohol test results, records, and reports.

(e) When requested by the National Transportation Safety Board as part of an accident investigation, an operator shall disclose information related to the operator's administration of any post-accident alcohol tests administered following the accident under investigation.

(f) An operator shall make records available to a subsequent employer upon receipt of the written request from the covered employee. Disclosure by the subsequent employer is permitted only as expressly authorized by the terms of the employee's written request.

(g) An operator may disclose information required to be maintained under this subpart pertaining to a covered employee to the employee or the decisionmaker in a lawsuit, grievance, or other proceeding initiated by or on behalf of the individual, and arising from the results of an alcohol test administered under this subpart, or from the operator's determination that the covered employee engaged in conduct

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prohibited by Secs. 199.215 through 199.223 (including, but not limited to, a worker's compensation, unemployment compensation, or other proceeding relating to a benefit sought by the employee).

(h) An operator shall release information regarding a covered employee's records as directed by the specific, written consent of the employee authorizing release of the information to an identified person. Release of such information by the person receiving the information is permitted only in accordance with the terms of the employee's consent.

Sec. 199.233 Removal from covered function.

Except as provided in Secs. 199.239 through 199.243, no operator shall permit any covered employee to perform covered functions if the employee has engaged in conduct prohibited by Secs. 199.215 through 199.223 or an alcohol misuse rule of another DOT agency.

Sec. 199.235 Required evaluation and testing.

No operator shall permit a covered employee who has engaged in conduct prohibited by Secs. 199.215 through 199.223 to perform covered functions unless the employee has met the requirements of Sec. 199.243.

Sec. 199.237 Other alcohol-related conduct.

(a) No operator shall permit a covered employee tested under the provisions of Sec. 199.225, who is found to have an alcohol concentration of 0.02 or greater but less than 0.04, to perform or continue to perform covered functions, until:

(1) The employee's alcohol concentration measures less than 0.02 in accordance with a test administered under Sec. 199.225(e); or

(2) The start of the employee's next regularly scheduled duty period, but not less than eight hours following administration of the test.

(b) Except as provided in paragraph (a) of this section, no operator shall take any action under this subpart against an employee based solely on test results showing an alcohol concentration less than 0.04. This does not prohibit an operator with authority independent of this subpart from taking any action otherwise consistent with law.

Sec. 199.239 Operator obligation to promulgate a policy on the misuse of alcohol.

(a) General requirements. Each operator shall provide educational materials that explain these alcohol misuse requirements and the

operator's policies and procedures with respect to meeting those requirements.

(1) The operator shall ensure that a copy of these materials is distributed to each covered employee prior to start of alcohol testing under this subpart, and to each person subsequently hired for or transferred to a covered position.

(2) Each operator shall provide written notice to representatives of employee organizations of the availability of this information.

(b) Required content. The materials to be made available to covered employees shall include detailed discussion of at least the following:

(1) The identity of the person designated by the operator to answer covered employee questions about the materials.

(2) The categories of employees who are subject to the provisions of this subpart.

(3) Sufficient information about the covered functions performed by those employees to make clear what period of the work day the covered employee is required to be in compliance with this subpart.

(4) Specific information concerning covered employee conduct that is prohibited by this subpart.

(5) The circumstances under which a covered employee will be tested for alcohol under this subpart.

(6) The procedures that will be used to test for the presence of alcohol, protect the covered employee and the integrity of the breath testing process, safeguard the validity of the test results, and ensure that those results are attributed to the correct employee.

(7) The requirement that a covered employee submit to alcohol tests administered in accordance with this subpart.

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(8) An explanation of what constitutes a refusal to submit to an alcohol test and the attendant consequences.

(9) The consequences for covered employees found to have violated the prohibitions under this subpart, including the requirement that the employee be removed immediately from covered functions, and the procedures under Sec. 199.243.

(10) The consequences for covered employees found to have an alcohol concentration of 0.02 or greater but less than 0.04.

(11) Information concerning the effects of alcohol misuse on an individual's health, work, and personal life; signs and symptoms of an alcohol problem (the employee's or a coworker's); and including intervening evaluating and resolving problems associated with the misuse of alcohol including intervening when an alcohol problem is suspected, confrontation, referral to any available EAP, and/or referral to management.

(c) Optional provisions. The materials supplied to covered employees may also include information on additional operator policies with respect to the use or possession of alcohol, including any consequences for an employee found to have a specified alcohol level, that are based on the operator's authority independent of this subpart. Any such additional policies or consequences shall be clearly described as being based on independent authority.

Sec. 199.241 Training for supervisors.

Each operator shall ensure that persons designated to determine whether reasonable suspicion exists to require a covered employee to undergo alcohol testing under Sec. 199.225(b) receive at least 60 minutes of training on the physical, behavioral, speech, and performance indicators of probable alcohol misuse.

Sec. 199.243 Referral, evaluation, and treatment.

(a) Each covered employee who has engaged in conduct prohibited by Secs. 199.215 through 199.223 of this subpart shall be advised of the resources available to the covered employee in evaluating and resolving problems associated with the misuse of alcohol, including the names, addresses, and telephone numbers of substance abuse professionals and counseling and treatment programs.

(b) Each covered employee who engages in conduct prohibited under Secs. 199.215 through 199.223 shall be evaluated by a substance abuse professional who shall determine what assistance, if any, the employee needs in resolving problems associated with alcohol misuse.

(c) (1) Before a covered employee returns to duty requiring the performance of a covered function after engaging in conduct prohibited by Secs. 199.215 through 199.223 of this subpart, the employee shall undergo a return-to-duty alcohol test with a result indicating an alcohol concentration of less than 0.02.

(2) In addition, each covered employee identified as needing assistance in resolving problems associated with alcohol misuse--

(i) Shall be evaluated by a substance abuse professional to determine that the employee has properly followed any rehabilitation program prescribed under paragraph (b) of this section, and

(ii) Shall be subject to unannounced follow-up alcohol tests administered by the operator following the employee's return to duty. The number and frequency of such follow-up testing shall be determined by a substance abuse professional, but shall consist of at least six tests in the first 12 months following the employee's return to duty. In addition, follow-up testing may include testing for drugs, as directed by the substance abuse professional, to be performed in accordance with 49 CFR part 40. Follow-up testing shall not exceed 60 months from the date of the employee's return to duty. The substance abuse professional may terminate the requirement for follow-up testing at any time after the first six tests have been administered, if the substance abuse professional determines that such testing is no longer necessary.

(d) Evaluation and rehabilitation may be provided by the operator, by a substance abuse professional under contract with the operator, or by a substance abuse professional not affiliated

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with the operator. The choice of substance abuse professional and assignment of costs shall be made in accordance with the operator/employee agreements and operator/employee policies.

(e) The operator shall ensure that a substance abuse professional who determines that a covered employee requires assistance in resolving problems with alcohol misuse does not refer the employee to the substance abuse professional's private practice or to a person or organization from which the substance abuse professional receives remuneration or in which the substance abuse professional has a financial interest. This paragraph does not prohibit a substance abuse professional from referring an employee for assistance provided through--

- (1) A public agency, such as a State, county, or municipality;
- (2) The operator or a person under contract to provide treatment for alcohol problems on behalf of the operator;
- (3) The sole source of therapeutically appropriate treatment under the employee's health insurance program; or
- (4) The sole source of therapeutically appropriate treatment reasonably accessible to the employee.

Sec. 199.245 Contractor employees.

(a) With respect to those covered employees who are contractors or employed by a contractor, an operator may provide by contract that the alcohol testing, training and education required by this subpart be carried out by the contractor provided:

(b) The operator remains responsible for ensuring that the requirements of this subpart and part 40 of this title are complied with; and

(c) The contractor allows access to property and records by the operator, the Administrator, any DOT agency with regulatory authority over the operator or covered employee, and, if the operator is subject to the jurisdiction of a state agency, a representative of the state agency for the purposes of monitoring the operator's compliance with the requirements of this subpart and part 40 of this title.

SUMMARY OF RULE

This change will adopt the most recent federal gas pipeline safety regulations as amended by the United States Department of Transportation, in Parts 191, 192 and 199 of Title 49, Code of Federal Regulations, through January 1, 2001.

SUMMARY OF HEARINGS ON THE RULE

No hearing was requested and none was held.

FACTS AND CIRCUMSTANCES JUSTIFYING THE RULE

Because of the interstate nature of natural gas systems, the federal government adopts regulations as a uniform safety standard for gas pipelines. The federal government encourages states to adopt these regulations as their own to standardize regulation for all gas pipelines. Updating this rule will make the state's rules for natural gas pipeline safety the same as the federal regulations.

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