
Rules of
Department of Economic
Development
Division 240—Public Service Commission
Chapter 40—Gas Utilities and Gas Safety Standards

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**Title 4—DEPARTMENT OF
ECONOMIC DEVELOPMENT
Division 240—Public Service Commission
Chapter 40—Gas Utilities and
Gas Safety Standards**

4 CSR 240-40.010 Rate Schedules

PURPOSE: This rule prescribes the forms and procedures for filing and publishing schedules of rates of all gas utilities under the jurisdiction of the Public Service Commission.

(1) Every gas corporation engaged in the manufacture, furnishing or distribution of gas of any nature whatsoever for light, heat or power, within the state of Missouri, is directed not later than October 15, 1913, to have on file with this commission and keep open for public inspection, schedules showing all rates and charges in connection with such service of whatever nature made by the gas corporations for each and every kind of service which it renders as were in force on April 15, 1913, together with proper supplements covering all changes in the rate schedules authorized by this commission, if any, since April 15, 1913.

(2) All such rate schedules now on file with the commission not in accordance with this rule shall be issued in the form and manner prescribed by this rule and all rate schedules issued after April 15, 1913, must conform to this rule.

(3) Rate schedules shall be drawn up substantially in accordance with Form No. 14 and shall be plainly printed or typewritten on good quality of paper of size eight and one-half inches by eleven inches (8 1/2" × 11") in book, sheet or pamphlet form. A loose-leaf plan may be used so changes can be made by reprinting and inserting a single leaf. When the loose-leaf plan is used, all sheets, except the title page sheet, must show in the marginal space at the top of the page the name of the gas corporation issuing, the PSC number of schedule and the number of the page. In the marginal space at the bottom of sheet should be shown—the date of issue, the effective date and the name, title and address of the officer by whom the schedule is issued. All schedules shall bear a number with the prefix PSC Mo. _____. Schedules shall be numbered in consecutive serial order beginning with number 1 for each gas corporation. If a schedule or part of a schedule is cancelled, a new schedule or part thereof (sheet(s) if loose-leaf) will refer to the schedule canceled by its PSC number; thus: PSC

Mo. No. _____ cancelling PSC Mo. No. _____.

(4) Each schedule shall be accompanied by a letter of transmittal, in duplicate if receipt is desired, in the following form:

LETTER OF TRANSMITTAL

(Name of gas corporation)
(Date) _____

To the Public Service Commission, State of Missouri, Jefferson City:

Accompanying schedule issued by the _____ is sent you for filing in compliance with the requirements of the Public Service Commission Law.

PSC Mo. No. _____.
Sup. No. _____ to PSC Mo. No. _____.
Effective, _____, 19 _____.

(Signature and title of filing officer)

(5) All proposed changes in rates, charges or rentals or in rules that affect rates, charges or rentals filed with the commission shall be accompanied by a brief summary, approximately one hundred (100) words or less of the effect of the change on the company's customers. A copy of any proposed change and summary shall also be served on the public counsel and be available for public inspection and reproduction during regular office hours at the general business office of the utility.

(6) Thirty (30) days' notice to the commission is required as to every publication relating to gas rates or service except where publications are made effective on less than statutory notice by permission, rule or requirement of the commission.

(7) Except as is otherwise provided, no schedule or supplement will be accepted for filing unless it is delivered to the commission free from all charges or claims for postage, the full thirty (30) days required by law before the date upon which the schedule or supplement is stated to be effective. No consideration will be given to or for the time during which a schedule or supplement may be held by the post office authorities because of insufficient postage. When a schedule or a supplement is issued and as to which the commission is not given the statutory notice, it is as if it had not been issued and a full statutory notice must be given of any rescission. No consideration will be given to telegraphic notices in computing the thirty (30) days' notice required. In those cases the

schedule will be returned to the sender and correction of the neglect or omission cannot be made which takes into account any time elapsing between the date upon which the schedule or supplement was received and the date of the attempted correction. For rate schedules and supplements issued on short notice under special permission of the commission, literal compliance with the requirements for notice named in any order, rule or permission granted by the commission will be exacted.

AUTHORITY: section 393.140(II), RSMo 1986. Original rule filed Dec. 19, 1975, effective Dec. 29, 1975. Amended: Filed May 16, 1977, effective Dec. 11, 1977. Amended: Filed May 29, 1986, effective Oct. 27, 1986.*

**Original authority 1939, amended 1949, 1967.*

4 CSR 240-40.015 Affiliate Transactions

PURPOSE: This rule is intended to prevent regulated utilities from subsidizing their non-regulated operations. In order to accomplish this objective, the rule sets forth financial standards, evidentiary standards and record keeping requirements applicable to any Missouri Public Service Commission (commission) regulated gas corporation whenever such corporation participates in transactions with any affiliated entity (except with regard to HVAC services as defined in section 386.754, RSMo Supp. 1998, by the General Assembly of Missouri). The rule and its effective enforcement will provide the public the assurance that their rates are not adversely impacted by the utilities' nonregulated activities.

(1) Definitions.

(A) Affiliated entity means any person, including an individual, corporation, service company, corporate subsidiary, firm, partnership, incorporated or unincorporated association, political subdivision including a public utility district, city, town, county, or a combination of political subdivisions, which directly or indirectly, through one (1) or more intermediaries, controls, is controlled by, or is under common control with the regulated gas corporation.

(B) Affiliate transaction means any transaction for the provision, purchase or sale of any information, asset, product or service, or portion of any product or service, between a regulated gas corporation and an affiliated entity, and shall include all transactions carried out between any unregulated business operation of a regulated gas corporation and

the regulated business operations of a gas corporation. An affiliate transaction for the purposes of this rule excludes heating, ventilating and air conditioning (HVAC) services as defined in section 386.754, RSMo by the General Assembly of Missouri.

(C) Control (including the terms “controlling,” “controlled by,” and “common control”) means the possession, directly or indirectly, of the power to direct, or to cause the direction of the management or policies of an entity, whether such power is exercised through one (1) or more intermediary entities, or alone, or in conjunction with, or pursuant to an agreement with, one or more other entities, whether such power is exercised through a majority or minority ownership or voting of securities, common directors, officers or stockholders, voting trusts, holding trusts, affiliated entities, contract or any other direct or indirect means. The commission shall presume that the beneficial ownership of ten percent (10%) or more of voting securities or partnership interest of an entity constitutes control for purposes of this rule. This provision, however, shall not be construed to prohibit a regulated gas corporation from rebutting the presumption that its ownership interest in an entity confers control.

(D) Corporate support means joint corporate oversight, governance, support systems and personnel, involving payroll, shareholder services, financial reporting, human resources, employee records, pension management, legal services, and research and development activities.

(E) Derivatives means a financial instrument, traded on or off an exchange, the price of which is directly dependent upon (i.e., “derived from”) the value of one or more underlying securities, equity indices, debt instruments, commodities, other derivative instruments, or any agreed-upon pricing index or arrangement (e.g., the movement over time of the Consumer Price Index or freight rates). Derivatives involve the trading of rights or obligations based on the underlying product, but do not directly transfer property. They are used to hedge risk or to exchange a floating rate of return for fixed rate of return.

(F) Fully distributed cost (FDC) means a methodology that examines all costs of an enterprise in relation to all the goods and services that are produced. FDC requires recognition of all costs incurred directly or indirectly used to produce a good or service. Costs are assigned either through a direct or allocated approach. Costs that cannot be directly assigned or indirectly allocated (e.g., general and administrative) must also be

included in the FDC calculation through a general allocation.

(G) Information means any data obtained by a regulated gas corporation that is not obtainable by nonaffiliated entities or can only be obtained at a competitively prohibitive cost in either time or resources.

(H) Preferential service means information or treatment or actions by the regulated gas corporation which places the affiliated entity at an unfair advantage over its competitors.

(I) Regulated gas corporation means every gas corporation as defined in section 386.020, RSMo, subject to commission regulation pursuant to Chapter 393, RSMo.

(J) Unfair advantage means an advantage that cannot be obtained by nonaffiliated entities or can only be obtained at a competitively prohibitive cost in either time or resources.

(K) Variance means an exemption granted by the commission from any applicable standard required pursuant to this rule.

(2) Standards.

(A) A regulated gas corporation shall not provide a financial advantage to an affiliated entity. For the purposes of this rule, a regulated gas corporation shall be deemed to provide a financial advantage to an affiliated entity if—

1. It compensates an affiliated entity for goods or services above the lesser of—

- A. The fair market price; or
- B. The fully distributed cost to the regulated gas corporation to provide the goods or services for itself; or

2. It transfers information, assets, goods or services of any kind to an affiliated entity below the greater of—

- A. The fair market price; or
- B. The fully distributed cost to the regulated gas corporation.

(B) Except as necessary to provide corporate support functions, the regulated gas corporation shall conduct its business in such a way as not to provide any preferential service, information or treatment to an affiliated entity over another party at any time.

(C) Specific customer information shall be made available to affiliated or unaffiliated entities only upon consent of the customer or as otherwise provided by law or commission rules or orders. General or aggregated customer information shall be made available to affiliated or unaffiliated entities upon similar terms and conditions. The regulated gas corporation may set reasonable charges for costs incurred in producing customer information. Customer information includes information provided to the regulated utility by affiliated or unaffiliated entities.

(D) The regulated gas corporation shall not participate in any affiliated transactions which are not in compliance with this rule, except as otherwise provided in section (10) of this rule.

(E) If a customer requests information from the regulated gas corporation about goods or services provided by an affiliated entity, the regulated gas corporation may provide information about its affiliate but must inform the customer that regulated services are not tied to the use of an affiliate provider and that other service providers may be available. The regulated gas corporation may provide reference to other service providers or to commercial listings, but is not required to do so. The regulated gas corporation shall include in its annual Cost Allocation Manual (CAM), the criteria, guidelines and procedures it will follow to be in compliance with the rule.

(F) Marketing materials, information or advertisements by an affiliate entity that share an exact or similar name, logo or trademark of the regulated utility shall clearly display or announce that the affiliate entity is not regulated by the Missouri Public Service Commission.

(3) Evidentiary Standards for Affiliated Transactions.

(A) When a regulated gas corporation purchases information, assets, goods or services from an affiliated entity, the regulated gas corporation shall either obtain competitive bids for such information, assets, goods or services or demonstrate why competitive bids were neither necessary nor appropriate.

(B) In transactions that involve either the purchase or receipt of information, assets, goods or services by a regulated gas corporation from an affiliated entity, the regulated gas corporation shall document both the fair market price of such information, assets, goods and services and the fully distributed cost to the regulated gas corporation to produce the information, assets, goods or services for itself.

(C) In transactions that involve the provision of information, assets, goods or services to affiliated entities, the regulated gas corporation must demonstrate that it—

1. Considered all costs incurred to complete the transaction;
2. Calculated the costs at times relevant to the transaction;
3. Allocated all joint and common costs appropriately; and
4. Adequately determined the fair market price of the information, assets, goods or services.

(D) In transactions involving the purchase of goods or services by the regulated gas corporation from an affiliated entity, the regulated gas corporation will use a commission-approved CAM which sets forth cost allocation, market valuation and internal cost methods. This CAM can use benchmarking practices that can constitute compliance with the market value requirements of this section if approved by the commission.

(4) Record Keeping Requirements.

(A) A regulated gas corporation shall maintain books, accounts and records separate from those of its affiliates.

(B) Each regulated gas corporation shall maintain the following information in a mutually agreed-to electronic format (i.e., agreement between the staff, Office of the Public Counsel and the regulated gas corporation) regarding affiliate transactions on a calendar year basis and shall provide such information to the commission staff and the Office of the Public Counsel on, or before, March 15 of the succeeding year:

1. A full and complete list of all affiliated entities as defined by this rule;
2. A full and complete list of all goods and services provided to or received from affiliated entities;
3. A full and complete list of all contracts entered with affiliated entities;
4. A full and complete list of all affiliate transactions undertaken with affiliated entities without a written contract together with a brief explanation of why there was no contract;
5. The amount of all affiliate transactions, by affiliated entity and account charged; and
6. The basis used (e.g., fair market price, FDC, etc.) to record each type of affiliate transaction.

(C) In addition each regulated gas corporation shall maintain the following information regarding affiliate transactions on a calendar year basis:

1. Records identifying the basis used (e.g., fair market price, FDC, etc.) to record all affiliate transactions; and
2. Books of accounts and supporting records in sufficient detail to permit verification of compliance with this rule.

(5) Records of Affiliated Entities.

(A) Each regulated gas corporation shall ensure that its parent and any other affiliated entities maintain books and records that include, at a minimum, the following information regarding affiliate transactions:

1. Documentation of the costs associated with affiliate transactions that are incurred

by the parent or affiliated entity and charged to the regulated gas corporation;

2. Documentation of the methods used to allocate and/or share costs between affiliated entities, including other jurisdictions and/or corporate divisions;

3. Description of costs that are not subject to allocation to affiliate transactions and documentation supporting the nonassignment of these costs to affiliate transactions;

4. Descriptions of the types of services that corporate divisions and/or other centralized functions provided to any affiliated entity or division accessing the regulated gas corporation's contracted services or facilities;

5. Names and job descriptions of the employees from the regulated gas corporation that transferred to a nonregulated affiliated entity;

6. Evaluations of the effect on the reliability of services provided by the regulated gas corporation resulting from the access to regulated contracts and/or facilities by affiliated entities;

7. Policies regarding the availability of customer information and the access to services available to nonregulated affiliated entities desiring use of the regulated gas corporation's contracts and facilities; and

8. Descriptions of, and supporting documentation related to, any use of derivatives that may be related to the regulated gas corporation's operation even though obtained by the parent or affiliated entity.

(6) Access to Records of Affiliated Entities.

(A) To the extent permitted by applicable law, and pursuant to established commission discovery procedures, a regulated gas corporation shall make available the books and records of its parent and any other affiliated entities when required in the application of this rule.

(B) The commission shall have the authority to—

1. Review, inspect and audit books, accounts and other records kept by a regulated gas corporation or affiliated entity for the sole purpose of ensuring compliance with this rule and make findings available to the commission; and
2. Investigate the operations of a regulated gas corporation or affiliated entity and their relationship to each other for the sole purpose of ensuring compliance with this rule.

(C) That this rule does not modify existing legal standards regarding which party has the burden of proof in commission proceedings.

(7) Record Retention.

(A) Records required under this rule shall be maintained by each regulated gas corporation for a period of not less than six (6) years.

(8) Enforcement.

(A) When enforcing these standards, or any order of the commission regarding these standards, the commission may apply any remedy available to the commission.

(9) The regulated gas corporation shall train and advise its personnel as to the requirements and provisions of this rule as appropriate to ensure compliance.

(10) Variances.

(A) A variance from the standards in this rule may be obtained by compliance with paragraphs (10)(A)1. or (10)(A)2. The granting of a variance to one regulated gas corporation does not constitute a waiver respecting or otherwise affect the required compliance of any other regulated gas corporation to comply with the standards. The scope of a variance will be determined based on the facts and circumstances found in support of the application—

1. The regulated gas corporation shall request a variance upon written application in accordance with commission procedures set out in 4 CSR 240-2.060(11); or

2. A regulated gas corporation may engage in an affiliate transaction not in compliance with the standards set out in subsection (2)(A) of this rule, when to its best knowledge and belief, compliance with the standards would not be in the best interests of its regulated customers and it complies with the procedures required by subparagraphs (10)(A)2.A. and (10)(A)2.B. of this rule—

A. All reports and record retention requirements for each affiliate transaction must be complied with; and

B. Notice of the noncomplying affiliate transaction shall be filed with the secretary of the commission and the Office of the Public Counsel within ten (10) days of the occurrence of the noncomplying affiliate transaction. The notice shall provide a detailed explanation of why the affiliate transaction should be exempted from the requirements of subsection (2)(A), and shall provide a detailed explanation of how the affiliate transaction was in the best interests of the regulated customers. Within thirty (30) days of the notice of the noncomplying affiliate transaction, any party shall have the right to request a hearing regarding the noncomplying affiliate transaction. The commission may grant or deny the request for hearing at that time. If the commission denies a request for

hearing, the denial shall not in any way prejudice a party's ability to challenge the affiliate transaction at the time of the annual CAM filing. At the time of the filing of the regulated gas corporation's annual CAM filing the regulated gas corporation shall provide to the secretary of the commission a listing of all noncomplying affiliate transactions which occurred between the period of the last filing and the current filing. Any affiliate transaction submitted pursuant to this section shall remain interim, subject to disallowance, pending final commission determination on whether the noncomplying affiliate transaction resulted in the best interests of the regulated customers.

(11) Nothing contained in this rule and no action by the commission under this rule shall be construed to approve or exempt any activity or arrangement that would violate the antitrust laws of the state of Missouri or of the United States or to limit the rights of any person or entity under those laws.

AUTHORITY: sections 386.250, RSMo Supp. 1998, and 393.140, RSMo 1994. Original rule filed April 26, 1999, effective Feb. 29, 2000.*

**Original authority: 386.250, RSMo 1939, amended 1963, 1967, 1977, 1980, 1987, 1988, 1991, 1993, 1995, 1996 and 393.140, RSMo 1939, amended 1949, 1967.*

4 CSR 240-40.016 Marketing Affiliate Transactions

PURPOSE: This rule sets forth standards of conduct, financial standards, evidentiary standards and record keeping requirements applicable to all Missouri Public Service Commission (commission) regulated gas corporations engaging in marketing affiliate transactions (except with regard to HVAC services as defined in section 386.754, RSMo Supp. 1998, by the General Assembly of Missouri).

(1) Definitions.

(A) Affiliated entity means any person, including an individual, corporation, service company, corporate subsidiary, firm, partnership, incorporated or unincorporated association, political subdivision including a public utility district, city, town, county, or a combination of political subdivisions, which directly or indirectly, through one (1) or more intermediaries, controls, is controlled by, or is under common control with the regulated gas corporation. This term shall also include "marketing affiliate" (as hereinafter defined)

and all unregulated business operations of a regulated gas corporation.

(B) Affiliate transaction means any transaction for the provision, purchase or sale of any information, asset, product or service, or portion of any product or service, between a regulated gas corporation and an affiliated entity, and shall include all transactions carried out between any unregulated business operation of a regulated gas corporation and the regulated business operations of a gas corporation. An affiliate transaction for the purposes of this rule excludes heating, ventilating and air conditioning (HVAC) services as defined in section 386.754, RSMo by the General Assembly of Missouri.

(C) Control (including the terms "controlling," "controlled by," and "common control") means the possession, directly or indirectly, of the power to direct, or to cause the direction of the management or policies of an entity, whether such power is exercised through one (1) or more intermediary entities, or alone, or in conjunction with, or pursuant to an agreement with, one (1) or more other entities, whether such power is exercised through a majority or minority ownership or voting of securities, common directors, officers or stockholders, voting trusts, holding trusts, affiliated entities, contract or any other direct or indirect means. The commission shall presume that the beneficial ownership of ten percent (10%) or more of voting securities or partnership interest of an entity constitutes control for purposes of this rule. This provision, however, shall not be construed to prohibit a regulated gas corporation from rebutting the presumption that its ownership interest in an entity confers control.

(D) Corporate support means joint corporate oversight, governance, support systems and personnel, involving payroll, shareholder services, financial reporting, human resources, employee records, pension management, legal services, and research and development activities.

(E) Derivatives means a financial instrument, traded on or off an exchange, the price of which is directly dependent upon (i.e., "derived from") the value of one (1) or more underlying securities, equity indices, debt instruments, commodities, other derivative instruments, or any agreed-upon pricing index or arrangement (e.g., the movement over time of the Consumer Price Index or freight rates). Derivatives involve the trading of rights or obligations based on the underlying product, but do not directly transfer property. They are used to hedge risk or to exchange a floating rate of return for a fixed rate of return.

(F) Fully distributed cost (FDC) means a methodology that examines all costs of an enterprise in relation to all the goods and services that are produced. FDC requires recognition of all costs incurred directly or indirectly used to produce a good or service. Costs are assigned either through a direct or allocated approach. Costs that cannot be directly assigned or indirectly allocated (e.g., general and administrative) must also be included in the FDC calculation through a general allocation.

(G) Information means any data obtained by a regulated gas corporation that is not obtainable by nonaffiliated entities or can only be obtained at a competitively prohibitive cost in either time or resources.

(H) Long-term means a transaction in excess of thirty-one (31) days.

(I) Marketing affiliate means an affiliated entity which engages in or arranges a commission-related sale of any natural gas service or portion of gas service, to a shipper.

(J) Opportunity sales means sales of unused contract entitlements necessarily held by a gas corporation to meet the daily and seasonal swings of its system customers and are intended to maximize utilization of assets that remain under regulation.

(K) Preferential service means information, treatment or actions by the regulated gas corporation which places the affiliated entity at an unfair advantage over its competitors.

(L) Regulated gas corporation means every gas corporation as defined in section 386.020, RSMo, subject to commission regulation pursuant to Chapter 393, RSMo.

(M) Shippers means all current and potential transportation customers on a regulated gas corporation's natural gas distribution system.

(N) Short-term means a transaction of thirty-one (31) days or less.

(O) Transportation means the receipt of gas at one point on a regulated gas corporation's system and the redelivery of an equivalent volume of gas to the retail customer of the gas at another point on the regulated gas corporation's system including, without limitation, scheduling, balancing, peaking, storage, and exchange to the extent such services are provided pursuant to the regulated gas corporation's tariff, and includes opportunity sales.

(P) Unfair advantage means an advantage that cannot be obtained by nonaffiliated entities or can only be obtained at a competitively prohibitive cost in either time or resources.

(Q) Variance means an exemption granted by the commission from any applicable standard required pursuant to this rule.

(2) Nondiscrimination Standards.

(A) Nondiscrimination standards under this section apply in conjunction with all the standards under this rule and control when a similar standard overlaps.

(B) A regulated gas corporation shall apply all tariff provisions relating to transportation in the same manner to customers similarly situated whether they use affiliated or nonaffiliated marketers or brokers.

(C) A regulated gas corporation shall uniformly enforce its tariff provisions for all shippers.

(D) A regulated gas corporation shall not, through a tariff provision or otherwise, give its marketing affiliate and/or its customers any preference over a customer using a nonaffiliated marketer in matters relating to transportation or curtailment priority.

(E) A regulated gas corporation shall not give any customer using its marketing affiliate a preference, in the processing of a request for transportation services, over a customer using a nonaffiliated marketer, specifically including the manner and timing of such processing.

(F) A regulated gas corporation shall not disclose or cause to be disclosed to its marketing affiliate or any nonaffiliated marketer any information that it receives through its processing of requests for or provision of transportation.

(G) If a regulated gas corporation provides information related to transportation which is not readily available or generally known to other marketers to a customer using a marketing affiliate, it shall provide that information (electronic format, phone call, facsimile, etc.) contemporaneously to all nonaffiliated marketers transporting on its distribution system.

(H) A regulated gas corporation shall not condition or tie an offer or agreement to provide a transportation discount to a shipper to any service in which the marketing affiliate is involved. If the regulated gas corporation seeks to provide a discount for transportation to any shipper using a marketing affiliate, the regulated gas corporation shall, subject to an appropriate protective order—

1. File for approval of the transaction with the commission and provide a copy to the Office of the Public Counsel;

2. Disclose whether the marketing affiliate of the regulated gas corporation is the gas supplier or broker serving the shipper;

3. File quarterly public reports which provide the aggregate periodic and cumulative number of transportation discounts provided by the regulated gas corporation; and

4. Provide the aggregate number of such agreements which involve shippers for whom the regulated gas corporation's marketing

affiliate is or was at the time of the granting of the discount the gas supplier or broker.

(I) A regulated gas corporation shall not make opportunity sales directly to a customer of its marketing affiliate or to its marketing affiliate unless such supplies and/or capacity are made available to other similarly situated customers using nonaffiliated marketers on an identical basis given the nature of the transactions.

(J) A regulated gas corporation shall not condition or tie agreements (including prearranged capacity release) for the release of interstate or intrastate pipeline capacity to any service in which the marketing affiliate is involved under terms not offered to nonaffiliated companies and their customers.

(K) A regulated gas corporation shall maintain its books of account and records completely separate and apart from those of the marketing affiliate.

(L) A regulated gas corporation is prohibited from giving any customer using its marketing affiliate preference with respect to any tariff provisions that provide discretionary waivers.

(M) A regulated gas corporation shall maintain records when it is made aware of any marketing complaint against an affiliated entity—

1. The records should contain a log detailing the date the complaint was received by the regulated gas corporation, the name of the complainant, a brief description of the complaint and, as applicable, how it has been resolved. If the complaint has not been recorded by the regulated gas corporation within thirty (30) days, an explanation for the delay must be recorded.

(N) A regulated gas corporation will not communicate to any customer, supplier or third parties that any advantage may accrue to such customer, supplier or third party in the use of the regulated gas corporation's services as a result of that customer, supplier or third party dealing with its marketing affiliate and shall refrain from giving any appearance that it speaks on behalf of its affiliated entity.

(O) If a customer requests information about a marketing affiliate, the regulated gas corporation may provide the requested information but shall also provide a list of all marketers operating on its system.

(3) Standards.

(A) A regulated gas corporation shall not provide a financial advantage to an affiliated entity. For the purposes of this rule, a regulated gas corporation shall be deemed to provide a financial advantage to an affiliated entity if—

1. It compensates an affiliated entity for information, assets, goods or services above the lesser of—

A. The fair market price; or

B. The fully distributed cost to the regulated gas corporation to provide the information, assets, goods or services for itself; or

2. It transfers information, assets, goods or services of any kind to an affiliated entity below the greater of—

A. The fair market price; or

B. The fully distributed cost to the regulated gas corporation.

(B) Except as necessary to provide corporate support functions, the regulated gas corporation shall conduct its business in such a way as not to provide any preferential service, information or treatment to an affiliated entity over another party at any time.

(C) Specific customer information shall be made available to affiliated or unaffiliated entities only upon consent of the customer or as otherwise provided by law or commission rules or orders. General or aggregated customer information shall be made available to affiliated or unaffiliated entities upon similar terms and conditions. The regulated gas corporation may set reasonable charges for costs incurred in producing customer information. Customer information includes information provided to the regulated utility by affiliated or unaffiliated entities.

(D) The regulated gas corporation shall not participate in any affiliated transactions which are not in compliance with this rule, except as otherwise provided in section (11) of this rule.

(E) If a customer requests information from the regulated gas corporation about goods or services provided by an affiliated entity, the regulated gas corporation may provide information about the affiliate but must inform the customer that regulated services are not tied to the use of an affiliate provider and that other service providers may be available. Except with respect to affiliated and nonaffiliated gas marketers which are addressed in section (2) of this rule, the regulated gas corporation may provide reference to other service providers or to commercial listings, but is not required to do so. The regulated gas corporation shall include in its annual Cost Allocation Manual (CAM), the criteria, guidelines and procedures it will follow to be in compliance with the rule.

(F) Marketing materials, information or advertisements by an affiliate entity that share an exact or similar name, logo or trademark of the regulated utility shall clearly display or

announce that the affiliate entity is not regulated by the Missouri Public Service Commission.

(4) Evidentiary Standards for Affiliate Transactions.

(A) When a regulated gas corporation purchases information, assets, goods or services from an affiliated entity, the regulated gas corporation shall either obtain competitive bids for such information, assets, goods or services or demonstrate why competitive bids were neither necessary nor appropriate.

(B) In transactions that involve either the purchase or receipt of information, assets, goods or services by a regulated gas corporation from an affiliated entity, the regulated gas corporation shall document both the fair market price of such information, assets, goods and services and the fully distributed cost to the regulated gas corporation to produce the information, assets, goods or services for itself.

(C) In transactions that involve the provision of information, assets, goods or services to affiliated entities, the regulated gas corporation must demonstrate that it—

1. Considered all costs incurred to complete the transaction;
2. Calculated the costs at times relevant to the transaction;
3. Allocated all joint and common costs appropriately; and
4. Adequately determined the fair market price of the information, assets, goods or services.

(D) In transactions involving the purchase of information, assets, goods or services by the regulated gas corporation from an affiliated entity, the regulated gas corporation will use a commission-approved CAM which sets forth cost allocation, market valuation and internal cost methods. This CAM can use benchmarking practices that can constitute compliance with the market value requirements of this section if approved by the commission.

(5) Record Keeping Requirements.

(A) A regulated gas corporation shall maintain books, accounts and records separate from those of its affiliates.

(B) Each regulated gas corporation shall maintain the following information in a mutually agreed-to electronic format (i.e., agreement between the staff, Office of the Public Counsel and the regulated gas corporation) regarding affiliate transactions on a calendar year basis and shall provide such information to the commission staff and the Office of the Public Counsel on, or before, March 15 of the succeeding year:

1. A full and complete list of all affiliated entities as defined by this rule;

2. A full and complete list of all goods and services provided to or received from affiliated entities;

3. A full and complete list of all contracts entered with affiliated entities;

4. A full and complete list of all affiliate transactions undertaken with affiliated entities without a written contract together with a brief explanation of why there was no contract;

5. The amount of all affiliate transactions, by affiliated entity and account charged; and

6. The basis used (e.g., market value, book value, etc.) to record each type of affiliate transaction.

(C) In addition each regulated gas corporation shall maintain the following information regarding affiliate transactions on a calendar year basis:

1. Records identifying the basis used (e.g., fair market price, fully distributed cost, etc.) to record all affiliate transactions; and

2. Books of accounts and supporting records in sufficient detail to permit verification of compliance with this rule.

(6) Records of Affiliated Entities.

(A) Each regulated gas corporation shall ensure that its parent and any other affiliated entities maintain books and records that include, at a minimum, the following information regarding affiliate transactions:

1. Documentation of the costs associated with affiliate transactions that are incurred by the parent or affiliate and charged to the regulated gas corporation;

2. Documentation of the methods used to allocate and/or share costs between affiliated entities, including other jurisdictions and/or corporate divisions;

3. Description of costs that are not subject to allocation to affiliate transactions and documentation supporting the nonassignment of these costs to affiliate transactions;

4. Descriptions of the types of services that corporate divisions and/or other centralized functions provided to any affiliated entity or division accessing the regulated gas corporation's contracted services or facilities;

5. Names and job descriptions of the employees from the regulated gas corporation that transferred to a nonregulated affiliated entity;

6. Evaluations of the effect on the reliability of services provided by the regulated gas corporation resulting from the access to regulated contracts and/or facilities by affiliated entities;

7. Policies regarding the availability of customer information and the access to services available to nonregulated affiliated entities desiring use of the regulated gas corporation's contracts and facilities; and

8. Descriptions of, and supporting documentation related to, any use of derivatives that may be related to the regulated gas corporation's operation even though obtained by the parent or affiliated entity.

(7) Access to Records of Affiliated Entities.

(A) To the extent permitted by applicable law, and pursuant to established commission discovery procedures, a regulated gas corporation shall make available the books and records of its parent and any other affiliated entities when required in the application of this rule.

(B) The commission shall have the authority to—

1. Review, inspect and audit books, accounts and other records kept by a regulated gas corporation or affiliated entity for the sole purpose of ensuring compliance with this rule and make findings available to the commission; and

2. Investigate the operations of a regulated gas corporation or affiliated entity and their relationship to each other for the sole purpose of ensuring compliance with this rule.

(C) This rule does not modify existing legal standards regarding which party has the burden of proof in commission proceedings.

(8) Record Retention.

(A) Records required under this rule shall be maintained by each regulated gas corporation for a period of not less than six (6) years.

(9) Enforcement.

(A) When enforcing these standards, or any order of the commission regarding these standards, the commission may apply any remedy available to the commission.

(10) The regulated gas corporation shall train and advise its personnel as to the requirements and provisions of this rule as appropriate to ensure compliance.

(11) Variances.

(A) A variance from the standards in this rule may be obtained by compliance with paragraphs (11)(A)1. or (11)(A)2. The granting of a variance to one regulated gas corporation does not constitute a waiver respecting or otherwise affect the required compliance of any other regulated gas corporation to comply with the standards. The scope of a variance will be determined based on the

facts and circumstances found in support of the application—

1. The regulated gas corporation shall request a variance upon written application in accordance with commission procedures set out in 4 CSR 240-2.060(11); or

2. A regulated gas corporation may engage in an affiliate transaction not in compliance with the standards set out in subsection (2)(A) of this rule, when to its best knowledge and belief, compliance with the standards would not be in the best interests of its regulated customers and it complies with the procedures required by subparagraphs (11)(A)2.A. and (11)(A)2.B. of this rule—

A. All reports and record retention requirements for each affiliate transaction must be complied with; and

B. Notice of the noncomplying affiliate transaction shall be filed with the secretary of the commission and the Office of the Public Counsel within ten (10) days of the occurrence of the noncomplying affiliate transaction. The notice shall provide a detailed explanation of why the affiliate transaction should be exempted from the requirements of subsection (2)(A), and shall provide a detailed explanation of how the affiliate transaction was in the best interests of the regulated customers. Within thirty (30) days of the notice of the noncomplying affiliate transaction, any party shall have the right to request a hearing regarding the noncomplying affiliate transaction. The commission may grant or deny the request for hearing at that time. If the commission denies a request for hearing, the denial shall not in any way prejudice a party's ability to challenge the affiliate transaction at the time of the annual CAM filing. At the time of the filing of the regulated gas corporation's annual CAM filing the regulated gas corporation shall provide to the secretary of the commission a listing of all noncomplying affiliate transactions which occurred between the period of the last filing and the current filing. Any affiliate transaction submitted pursuant to this section shall remain interim, subject to disallowance, pending final commission determination on whether the noncomplying affiliate transaction resulted in the best interests of the regulated customers.

(12) Nothing contained in this rule and no action by the commission under this rule shall be construed to approve or exempt any activity or arrangement that would violate the antitrust laws of the state of Missouri or of the United States or to limit the rights of any person or entity under those laws.

AUTHORITY: sections 386.250, RSMo Supp. 1998 and 393.140, RSMo 1994. Original rule filed April 26, 1999, effective Feb. 29, 2000.*

**Original authority: 386.250, RSMo 1939, amended 1963, 1967, 1977, 1980, 1987, 1988, 1991, 1993, 1995, 1996 and 393.140, RSMo 1939, amended 1949, 1967.*

4 CSR 240-40.017 HVAC Services Affiliate Transactions

PURPOSE: This rule prescribes the requirements for HVAC services affiliated entities and regulated gas corporations when such gas corporations participate in affiliated transactions with an HVAC affiliated entity as set forth in sections 386.754, 386.756, 386.760, 386.762 and 386.764, RSMo by the General Assembly of the State of Missouri.

(1) Definitions.

(A) Affiliated entity means any entity not regulated by the Public Service Commission which is owned, controlled by or under common control with a utility and is engaged in HVAC services.

(B) Control (including the terms "controlling," "controlled by," and "common control") means the possession, directly or indirectly, of the power to direct, or to cause the direction of the management or policies of an entity, whether such power is exercised through one (1) or more intermediary entities, or alone, or in conjunction with, or pursuant to an agreement with, one (1) or more other entities, whether such power is exercised through a majority or minority ownership or voting of securities, common directors, officers or stockholders, voting trusts, holding trusts, affiliated entities, contract or any other direct or indirect means. The commission shall presume that the beneficial ownership of more than ten percent (10%) of voting securities or partnership interest of an entity confers control for purposes of this rule. This provision, however, shall not be construed to prohibit a regulated gas corporation from rebutting the presumption that its ownership interest in an entity confers control.

(C) Fully distributed cost means a methodology that examines all costs of an enterprise in relation to all the goods and services that are produced. Fully distributed cost requires recognition of all costs incurred directly or indirectly used to produce a good or service. Costs are assigned either through a direct or allocated approach. Costs that cannot be directly assigned or indirectly allocated (e.g. general and administrative) must also be

included in the fully distributed cost calculation through a general allocation.

(D) HVAC services means the warranty, sale, lease, rental, installation, construction, modernization, retrofit, maintenance or repair of heating, ventilating and air conditioning (HVAC) equipment.

(E) Regulated gas corporation means a gas corporation as defined in section 386.020, RSMo, subject to commission regulation pursuant to Chapter 393, RSMo.

(F) Utility contractor means a person, including an individual, corporation, firm, incorporated or unincorporated association or other business or legal entity, that contracts, whether in writing or not in writing, with a regulated gas corporation to engage in or assist any entity in engaging in HVAC services, but does not include employees of a regulated gas corporation.

(2) A regulated gas corporation may not engage in HVAC services, except by an affiliated entity, or as provided in sections (8) and (9) of this rule.

(3) No affiliated entity or utility contractor may use any vehicles, service tools, instruments, employees, or any other regulated gas corporation assets, the cost of which are recoverable in the regulated rates for regulated gas corporation service, to engage in HVAC services unless the regulated gas corporation is compensated for the use of such assets at the fully distributed cost to the regulated gas corporation.

(A) The determination of a regulated gas corporation's cost in this section is defined in subsection (1)(D) of this rule.

(4) A regulated gas corporation may not use or allow any affiliated entity or utility contractor to use the name of such regulated gas corporation to engage in HVAC services unless the regulated gas corporation, affiliated entity or utility contractor discloses, in plain view and in bold type on the same page as the name is used on all advertisements or in plain audible language during all solicitations of such services, a disclaimer that states the services provided are not regulated by the commission.

(5) A regulated gas corporation may not engage in or assist any affiliated entity or utility contractor in engaging in HVAC services in a manner which subsidizes the activities of such regulated gas corporation, affiliated entity or utility contractor to the extent of changing the rates or charges for the regulated gas corporation's services above or below the rates or charges that would be in effect if

the regulated gas corporation were not engaged in or assisting any affiliated entity or utility contractor in engaging in such activities.

(6) Any affiliated entities or utility contractors engaged in HVAC services shall maintain accounts, books and records separate and distinct from the regulated gas corporation.

(7) The provisions of this rule shall apply to any affiliated entity or utility contractor engaged in HVAC services that is owned, controlled or under common control with the regulated gas corporation providing regulated services in the state of Missouri or any other state.

(8) A regulated gas corporation engaging in HVAC services in the state of Missouri five (5) years prior to August 28, 1998, may continue providing, to existing as well as new customers, the same type of services as those provided by the regulated gas corporation five (5) years prior to August 28, 1998.

(A) To qualify for this exemption, the regulated gas corporation shall file a pleading before the commission for approval.

1. The commission may establish a case to determine if the regulated gas corporation qualifies for an exemption under this rule.

(9) The provisions of this section shall not be construed to prohibit a regulated gas corporation from providing emergency service, providing any service required by law or providing a program pursuant to an existing tariff, rule or order of the commission.

AUTHORITY: sections 386.760.1, RSMo Supp. 1998 and 393.140, RSMo 1994. Original rule filed Dec. 17, 1998, effective Aug. 30, 1999.*

**Original authority 386.710.1, RSMo 1998 and 393.140, RSMo 1939, amended 1949, 1967.*

4 CSR 240-40.020 Incident, Annual and Safety-Related Condition Reporting Requirements

PURPOSE: This rule prescribes requirements and procedures for reporting certain gas-related incidents and safety-related conditions, and for filing annual reports. It applies to gas systems subject to the safety jurisdiction of the Public Service Commission.

Editor's Note: The secretary of state has determined that the publication of this rule in its entirety would be unduly cumbersome or expensive. The entire text of the material ref-

erenced has been filed with the secretary of state. This material may be found at the Office of the Secretary of State or at the headquarters of the agency and is available to any interested person at a cost established by state law. This rule is similar to the Minimum Federal Safety Standards contained in 49 CFR part 191, Code of Federal Regulations. Parallel citations to part 191 are provided for gas operator convenience and to promote public safety. RSPA Forms referenced in this rule are available in both the Office of the Secretary of State and the Gas Safety Section, Missouri Public Service Commission.

(1) Scope. (191.1)

(A) This rule prescribes requirements for the reporting of incidents, safety-related conditions and annual pipeline summary data by operators of gas pipeline facilities located in Missouri and under the jurisdiction of the commission.

(B) This rule does not apply to gathering of gas on private property outside of—

1. An area within the limits of any incorporated or unincorporated city, town or village; or

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

(2) Definitions. (191.3) As used in this rule and in the RSPA Forms referenced in this rule—

(A) Administrator means the administrator of the RSPA or any person to whom authority in the matter concerned has been delegated by the Secretary of the United States Department of Transportation;

(B) Commission means the Public Service Commission, Designated commission personnel means the Pipeline Safety Program Manager at the address contained in section (5) (191.7) for required correspondence and means the list of staff personnel supplied to the operators for required telephonic notices;

(C) Federal incident means any of the following events:

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

A. A death or personal injury necessitating inpatient hospitalization; or

B. Estimated property damage, including cost of gas lost, of the operator or others, or both, of fifty thousand dollars (\$50,000) or more;

2. An event that results in an emergency shutdown of an LNG facility; or

3. An event that is significant, in the judgment of the operator, even though it did

not meet the criteria of paragraphs (2)(C)1. or 2.;

(D) Gas means natural gas, flammable gas, manufactured gas or gas which is toxic or corrosive;

(E) LNG facility means a liquefied natural gas facility as defined in 193.2007 of 49 CFR part 193;

(F) 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, for instance, by rents;

(G) Municipality means a city, village or town;

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

(I) Person means any individual, firm, joint venture, partnership, corporation, association, county, state, municipality, political subdivision, cooperative association or joint stock association, and includes any trustee, receiver, assignee or personal representative of them;

(J) 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 appurtenances attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders and fabricated assemblies;

(K) RSPA means the Research and Special Programs Administration of the United States Department of Transportation; and

(L) 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.

(3) Telephonic Notice of Federal Incidents. (191.5)

(A) At the earliest practicable moment following discovery, each operator shall give notice, in accordance with subsection (3)(B), of each federal incident as defined in section (2) (191.3).

(B) Each notice required by subsection (3)(A) shall be made by telephone to 800-424-8802 and shall include the following information:

1. Names of operator and person making report and their telephone numbers;
2. Location of the incident;
3. Time of the incident;

4. Number of fatalities and personal injuries, if any; and

5. All other significant facts known by the operator that are relevant to the cause of the incident or extent of the damages.

(4) Missouri Reporting Requirements.

(A) Within two (2) hours following discovery by the operator, or as soon thereafter as practicable if emergency efforts to protect life and property would be hindered, each gas operator shall notify designated commission personnel by telephone of the following events within areas served by the operator:

1. An event that involves a release of gas involving the operator's actions or facilities, or where there is a suspicion by the operator that the event may involve a release of gas involving the operator's actions or facilities, and involves—

A. A death;

B. A personal injury involving medical care administered in an emergency room or health care facility, whether inpatient or outpatient, beyond initial treatment and prompt release after evaluation by a health care professional; or

C. Estimated property damage, including cost of gas lost, to the gas operator or others, or both, of ten thousand dollars (\$10,000) or more; or

2. An event that is significant, in the judgement of the operator, even though it did not meet the criteria of paragraph (4)(A)1.

(B) Exceeding the two (2)-hour notification time period in (4)(A) requires submission of a written explanation of reasons with the operator's incident report.

(C) Within thirty (30) days of a telephonic notification made under subsection (4)(A), each gas operator shall submit U.S. Department of Transportation Form RSPA F 7100.1 or RSPA F 7100.2, as applicable, to designated commission personnel. A copy of both incident report forms is printed at the end of this rule. An incident report is required when an event causes the criteria listed in paragraphs (4)(A)1. or 2. to be met. Additional information required in subsections (6)(B) and (9)(B) (191.9[b] and 191.15[b]) shall apply.

(D) Federal incident and annual reports required by this rule shall be submitted in duplicate to designated commission personnel as follows:

1. Federal incident reports required by section(s) (6) or (9), or both, (191.9 or 191.15, or both) shall be submitted as soon as practicable but not more than thirty (30) days after detection of the incident. Upon receipt and processing of these reports, the designated commission personnel, within ten

(10) days, shall transmit one (1) copy to the Information Resources Manager at RSPA; and

2. Annual reports required by section(s) (7) or (10), or both, (191.11 or 191.17, or both) shall be submitted no later than February 28 of each year. Upon receipt and processing of these reports, the designated commission personnel shall transmit one (1) copy by March 15 to the Information Resources Manager at RSPA.

(E) Safety-related condition reports required by section (12) (191.23) shall be submitted concurrently to the Associate Administrator, Office of Pipeline Safety at RSPA and to designated commission personnel. A safety-related condition report can be submitted to the addresses provided in section (5) (191.7) or by telefacsimile (fax) as provided for in section (13).

(5) Addressee for Written Reports. (191.7) Incident, annual and safety-related condition reports shall be submitted to designated commission personnel as required by section (4). The address for the designated commission personnel is Pipeline Safety Program Manager, Missouri Public Service Commission, P.O. Box 360, Jefferson City, MO 65102. As required by subsection (4)(E), safety-related condition reports must be submitted concurrently to the Associate Administrator, Office of Pipeline Safety at RSPA by mail or by telefacsimile (fax). If submitted by mail, the address is Information Resources Manager, Office of Pipeline Safety, Research and Special Programs Administration, U.S. Department of Transportation, Room 8417, 400 Seventh Street S.W., Washington, D.C. 20590. Safety-related condition reports may be submitted by fax as provided for in section (13).

(6) Distribution System—Federal Incident Report. (191.9)

(A) Except as provided in subsection (6)(C), each operator of a distribution pipeline system shall submit U.S. Department of Transportation Form RSPA F 7100.1 to designated commission personnel in accordance with subsection (4)(D) following each incident required to be reported under section (3). A copy of Form RSPA F 7100.1 is printed at the end of this rule.

(B) When additional relevant information is obtained after the report is submitted under subsection (6)(A), 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.

(7) Distribution System—Annual Report. (191.11)

(A) Except as provided in subsection (7)(B), each operator of a distribution pipeline system shall submit an annual report for that system on U.S. Department of Transportation Form RSPA F 7100.1-1. This report must be submitted each year as required by section (4) for the preceding calendar year. A copy of Form RSPA F 7100.1-1 is printed at the end of this rule.

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

1. Petroleum gas systems which serve fewer than one hundred (100) customers from a single source;

2. Master meter systems; or

3. LNG facilities.

(8) Distribution Systems Reporting Transmission Pipelines—Transmission or Gathering Systems Reporting Distribution Pipelines. (191.13) 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 sections (9) and (10) (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 sections (6) and (7) (191.9 and 191.11).

(9) Transmission and Gathering Systems—Federal Incident Report. (191.15)

(A) Except as provided in subsection (9)(C), each operator of a transmission or a gathering pipeline system shall submit U.S. Department of Transportation Form RSPA F 7100.2 to designated commission personnel in accordance with subsection (4)(D) following each incident required to be reported under section (3). A copy of Form RSPA F 7100.2 is printed at the end of this rule.

(B) When additional related information is obtained after a report is submitted under subsection (9)(A), 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 subsection (9)(A) need not be submitted with respect to LNG facilities.

(10) Transmission and Gathering Systems—Annual Report. (191.17)

(A) Except as provided in subsection (10)(B), each operator of a transmission or a gathering pipeline system shall submit an annual report for that system on U.S. Department of Transportation Form RSPA F 7100.2-1. As required by section (4), this report must be submitted each year for the preceding calendar year. A copy of Form RSPA F 7100.2-1 is printed at the end of this rule.

(B) The annual report required by subsection (10)(A) need not be submitted with respect to LNG facilities.

(11) Report Forms. (191.19) Copies of the prescribed report forms are available without charge upon request from the Information Resource Manager's address given in section (5) (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. A copy of each report form is printed at the end of this rule.

(12) Reporting Safety-Related Conditions. (191.23)

(A) Except as provided in subsection (12)(B), each operator shall report in accordance with section (13) (191.25) the existence of any of the following safety-related conditions involving facilities in service:

1. In the case of the pipeline (other than an LNG facility) that operates at a hoop stress of twenty percent (20%) 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, for instance, 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 stress of twenty percent (20%) 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 buildup 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; and

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 twenty percent (20%) 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 two hundred twenty (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 (12)(A)1. other than localized corrosion pitting on an effectively coated and cathodically protected pipeline.

(13) Filing Safety-Related Condition Reports. (191.25)

(A) Each report of a safety-related condition under subsection (12)(A) (191.23[a]) must be filed (received by the Associate Administrator, Office of Pipeline Safety at RSPA and designated commission personnel as required by subsection (4)(E)) in writing within five (5) 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 ten (10) working days after the day a representative of the operator discovers the possibility of a condition. Separate conditions may be described in a single report if they are closely related. To file a report by telefacsimile (fax), dial (202) 366-7128 for the Associate Administrator, Office of Pipeline Safety

and (573) 751-1847 for designated commission personnel.

(B) The report must be titled Safety-Related Condition Report and provide the following information:

1. Name and principal address of the operator;

2. Date of report;

3. Name, job title and business telephone number of the person submitting the report;

4. Name, job title and business telephone number of the person who determined that the condition exists;

5. Date the condition was discovered and date the condition was first determined to exist;

6. Location of the condition, with reference to the state (and town, city, or county), and as appropriate, nearest street address, 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; and

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.

AUTHORITY: sections 386.250, 386.310, and 393.140, RSMo 2000. Original rule filed Feb. 5, 1970, effective Feb. 26, 1970. Amended: Filed Dec. 19, 1975, effective Dec. 29, 1975. Amended: Filed Feb. 8, 1985, effective Aug. 11, 1985. Rescinded and readopted: Filed May 17, 1989, effective Dec. 15, 1989. Amended: Filed Oct. 7, 1994, effective May 28, 1995. Amended: Filed April 9, 1998, effective Nov. 30, 1998. Amended: Filed Dec. 14, 2000, effective May 30, 2001.*

**Original authority: 386.250, RSMo 1939, amended 1963, 1967, 1977, 1980, 1987, 1988, 1991, 1993, 1995, 1996; 386.310, RSMo 1939, amended 1979, 1989, 1996; and 393.140, RSMo 1939, amended 1949, 1967.*



NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed \$1,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed \$200,000 as provided in 49 USC 1678. Form Approved OMB No. 2137-0522

ANNUAL REPORT FOR CALENDAR YEAR 19 _____ **INITIAL REPORT**

GAS DISTRIBUTION SYSTEM **SUPPLEMENTAL REPORT**

U.S. Department of Transportation
Research and Special Programs
Administration

PART A – OPERATOR INFORMATION

1. NAME OF COMPANY OR ESTABLISHMENT _____

2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED

Number and Street _____

City and County _____

State and Zip Code _____

DOT USE ONLY

3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER (WHEN KNOWN) _____

4. HEADQUARTERS NAME & ADDRESS IF DIFFERENT _____

5. STATES IN WHICH SYSTEM OPERATES _____

PART B – SYSTEM DESCRIPTION Report miles of main and number of services in system at end of year

1. GENERAL

	STEEL				PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	OTHER
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED						
MILES OF MAINS										
NO. OF SERVICES										

2. MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"
STEEL						
DUCTILE IRON						
COPPER						
CAST/WROUGHT IRON						
PLASTIC						
1. PVC						
2. PE						
3. ABS						
OTHER						
OTHER						
SYSTEM TOTALS						

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR AVERAGE SERVICE LENGTH _____ FEET

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"
STEEL						
DUCTILE IRON						
COPPER						
CAST/WROUGHT IRON						
PLASTIC						
1. PVC						
2. PE						
3. ABS						
OTHER						
OTHER						
SYSTEM TOTALS						

Form RSPA F 7100 1-1 (11-85)
(Supersedes DOT F 7100 1-1)

Reproduction of this form is permitted.

MATT BLUNT (4/30/01)
Secretary of State

CODE OF STATE REGULATIONS

13



PART C – TOTAL LEAKS		PART D – TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED FOR REPAIR	
CAUSE	ELIMINATED/REPAIRED DURING YEAR		<p>_____</p> PART E – PERCENT OF UNACCOUNTED FOR GAS
	Mains	Services	
CORROSION			
THIRD PARTY			
OUTSIDE FORCE			
CONSTRUCTION DEFECT			
MATERIAL DEFECT			
OTHER			Unaccounted for gas as a percent of total input for year ending 6/30 ____ %
NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR _____			
PART F – ADDITIONAL INFORMATION			
PART G – PREPARER AND AUTHORIZED SIGNATURE			
_____		_____ / _____	
Prepared by (type/print)		telephone	
_____		_____ / _____	
Name and Title of Person Signing		telephone	Authorized Signature

U.S. Department of Transportation
Research and Special Programs Administration
 400 Seventh St. SW
 Washington, DC 20590

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 DOT-513



**Information Resources Manager
 Office of Pipeline Safety, DPS-3.3
 Research and Special Programs Administration
 400 7th Street, S.W.
 Washington, D.C. 20590**



NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed \$1,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed \$200,000 as provided in 49 USC 1678. Form Approved OMB No. 2137-0522

 US Department of Transportation Research and Special Programs Administration	INCIDENT REPORT – GAS DISTRIBUTION SYSTEM	Report Date _____ No. _____ (RSPA)
PART 1 – GENERAL REPORT INFORMATION		
SEE INSTRUCTIONS		
1. a. Operator's 5 digit Identification No. _____ b. Name of Operator _____ c. _____ Number and Street _____ d. _____ City, County, State and Zip Code _____ 2. Location of Incident a. _____ Number and Street _____ b. _____ City and County _____ c. _____ State and Zip Code _____ d. Class Location <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 e. Incident on Federal Land <input type="checkbox"/> Yes <input type="checkbox"/> No 3. Time and Date of Incident _____/hour _____/mo _____/day _____/yr	4. Reason for Reporting <input type="checkbox"/> Fatality Number _____ persons <input type="checkbox"/> Injury requiring inpatient hospitalization Number _____ persons <input type="checkbox"/> Property damage/loss Estimate \$ _____ <input type="checkbox"/> Operator Judgment/Emergency Action <input type="checkbox"/> Supplemental Report 5. Elapsed time until area was made safe _____/hr _____/mn 6. Telephonic Report: _____/mo _____/day _____/yr 7. a. Estimated pressure at point and time of incident (PSIG) _____ b. Maximum allowable operating pressure (MAOP) (PSIG) _____ c. MAOP established by: (1) Test pressure _____ (PSIG) (2) 49 CFR §192.619(a)(3) <input type="checkbox"/>	
PART 2 – APPARENT CAUSE		
<input type="checkbox"/> Corrosion (Continue in Part A) <input type="checkbox"/> Damage by Outside Forces (Continue in Part B) <input type="checkbox"/> Construction/Operating Error (Continue in Part C) <input type="checkbox"/> Other _____ <input type="checkbox"/> Accidentally caused by operator (Continue in Parts B and/or C)		
PART 3 – NARRATIVE DESCRIPTION OF FACTORS CONTRIBUTING TO THE INCIDENT (Attach additional sheet(s) as necessary)		
PART 4 – ORIGIN OF THE INCIDENT		
1. Part of System Where Incident Occurred <input type="checkbox"/> Main <input type="checkbox"/> Meter Set Assembly <input type="checkbox"/> Service Line <input type="checkbox"/> Other _____ 3. Material Involved: <input type="checkbox"/> Steel <input type="checkbox"/> Cast iron <input type="checkbox"/> Polyethylene plastic <input type="checkbox"/> Other plastic: _____ <input type="checkbox"/> Other _____ NPS (Nominal Pipe Size) _____ in. Wall Thickness _____ in. 4. Specification _____ Manufacturer _____ Year Manufactured _____ Year installed _____	2. Component Which Failed a. Part <input type="checkbox"/> Body of Pipe <input type="checkbox"/> Valve <input type="checkbox"/> Joint, type _____ <input type="checkbox"/> Regulator/meter <input type="checkbox"/> Fitting <input type="checkbox"/> Weld, specify _____ <input type="checkbox"/> Drip/Riser girth, longitudinal, fillet <input type="checkbox"/> Other _____	
PART 5 – ENVIRONMENT		
Area of Incident <input type="checkbox"/> Within/Under Building <input type="checkbox"/> Under Pavement <input type="checkbox"/> Above Ground <input type="checkbox"/> Under Ground or Under Water <input type="checkbox"/> Other _____		
PART 6 – PREPARER AND AUTHORIZED SIGNATURE		
_____ (type or print) Preparer's Name and Title		_____ Telephone Number
_____ Authorized Signature and Date		_____ Telephone Number

Form RSPA F 7100.1 (3-84)

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PART A – CORROSION		
1. Where did the corrosion occur? <input type="checkbox"/> Internally <input type="checkbox"/> Externally	2. Visual Description <input type="checkbox"/> Localized Pitting <input type="checkbox"/> General Corrosion <input type="checkbox"/> Other _____	3. Cause <input type="checkbox"/> Galvanic <input type="checkbox"/> Other _____
4. Pipe Coating Information <input type="checkbox"/> Bare <input type="checkbox"/> Coated		
5. Was corroded part of pipeline considered to be under cathodic protection prior to discovering incident? <input type="checkbox"/> Yes Year protection started / / / / / <input type="checkbox"/> No		
6. Additional Information		
PART B – DAMAGE BY OUTSIDE FORCES		
1. Primary Cause of Incident <input type="checkbox"/> Damage resulted from action of operator or his agent <input type="checkbox"/> Damage resulted from action by outside party/third party <input type="checkbox"/> Damage by earth movement <input type="checkbox"/> Subsidence <input type="checkbox"/> Landslide/Washout <input type="checkbox"/> Frost <input type="checkbox"/> Other _____ <input type="checkbox"/> Damage by lightning or fire		
2. Locating information (for damage resulting from action of outside party/third party)		
a. Did operator get prior notification that equipment would be used in the area? <input type="checkbox"/> Yes Date received / / mo / / day / / yr <input type="checkbox"/> No		
b. Was pipeline location marked either as a result of notification or by markers already in place? <input type="checkbox"/> Yes <input type="checkbox"/> Permanent Markers <input type="checkbox"/> Temporary Stakes <input type="checkbox"/> Other _____ <input type="checkbox"/> No		
c. Does Statute or ordinance require the outside party to determine whether underground facility(ies) exist? <input type="checkbox"/> Yes <input type="checkbox"/> No		
3. Additional Information		
PART C – CONSTRUCTION DEFECT		
1. Cause <input type="checkbox"/> Poor Workmanship during Construction <input type="checkbox"/> Physical Damage During Construction		
<input type="checkbox"/> Operating Procedure Inappropriate <input type="checkbox"/> Other _____		
<input type="checkbox"/> Error in Operating Procedure Application		
2. Additional Information		
PART D – OTHER		
Brief Description:		



NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed \$1,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed \$200,000 as provided in 49 USC 1678. Form Approved OMB No. 2137-0522

	INCIDENT REPORT – GAS TRANSMISSION AND GATHERING SYSTEMS	Report Date _____ No. _____ (RSPA)
U.S. Department of Transportation Research and Special Programs Administration		
PART 1 – GENERAL REPORT INFORMATION		
*SEE INSTRUCTIONS**		
1. a. Operator's 5 digit identification no. _____ b. Name of Operator _____ c. _____ Number and Street d. _____ City, County, State and Zip Code 2. Location of Incident a. _____ City and County b. _____ State and Zip Code c. Mile Post/Valve Stat. _____ d. Survey Station No. _____ e. Class Location Onshore <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 Offshore <input type="checkbox"/> _____ area block number State _____ or Outer Continental Shelf _____ f. Incident on Federal Land other than Outer Continental Shelf <input type="checkbox"/> Yes <input type="checkbox"/> No 3. Incident Type <input type="checkbox"/> Leak <input type="checkbox"/> Rupture <input type="checkbox"/> Other Rupture Length (feet) -- -- _____	4. Reason for Reporting <input type="checkbox"/> Fatality Number _____ persons <input type="checkbox"/> Injury requiring inpatient hospitalization Number _____ persons <input type="checkbox"/> Property damage/loss Estimated \$ _____ <input type="checkbox"/> Operator Judgment <input type="checkbox"/> Supplemental Report 5. Elapsed time until area was made safe _____ / hr _____ / mn 6. Telephonic Report _____ / mo _____ / day _____ / yr 7. a. Estimated Pressure at Point and Time of Incident (PSIG) _____ b. Maximum allowable operating pressure (MAOP) (PSIG) _____ c. MAOP established by: (1) Test pressure _____ (PSIG) (2) 49 CFR §192.619(a)(3) <input type="checkbox"/> 8. Time and Date of the Incident _____ / hour _____ / mo _____ / day _____ / yr	
PART 2 – APPARENT CAUSE		
<input type="checkbox"/> Corrosion (Continue in Part A) <input type="checkbox"/> Damage by Outside Forces (Continue in Part B) <input type="checkbox"/> Construction/Material Defect (Continue in Part C) <input type="checkbox"/> Other _____		
PART 3 – NARRATIVE DESCRIPTION OF FACTORS CONTRIBUTING TO THE INCIDENT (Attach additional sheet(s) as necessary)		
PART 4 – ORIGIN OF THE INCIDENT		
1. Incident Occurred On: <input type="checkbox"/> Transmission System <input type="checkbox"/> Gathering System <input type="checkbox"/> Transmission Line of Distribution System 2. Failure Occurred On: <input type="checkbox"/> Body of Pipe <input type="checkbox"/> Fitting, Specify _____ <input type="checkbox"/> Mechanical Joint <input type="checkbox"/> Other, Specify _____ <input type="checkbox"/> Valve <input type="checkbox"/> Weld, Specify _____ (girth, longitudinal, fillet)	3. Material Involved: <input type="checkbox"/> Steel <input type="checkbox"/> Other, Specify _____ 4. Part of System Involved in Incident a. Part <input type="checkbox"/> Pipeline <input type="checkbox"/> Regulator/Metering System <input type="checkbox"/> Compressor Station <input type="checkbox"/> Other _____ b. Year installed _____	
PART 5 – MATERIAL SPECIFICATION	PART 6 – ENVIRONMENT	
1. Nominal Pipe Size _____ in. 2. Wall Thickness _____ in. 3. Specification _____ SMYS _____ 4. Seam Type _____ 5. Valve, Type _____ 6. Manufactured by _____ in year _____	Area of Incident <input type="checkbox"/> Under Pavement <input type="checkbox"/> Above Ground <input type="checkbox"/> Under Ground <input type="checkbox"/> Under Water <input type="checkbox"/> Other _____	
PART 7 – PREPARER AND AUTHORIZED SIGNATURE		
_____ (type or print) Preparer's Name and Title		_____ Telephone Number
_____ Authorized Signature and Date		_____ Telephone Number

Form RSPA F 7100.2 (3-84)


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PART A – CORROSION		
<p>1. Where did corrosion occur?</p> <p><input type="checkbox"/> Internally</p> <p><input type="checkbox"/> Externally</p> <p>4. Pipe Coating Information</p> <p><input type="checkbox"/> Bare <input type="checkbox"/> Coated</p> <p>5. Was corroded part of pipeline considered to be under cathodic protection prior to discovering incident?</p> <p><input type="checkbox"/> Yes Year Protection Started <u> </u>/<u> </u>/<u> </u></p> <p><input type="checkbox"/> No</p> <p>6. Additional Information</p>	<p>2. Visual Description</p> <p><input type="checkbox"/> Localized Pitting</p> <p><input type="checkbox"/> General Corrosion</p> <p><input type="checkbox"/> Other _____</p>	<p>3. Cause</p> <p><input type="checkbox"/> Galvanic</p> <p><input type="checkbox"/> Other _____</p>
PART B – DAMAGE BY OUTSIDE FORCES		
<p>1. Primary Cause of Incident</p> <p><input type="checkbox"/> Damage resulted from action of operator or his agent</p> <p><input type="checkbox"/> Damage resulted from action by outside party/third party</p> <p><input type="checkbox"/> Damage by earth movement</p> <p style="padding-left: 20px;"><input type="checkbox"/> Subsidence</p> <p style="padding-left: 20px;"><input type="checkbox"/> Landslide/Washout</p> <p style="padding-left: 20px;"><input type="checkbox"/> Frost</p> <p style="padding-left: 20px;"><input type="checkbox"/> Other _____</p> <p>2. Locating information (for damage resulting from action of outside party/third party)</p> <p>a. Did operator get prior notification that equipment would be used in the area?</p> <p><input type="checkbox"/> Yes Date received <u> </u>/<u> </u>/<u> </u> mo <u> </u>/<u> </u> day <u> </u>/<u> </u> yr</p> <p><input type="checkbox"/> No</p> <p>b. Was pipeline location marked either as a result of notification or by markers already in place?</p> <p><input type="checkbox"/> Yes Specify type of marking: _____</p> <p><input type="checkbox"/> No</p> <p>c. Does Statute or ordinance require the outside party to determine whether underground facility(ies) exist?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p>3. Additional Information</p>		
PART C – CONSTRUCTION OR MATERIAL DEFECT		
<p>1. Cause of Defect</p> <p><input type="checkbox"/> Construction <input type="checkbox"/> Material (describe in C.4 below)</p> <p>2. Description of Component Other than Pipe</p> <p>3. Latest Test Data</p> <p>a. Was part which leaked pressure tested before incident occurred?</p> <p><input type="checkbox"/> Yes Date of Test <u> </u>/<u> </u>/<u> </u> mo <u> </u>/<u> </u> day <u> </u>/<u> </u> yr</p> <p><input type="checkbox"/> No</p> <p>b. Test Medium <input type="checkbox"/> Water <input type="checkbox"/> Gas <input type="checkbox"/> Other _____</p> <p>c. Time held at test pressure <u> </u>/<u> </u>/<u> </u> hr</p> <p>d. Estimated test pressure at point of incident (psig) _____</p> <p>4. Additional Information</p>		



NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed \$1,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed \$200,000 as provided in 49 USC 1678. Form Approved OMB No. 2137-0522



US Department of Transportation
Research and Special Programs
Administration

ANNUAL REPORT FOR CALENDAR YEAR 19_____
GAS TRANSMISSION & GATHERING SYSTEMS

INITIAL REPORT

SUPPLEMENTAL REPORT

PART A – OPERATOR INFORMATION

DOT USE ONLY

--	--	--	--	--	--	--	--	--	--

1. NAME OF COMPANY OR ESTABLISHMENT _____

2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED

Number & Street _____

City & County _____

State & Zip Code _____

3. STATES IN WHICH SYSTEM OPERATES _____

4. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER (WHEN KNOWN) _____

5. HEADQUARTERS NAME & ADDRESS, IF DIFFERENT _____

PART B – SYSTEM DESCRIPTION Report miles of pipeline in system at end of year

1. GENERAL – MILES OF PIPE

	STEEL				CAST IRON WROUGHT IRON PIPE UNPROTECTED	PLASTIC PIPE	OTHER PIPE
	CATHODICALLY PROTECTED		UNPROTECTED				
	BARE	COATED	BARE	COATED			
TRANSMISSION							
ONSHORE							
OFFSHORE							
GATHERING							
ONSHORE							
OFFSHORE							

2. MILES OF PIPE BY NOMINAL SIZE

	UNKNOWN	4" OR LESS	OVER 4" THRU 10"	OVER 10" THRU 20"	OVER 20" THRU 28"	OVER 28"
TRANSMISSION						
ONSHORE						
OFFSHORE						
GATHERING						
ONSHORE						
OFFSHORE						
SYSTEM TOTALS						

PART C – TOTAL LEAKS ELIMINATED/REPAIRED DURING YEAR

ITEMS	TRANSMISSION		GATHERING	
	ONSHORE	OFFSHORE	ONSHORE	OFFSHORE
CORROSION				
OUTSIDE FORCES				
CONST./MAT. DEFECTS				
OTHER				

PART E – NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR

1. TRANSMISSION _____

2. GATHERING _____

PART D – TOTAL NUMBER OF LEAKS ON FEDERAL LAND OR OCS REPAIRED OR SCHEDULED FOR REPAIR

1. TRANSMISSION

 ONSHORE _____

 OFFSHORE _____

 OUTER CONTINENTAL SHELF _____

2. GATHERING

 ONSHORE _____

 OFFSHORE _____

 OUTER CONTINENTAL SHELF _____

PART F – PREPARER AND AUTHORIZED SIGNATURE

Prepared by (type/print) _____ / _____
telephone _____

Name and Title _____ Telephone Number _____ Authorized Signature _____

Form RSPA F 7100.2-1 (11-85)
(Supersedes DOT F 7100.2-1)

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MATT BLUNT (4/30/01)
Secretary of State

CODE OF STATE REGULATIONS

19



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Special Programs
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**Information Resources Manager
Office of Pipeline Safety, DPS-3.3
Research and Special Programs Administration
400 7th Street, S.W.
Washington, D.C. 20590**

4 CSR 240-40.030 Safety Standards—Transportation of Gas by Pipeline

PURPOSE: This rule prescribes minimum safety standards regarding the design, fabrication, installation, construction, metering, corrosion control, operation, maintenance, leak detection, repair and replacement of pipelines used for the transportation of natural and other gas.

Publisher's Note: The publication of the full text of the material that the adopting agency has incorporated by reference in this rule would be unduly cumbersome or expensive. Therefore, the full text of that material will be made available to any interested person at both the Office of the Secretary of State and the office of the adopting agency, pursuant to section 536.031.4, RSMo. Such material will be provided at the cost established by state law. This rule is similar to the Minimum Federal Safety Standards contained in 49 CFR part 192, Code of State Regulations. Parallel citations to Part 192 are provided for gas operator convenience and to promote public safety. Materials referenced in Appendices–D are available in both the secretary of state's office and the Gas Safety Section, Missouri Public Service Commission, Appendix E, contained in this rule, is a Table of Contents for 4 CSR 240-40.030. These documents are also available at the addresses provided in the Appendices.

(1) General.**(A) Scope of Rule. (192.1)**

1. This rule prescribes minimum safety requirements for pipeline facilities and the transportation of gas in Missouri and under the jurisdiction of the commission.

2. This rule does not apply to—

A. The gathering of gas on private property outside of—

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

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

B. Any pipeline system that transports only petroleum gas or petroleum gas/air mixture to—

(I) Fewer than ten (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).

(B) Definitions. (192.3) As used in this rule—

1. Abandoned means permanently removed from service;

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

3. Building means any structure that is regularly or periodically occupied by people;

4. Commission means the Missouri Public Service Commission, and designated commission personnel means the Pipeline Safety Program Manager at the address contained in 4 CSR 240-40.020(5) for required correspondence;

5. Distribution line means a pipeline other than a gathering or transmission line, and feeder line means a distribution line that has a maximum allowable operating pressure (MAOP) greater than 100 psi (689 kPa) gauge that produces hoop stresses less than twenty percent (20%) of specified minimum yield strength (SMYS);

6. Follow-up inspection means an inspection performed after a repair procedure has been completed to determine the effectiveness of the repair and to ensure that all hazardous leaks in the area are corrected;

7. Fuel line means the customer-owned gas piping downstream from the outlet of the customer meter or operator-owned pipeline, whichever is farther downstream;

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

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

10. High-pressure distribution system means a distribution system in which the gas pressure in the main is higher than an equivalent to fourteen inches (14") water column;

11. Hoop stress means the stress in a pipe wall acting circumferentially in a plane perpendicular to the longitudinal axis of the pipe produced by the pressure in the pipe;

12. Listed specification means a specification listed in subsection I. of Appendix B;

13. Low pressure distribution system means a distribution system in which the gas pressure in the main is less than or equal to an equivalent of fourteen inches (14") water column;

14. Main means a distribution line that serves as a common source of supply for more than one (1) service line;

15. Maximum actual operating pressure means the maximum pressure that occurs

during normal operations over a period of one (1) year;

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

17. Municipality means a city, village or town;

18. Operator means a person who engages in the transportation of gas, and person means any individual, firm, joint venture, partnership, corporation, association, county, state, municipality, political subdivision, cooperative association or joint stock association and including any trustee, receiver, assignee or personal representative of them;

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

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

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

22. Pipeline facility means new and existing pipeline, 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;

23. Reading means the highest sustained reading when testing in a bar hole or opening without induced ventilation;

24. Service line means a distribution line that transports gas from a common source of supply to a) a customer meter or the connection to a customer's piping, whichever is farther downstream, or b) 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;

25. SMYS means specified minimum yield strength is—

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

B. For steel pipe manufactured in accordance with an unknown or unlisted specification, the yield strength determined in accordance with paragraph (3)(D)2. (192.107[b]);

26. Sustained reading means the reading taken on a combustible gas indicator unit after adequately venting the test hole or opening;

27. 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 (A large volume customer may receive similar volumes of gas as a distribution center, and includes factories, power plants, and institutional users of gas);

B. Operates at a hoop stress of twenty percent (20%) or more of SMYS; or

C. Transports gas within a storage field;

28. Transportation of gas means the gathering, transmission or distribution of gas by pipeline or the storage of gas in Missouri;

29. Tunnel means a subsurface passage-way large enough for a man to enter;

30. Vault or manhole means a subsurface structure that a man can enter; and

31. Yard line means an underground fuel line that transports gas from the service line to the customer's building. If multiple buildings are being served, building shall mean the building nearest to the connection to the service line. For purposes of this definition, if aboveground fuel line piping at the meter location is located within five feet (5') of a building being served by that meter, it shall be considered to the customer's building and no yard line exists. At meter locations where aboveground fuel line piping is located greater than five feet (5') from the building(s) being served, the underground fuel line from the meter to the entrance into the nearest building served by that meter shall be considered the yard line and any other lines are not considered yard lines.

(C) Class Locations. (192.5)

1. This subsection classifies pipeline locations for the purpose of this rule. The following criteria apply to classifications under this section:

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

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

2. Except as provided in paragraph (1)(C)3., pipeline locations are classified as follows:

A. A Class 1 location is any class location unit that has ten (10) or fewer buildings intended for human occupancy;

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

C. A Class 3 location is—

(I) Any class location unit that has forty-six (46) or more buildings intended for human occupancy; or

(II) An area where the pipeline lies within one hundred (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 twenty (20) or more persons on at least five (5) days a week for ten (10) weeks in any twelve (12)-month period (The days and weeks need not be consecutive); and

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

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

A. A Class 4 location ends two hundred twenty (220) yards (200 meters) from the nearest building with four (4) or more stories aboveground; and

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

(D) Incorporation By Reference. (192.7)

1. Any documents or portions of them incorporated by reference in this rule are included in this rule as though set out in full. When only a portion of a document is incorporated by reference, the remainder is not incorporated in this rule.

2. All incorporated documents are available for inspection in the offices of the Missouri Public Service Commission, Truman State Office Building, 301 W. High, Jefferson City, Missouri. In addition, the documents are available at the addresses provided in Appendix A.

3. The full titles for the publications incorporated by reference in this rule are provided in Appendix A to this rule. 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 at the time they were listed. The user must refer to the appropriate previous edition of 49 CFR part 192 for a listing of the earlier listed editions or documents.

(E) Gathering Lines. (192.9) Except as provided in subsections (1)(A) and (4)(HH), each operator of a gathering line must comply with the requirements of this rule applicable to transmission lines.

(F) Petroleum Gas Systems. (192.11)

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

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

3. In the event of a conflict between this rule and ANSI/NFPA 58 and 59, ANSI/NFPA 58 and 59 prevail.

(G) General. (192.13)

1. No person may operate a segment of pipeline that is readied for service after March 12, 1971 unless—

A. The pipeline has been designed, installed, constructed, initially inspected and initially tested in accordance with this rule; or

B. The pipeline qualifies for use under this rule in accordance with subsection (1)(H). (192.14)

2. No person may operate a segment of pipeline that is replaced, relocated or otherwise changed after November 12, 1970, unless that replacement, relocation or change has been made in accordance with this rule.

3. Each operator shall maintain, modify as appropriate, and follow the plans, procedures and programs that it is required to establish under this rule.

4. This section and sections (9), (11)–(16) apply regardless of installation date. The requirements within other sections of this rule apply regardless of the installation date only when specifically stated as such.

(H) Conversion to Service Subject to this Rule. (192.14)

1. Except as provided in paragraph (1)(H)3., a steel pipeline previously used in service not subject to this rule qualifies for use under this rule if the operator prepares and follows a written procedure to carry out the following requirements:

A. 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;

B. 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;

C. All known unsafe defects and conditions must be corrected in accordance with this rule; and

D. The pipeline must be tested in accordance with section (10) to substantiate the maximum allowable operating pressure permitted by section (12).

2. Each operator must keep for the life of the pipeline a record of investigations, tests, repairs, replacements and alterations made under the requirements of paragraph (1)(H)1.

3. This paragraph lists situations where steel pipe may not be converted to service subject to this rule.

A. Steel yard lines that are not cathodically protected must be replaced under subsection (15)(C).

B. Buried steel fuel lines that are not cathodically protected may not be converted to a pipeline as defined in paragraph (1)(B)21., such as a service line or main.

C. Buried steel pipes that are not cathodically protected may not be converted to a service line.

D. Buried steel pipes that are not cathodically protected may not be converted to a main in Class 3 and Class 4 locations.

(I) Rules of Regulatory Construction. (192.15)

1. As used in this rule—

A. Includes means including, but not limited to;

B. May means is permitted to or is authorized to;

C. May not means is not permitted to or is not authorized to; and

D. Shall is used in the mandatory and imperative sense.

2. In this rule—

A. Words importing the singular include the plural;

B. Words importing the plural include the singular; and

C. Words importing the masculine gender include the feminine.

(J) Filing of Required Plans, Procedures and Programs. Each operator shall file with designated commission personnel all plans, procedures and programs required by this rule (to include welding and joining procedures, construction standards, corrosion control procedures, replacement programs, operating and maintenance plans, damage prevention programs and emergency plans). In addition, each change must be filed with designated commission personnel within twenty (20) days after the change is made.

(K) Customer Notification Required by Section 192.16 of 49 CFR part 192. (192.16)

1. This subsection 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 subsection, "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 subsection (9)(I) if the customer's buried piping is metallic, survey for leaks according to subsection (13)(M), and if an unsafe condition is found, take action according to paragraph (12)(S)3.

2. Each operator shall notify each customer once in writing of the following information:

A. The operator does not maintain the customer's buried piping;

B. If the customer's buried piping is not maintained, it may be subject to the potential hazards of corrosion and leakage;

C. 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;

D. When excavating near buried gas piping, the piping should be located in advance, and the excavation done by hand; and

E. The operator (if applicable), plumbing contractors, and heating contractors can assist in locating, inspecting, and repairing the customer's buried piping.

3. Each operator shall notify each customer not later than August 14, 1996, or ninety (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.

4. Each operator must make the following records available for inspection by designated commission personnel:

A. A copy of the notice currently in use; and

B. Evidence that notices have been sent to customers within the previous three (3) years.

(L) Customer Notification Required by Paragraph (12)(S)2. When providing gas service to a new customer or a customer relo-

cated from a different operating district, the operator must provide the customer notification required by paragraph (12)(S)2.

(2) Materials.

(A) Scope. (192.51) This section prescribes minimum requirements for the selection and qualification of pipe and components for use in pipelines.

(B) General. (192.53) Materials for pipe and components must be—

1. Able to maintain the structural integrity of the pipeline under temperature and other environmental conditions that may be anticipated;

2. Chemically compatible with any gas that they transport and with any other material in the pipeline with which they are in contact;

3. Qualified in accordance with the applicable requirements of this section; and

4. Only of steel or polyethylene for pipe for the underground construction of pipelines, except that other previously qualified materials may be used for—

A. Repair of existing facilities constructed of the same material; and

B. Fittings, valves or other appurtenances attached to the pipe.

5. Other piping materials may be used with approval of the commission.

(C) Steel Pipe. (192.55)

1. New steel pipe is qualified for use under this rule if—

A. It was manufactured in accordance with a listed specification;

B. It meets the requirements of—
(I) Subsection II of Appendix B to this rule; or

(II) If it was manufactured before November 12, 1970, either subsection II or III of Appendix B to this rule; or

C. It is used in accordance with paragraph (2)(C)3. or 4.

2. Used steel pipe is qualified for use under this rule if—

A. It was manufactured in accordance with a listed specification and it meets the requirements of paragraph II-C of Appendix B to this rule;

B. It meets the requirements of—
(I) Subsection II of Appendix B to this rule; or

(II) If it was manufactured before November 12, 1970, either subsection II or III of Appendix B to this rule;

C. 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 rule; or

D. It is used in accordance with paragraph (2)(C)3.

3. New or used steel pipe may be used at a pressure resulting in a hoop stress of less than six thousand (6000) pounds per square inch (psi) (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 rule.

4. 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.

5. New steel pipe that has been cold expanded must comply with the mandatory provisions of API Specification 5L.

(D) Plastic Pipe. (192.59)

1. New polyethylene pipe is qualified for use under this rule if—

A. It is manufactured in accordance with a listed specification; and

B. It is resistant to chemicals with which contact may be anticipated.

2. Used plastic pipe is qualified for use under this rule if—

A. It was manufactured in accordance with a listed specification;

B. It is resistant to chemicals with which contact may be anticipated;

C. It has been used only in natural gas service;

D. Its dimensions are still within the tolerances of the specification to which it was manufactured; and

E. It is free of visible defects.

3. For the purpose of subparagraphs (2)(D)1.A. and 2.A., 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—

A. Meets the strength and design criteria required of pipe included in that listed specification; and

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

(E) Marking of Materials. (192.63)

1. Except as provided in paragraph (2)(E)4., each valve, fitting, length of pipe and other component must be marked—

A. As prescribed in the specification or standard to which it was manufactured; however, thermoplastic fittings must be marked in accordance with ASTM D 2513; or

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

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

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

4. Paragraph (2)(E)1. does not apply to items manufactured before November 12, 1970, that meet all of the following:

A. The item is identifiable as to type, manufacturer and model; and

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

(F) Transportation of Pipe. (192.65) In a pipeline to be operated at a hoop stress of twenty percent (20%) or more of SMYS, an operator may not use pipe having an outer diameter to wall thickness ratio of seventy to one (70:1) or more that is transported by railroad unless—

1. The transportation is performed in accordance with API RP5L1; and

2. In the case of pipe transported before November 12, 1970, the pipe is tested in accordance with section (10) to at least one and one-fourth (1.25) times the maximum allowable operating pressure if it is to be installed in a Class 1 location and to at least one and one-half (1 1/2) 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 section (10), the test pressure must be maintained for at least eight (8) hours.

(3) Pipe Design.

(A) Scope. (192.101) This section prescribes the minimum requirements for the design of pipe.

(B) General. (192.103) 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.

(C) Design Formula for Steel Pipe. (192.105)

1. The design pressure for steel pipe is determined in accordance with the following formula:

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

where—

P = Design pressure in pounds per square inch (kPa) gauge;

S = Yield strength in pounds per square inch (kPa) determined in accordance with subsection (3)(D); (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 subsection (3)(E) (192.109). Additional wall thickness required for concurrent external loads in accordance with subsection (3)(B) (192.103) may not be included in computing design pressure;

F = Design factor determined in accordance with subsection (3)(F) (192.111);

E = Longitudinal joint factor determined in accordance with subsection (3)(G) (192.113); and

T = Temperature derating factor determined in accordance with subsection (3)(H) (192.115).

2. 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 seventy-five percent (75%) of the pressure determined under paragraph (3)(C)1. if the temperature of the pipe exceeds 900°F (482°C) at any time or is held above 600°F (316°C) for more than one (1) hour.

(D) Yield Strength (S) for Steel Pipe. (192.107)

1. For pipe that is manufactured in accordance with a specification listed in subsection I of Appendix B, the yield strength to be used in the design formula in subsection (3)(C) (192.105) is the SMYS stated in the listed specification, if that value is known.

2. For pipe that is manufactured in accordance with a specification not listed in subsection I of Appendix B or whose specification or tensile properties are unknown, the yield strength to be used in the design formula in subsection (3)(C) (192.105) is one (1) of the following:

A. If the pipe is tensile tested in accordance with paragraph II-D of Appendix B, the lower of the following:

(I) Eighty percent (80%) of the average yield strength determined by the tensile tests; or

(II) The lowest yield strength determined by the tensile tests; or

B. If the pipe is not tensile tested as provided in subparagraph (3)(D)2.A., twenty-four thousand (24,000) psi (165 MPa).

(E) Nominal Wall Thickness (t) for Steel Pipe. (192.109)

1. 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.

2. However, if the pipe is of uniform grade, size and thickness and there are more

than ten (10) lengths, only ten percent (10%) of the individual lengths, but not less than ten (10) lengths, need to 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 subsection (3)(C) (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 one and fourteen hundredths (1.14) times the smallest measurement taken on pipe less than twenty inches (20") (508 millimeters) in outside diameter, nor more than one and eleven hundredths (1.11) times the smallest measurement taken on pipe twenty inches (20") (508 millimeters) or more in outside diameter.

(F) Design Factor (F) for Steel Pipe. (192.111)

1. Except as otherwise provided in paragraphs (3)(F)2.-4., the design factor to be used in the design formula in subsection (3)(C) (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

2. A design factor of 0.60 or less must be used in the design formula in subsection (3)(C) (192.105) for steel pipe in Class 1 locations that—

A. Crosses the right-of-way of an unimproved public road without a casing;

B. 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;

C. Is supported by a vehicular, pedestrian, railroad or pipeline bridge; or

D. Is used in a fabricated assembly (including separators, mainline valve assemblies, cross-connections and river crossing headers) or is used within five (5) 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.

3. For Class 2 locations, a design factor of 0.50 or less must be used in the design formula in subsection (3)(C) (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.

4. For Class 1 and Class 2 locations, a design factor of 0.50 or less must be used in the design formula in subsection (3)(C) (192.105) for—

A. Steel pipe in a compressor station, regulating station or measuring station; and

B. Steel pipe, including a pipe riser, on a platform located in inland navigable waters.

(G) Longitudinal Joint Factor (E) for Steel Pipe. (192.113) The longitudinal joint factor to be used in the design formula in subsection (3)(C) (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	0.60
ASTM A 106	Seamless	1.00
	ASTM A 333/A 333M	Seamless
ASTM A 381	Electric resistance welded	1.00
	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 5L	Seamless	1.00
	Electric resistance welded	1.00
	Electric flash welded	1.00
	Submerged arc welded	1.00
	Furnace butt welded	0.60
Other	Pipe over 4 inches (102 millimeters)	0.80
Other	Pipe 4 inches (102 millimeters) or less	0.60



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

(H) Temperature Derating Factor (T) for Steel Pipe. (192.115) The temperature derating factor to be used in the design formula in subsection (3)(C) (192.105) is determined as follows:

Gas Temperature in Degrees Fahrenheit (Celsius)	Temperature Derating Factor (T)
250°F (121°C or less)	1.000
300°F (149°C)	0.967
350°F (177°C)	0.933
400°F (204°C)	0.900
450°F (232°C)	0.867

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

(I) Design of Plastic Pipe. (192.121) Subject to the limitations of subsection (3)(J) (192.123), the design pressure for plastic pipe is determined in accordance with either of the following formulas:

$$P = 2 S \frac{t}{(D-t)} \times 0.32$$

$$P = \frac{2 S}{(SDR-1)} \times 0.32$$

where

P = Design pressure, psi (kPa) gauge;

S = For thermoplastic pipe, the long-term hydrostatic strength determined in accordance with the listed specification at a temperature equal to 73°F (23°C), 100°F (38°C), 120°F (49°C) or 140°F (60°C), psi (kPa);

t = Specified wall thickness, in (mm);

D = Specified outside diameter, in (mm); and

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.

(J) Design Limitations for Plastic Pipe. (192.123)

1. The design pressure may not exceed a gauge pressure of 100 psi (689 kPa) gauge for plastic pipe used in—

- A. Distribution systems; or
- B. Class 3 and 4 locations.

2. Plastic pipe may not be used where operating temperatures of the pipe will be:

A. Below -20°F (-29°C), or -40°F (-40°C) if all pipe and pipeline components whose operating temperature will be below -20°F (-29°C) have a temperature rating by

the manufacturer consistent with that operating temperature; or

B. Above the following applicable temperatures for thermoplastic pipe, the temperature at which the long-term hydrostatic strength used in the design formula under subsection (3)(I) (192.121) is determined. However, if the pipe was manufactured before May 18, 1978, and its long-term hydrostatic strength was determined at 73°F (23°C), it may be used at temperatures up to 100°F (38°C).

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

(K) Design of Copper Pipe for Repairs. (192.125)

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

2. Copper pipe used in service lines must have a minimum wall thickness not less than that indicated in the following table:

Standard Size (inch) (millimeter)	Nominal O.D. (inch) (millimeters)	Wall Thickness Nominal	(inch) (millimeter) 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)

3. Copper pipe used in mains and services lines may not be used at pressures in excess of 100 psi (689 kPa) gauge.

4. 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°F and 14.7 psia (38°C and one atmosphere) of gas.

(4) Design of Pipeline Components.

(A) Scope. (192.141) This section prescribes minimum requirements for the design and installation of pipeline components and facilities. In addition, it prescribes requirements relating to protection against accidental overpressuring.

(B) General Requirements. (192.143) 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.

(C) Qualifying Metallic Components. (192.144) Notwithstanding any requirement of this section which incorporates by reference an edition of a document listed in Appendix A, a metallic component manufactured in accordance with any other edition of that document is qualified for use under this rule if—

1. It can be shown through visual inspection of the cleaned component that no defect exists which might impair the strength or tightness of the component; and

2. 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:

- A. Pressure testing;
- B. Materials; and
- C. Pressure and temperature ratings.

(D) Valves. (192.145)

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

2. Each cast iron and plastic valve must comply with the following:

A. The valve must have a maximum service pressure rating for temperatures that equal or exceed the maximum service temperature;

B. 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 one and one-half (1.5) times the maximum service rating;

(II) After the shell test, the seat must be tested to a pressure not less than one and one-half (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; and

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

3. Each valve must be able to meet the anticipated operating conditions.

4. No valve having shell components made of ductile iron may be used at pressures exceeding eighty percent (80%) 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 eighty percent

(80%) of the pressure ratings for comparable steel valves at their listed temperature, if—

A. The temperature-adjusted service pressure does not exceed 1,000 psi (7 MPa) gauge; and

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

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

(E) Flanges and Flange Accessories. (192.147)

1. Each flange or flange accessory (other than cast iron) must meet the minimum requirements of ASME/ANSI 6.5, MSS SP-44 or the equivalent.

2. 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.

3. 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.

(F) Standard Fittings. (192.149)

1. 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 rule or their equivalent.

2. 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.

(G) Tapping. (192.151)

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

2. 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.

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

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

B. A one and one-fourth inch (1 1/4") (32 millimeters) tap may be made in a four-inch (4") (102 millimeters) cast iron or ductile iron pipe, without reinforcement.

4. 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 six-inch (6") (152 millimeters) or larger pipe.

(H) Components Fabricated by Welding. (192.153)

1. 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*.

2. Each prefabricated unit that uses plate and longitudinal seams must be designated, 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:

A. Regularly manufactured butt-welding fittings;

B. Pipe that has been produced and tested under a specification listed in Appendix B to this rule;

C. Partial assemblies such as split rings or collars; and

D. 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.

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

4. Except for flat closures designed in accordance with section VIII of the *ASME Boiler and Pressure Vessel Code*, flat closures and fish tails may not be used on pipe that either operates at 100 psi (689 kPa) gauge or more, or is more than three inches (3") (76 millimeters) nominal diameter.

(I) Welded Branch Connections. (192.155) 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.

(J) Extruded Outlets. (192.157) 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.

(K) Flexibility. (192.159) 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.

(L) Supports and Anchors. (192.161)

1. Each pipeline and its associated equipment must have enough anchors or supports to—

A. Prevent undue strain on connected equipment;

B. Resist longitudinal forces caused by a bend or offset in the pipe; and

C. Prevent or damp out excessive vibration.

2. 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.

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

A. Free expansion and contraction of the pipeline between supports or anchors may not be restricted;

B. Provision must be made for the service conditions involved; and

C. Movement of the pipeline may not cause disengagement of the support equipment.

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

A. A structural support may not be welded directly to the pipe;

B. The support must be provided by a member that completely encircles the pipe; and

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

5. 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.

6. Each underground pipeline that is being connected to new branches must have a firm foundation for both the header and the branch to prevent detrimental lateral and vertical movement.

(M) Compressor Stations—Design and Construction. (192.163)

1. Location of compressor building. Except for a compressor building on a platform located 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 firefighting equipment.

2. Building construction. Each building on a compressor station site must be made of noncombustible materials if it contains either—

A. Pipe more than two inches (2") (51 millimeters) in diameter that is carrying gas under pressure; or

B. Gas handling equipment other than gas utilization equipment used for domestic purposes.

3. Exits. Each operating floor of a main compressor building must have at least two (2) 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.

4. Fenced areas. Each fence around a compressor station must have at least two (2) 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 two hundred feet (200') (61 meters) of any compressor plant building must open outward and, when occupied, must be openable from the inside without a key.

5. 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.

(N) Compressor Stations—Liquid Removal. (192.165)

1. Where entrained vapors in gas may liquefy under the anticipated pressure and

temperature conditions, the compressor must be protected against the introduction of liquids in quantities that could cause damage.

2. Each liquid separator used to remove entrained liquids at a compressor station must—

A. Have a manually operable means of removing these liquids;

B. 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

C. 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.

(O) Compressor Stations—Emergency Shutdown. (192.167)

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

A. It must be able to block gas out of the station and blowdown the station piping;

B. It must discharge gas from the blowdown piping at a location where the gas will not create a hazard;

C. 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

(II) Electrical circuits needed to protect equipment from damage may remain energized; and

D. It must be operable from at least two (2) 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 five hundred feet (500') (153 meters) from the limits of the station.

2. 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.

3. On a platform located in inland navigable waters, the emergency shutdown system must be designed and installed to actuate automatically by each of the following events:

A. In the case of an unattended compressor station—

(I) When the gas pressure equals the maximum allowable operating pressure plus fifteen percent (15%); or

(II) When an uncontrolled fire occurs on the platform; and

B. 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 fifty percent (50%) or more of the lower explosive limit in a building which has a source of ignition. For the purpose of part (4)(O)3.B.(II), an electrical facility which conforms to Class 1, Group D of the *National Electrical Code* is not a source of ignition.

(P) Compressor Stations—Pressure Limiting Devices. (192.169)

1. 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 ten percent (10%).

2. 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.

(Q) Compressor Stations—Additional Safety Equipment. (192.171)

1. 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.

2. 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.

3. 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.

4. 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.

5. 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.

(R) Compressor Stations—Ventilation. (192.173) 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.

(S) Pipe-Type and Bottle-Type Holders. (192.175)

1. 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.

2. Each pipe-type or bottle-type holder must have a minimum clearance from other holders in accordance with the following formula:

$$C = (3D \times P \times F) / 1000$$

$$(C = (D \times P \times F) / 2298)$$

where

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, psi (kPa) gauge; and

F = Design factor as set forth in subsection (3)(F) (192.111).

(T) Additional Provisions for Bottle-Type Holders. (192.177)

1. Each bottle-type holder must be—

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

<u>Maximum Allowable Operating Pressure</u>	<u>Minimum Clearance feet (meters)</u>
Less than 1000 psi	
(7 MPa) gauge	25 (7.6)
1000 psi (7 MPa) gauge or more	100 (31)

B. Designed using the design factors set forth in subsection (3)(F) (192.111); and

C. Buried with a minimum cover in accordance with subsection (7)(N). (192.327)

2. Each bottle-type holder manufactured from steel that is not weldable under field conditions must comply with the following:

A. 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;

B. The actual yield-tensile ratio of the steel may not exceed 0.85;

C. 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;

D. The holder must be given a mill hydrostatic test at a pressure that produces a hoop stress at least equal to eighty-five percent (85%) of the SMYS; and

E. The holder, connection pipe and components must be leak tested after installation as required by section (10).

(U) Transmission Line Valves. (192.179)

1. Each transmission line 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:

A. Each point on the pipeline in a Class 4 location must be within two and one-half (2 1/2) miles (4 kilometers) of a valve;

B. Each point on the pipeline in a Class 3 location must be within four (4) miles (6.4 kilometers) of a valve;

C. Each point on the pipeline in a Class 2 location must be within seven and one-half (7 1/2) miles (12 kilometers) of a valve; and

D. Each point on the pipeline in a Class 1 location must be within ten (10) miles (16 kilometers) of a valve.

2. Each sectionalizing block valve on a transmission line must comply with the following:

A. The valve and the operating device to open or close the valve must be readily accessible and protected from tampering and damage; and

B. The valve must be supported to prevent settling of the valve or movement of the pipe to which it is attached.

3. Each section of a transmission line between main line valves must have a blow-down 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.

(V) Distribution Line Valves. (192.181)

1. 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, but it must at least provide zones of isolation sized so that the operator could relight the lost customer services within a period of eight (8) hours after restoration of system pressure.

2. Each regulator station controlling the flow or pressure of gas in a distribution system must have a valve installed on the inlet piping and on the outlet piping at a sufficient distance from the regulator station to permit the operation of the valve during an emergency that might preclude access to the station. An outlet valve on regulator stations will not be required on single-feed distribution systems when the outlet piping size is less than or equal to two inches (2") in nominal diameter.

3. Each valve on a main installed for operating or emergency purposes must comply with the following:

A. The valve must be placed in a readily accessible location so as to facilitate its operation in an emergency;

B. The operating stem or mechanism must be readily accessible; and

C. 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.

(W) Vaults—Structural Design Requirements. (192.183)

1. 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.

2. 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.

3. Each pipe entering, or within, a regulator vault or pit must be steel for sizes ten inches (10") (254 millimeters), and less, except that control and gauge 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.

(X) Vaults—Accessibility. (192.185) Each vault must be located in an accessible location and, so far as practical, away from—

1. Street intersections or points where traffic is heavy or dense;

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

3. Water, electric, steam or other facilities.

(Y) Vaults—Sealing, Venting and Ventilation. (192.187) 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:

1. When the internal volume exceeds two hundred (200) cubic feet (5.7 cubic meters)—

A. The vault or pit must be ventilated with two (2) ducts, each having at least the ventilating effect of a pipe four inches (4") (102 millimeters) in diameter;

B. The ventilation must be enough to minimize the formation of combustible atmosphere in the vault or pit; and

C. The ducts must be high enough above grade to disperse any gas-air mixtures that might be discharged;

2. When the internal volume is more than seventy-five (75) cubic feet (2.1 cubic meters) but less than two hundred (200) cubic feet (5.7 cubic meters)—

A. 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;

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

C. If the vault or pit is ventilated, paragraph (4)(Y)1. or 3. applies; and

3. If a vault or pit covered by paragraph (4)(Y)2. is ventilated by openings in the covers or gratings 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 twenty to one (20:1), no additional ventilation is required.

(Z) Vaults—Drainage and Waterproofing. (192.189)

1. Each vault must be designed so as to minimize the entrance of water.

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

3. All electrical equipment in vaults must conform to the applicable requirements of Class 1, Group D, of the *National Electrical Code*, ANSI/NFPA 70.

(AA) Design Pressure of Plastic Fittings. (192.191) Thermoplastic fittings for plastic pipe must conform to ASTM D 2513.

(BB) Valve Installation in Plastic Pipe. (192.193) 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.

(CC) Protection Against Accidental Overpressuring. (192.195)

1. General requirements. Except as provided in subsection (4)(DD) (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 subsections (4)(EE) and (FF). (192.199 and 192.201)

2. Additional requirements for distributions 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—

A. 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

B. Be designed so as to prevent accidental overpressuring.

(DD) Control of the Pressure of Gas Delivered from Transmission Lines and High-Pressure Distribution Systems to Service Equipment. (192.197) If the maximum allowable operating pressure of the system exceeds fourteen inches (14") water column, one (1) 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 with a suitable over-pressure protection device set to limit, to a maximum safe value, the pressure of the gas delivered to the customer and another regulator located upstream from the service regulator. The upstream regulator may not be set to maintain a pressure higher than sixty (60) psi (414 kPa) gauge. 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 sixty (60) psi (414 kPa) gauge 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 and remains closed until manually reset, if the pressure on the inlet of the service regulator exceeds the set pressure (sixty (60) psi (414 kPa) gauge or less);

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. A device or method that indicates the failure of the service regulator must also be provided. The service regulator must be monitored at intervals not exceeding fifteen (15) months, but at least once each calendar year for detection of a failure;

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 sixty (60) psi (414 kPa) gauge. For higher inlet pressure, the methods in paragraph (4)(DD)1. or 2. must be used; or

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.

(EE) Requirements for Design of Pressure Relief and Limiting Devices. (192.199) Except for rupture discs, each pressure relief or pressure limiting device must—

1. Be constructed of materials so that the operation of the device will not be impaired by corrosion;

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

3. 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;

4. Have support made of noncombustible material;

5. 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;

6. 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;

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

8. Except for a valve that will isolate the system under protection from its source of pressure, be designed to prevent unauthorized access to or operation of the following stop valves regardless of installation date:

A. Any valve that will make the pressure relief valve or pressure limiting device inoperative;

B. Valves that would bypass the regulator or relief devices; and

C. Shut-off valves in control lines that, if operated, would cause the regulator or overpressure protection device to be inoperative;

9. Be designed and installed so that adequate overpressure protection is provided for all town border stations and district regulator stations regardless of installation date;

10. Where a monitor regulator is used for overpressure protection, be designed and installed to include an internal or separate device or method that indicates a failure of the operating regulator regardless of installation date. The operating regulator must be monitored at least monthly for regulator stations for detection of a failure; and

11. Where regulators in series or working monitors are used for overpressure protection, be designed and installed to include an internal or separate device or method that indicates a failure of each regulator regardless of installation date. Each regulator must be monitored at least monthly for regulator stations for detection of a failure. When the operator chooses to use a pressure gauge as the separate device to comply with paragraph (4)(EE)10. or 11., the pressure gauge must have the capability to record the high pressure, such as a recording chart or “tattle-tale” needle (a standard sight gauge is not adequate for this purpose).

(FF) Required Capacity of Pressure Relieving and Limiting Stations. (192.201)

1. 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 ensure the following:

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

B. In pipelines other than a low pressure distribution system—

(I) If the maximum allowable operating pressure is sixty (60) psi (414 kPa) gauge or more, the pressure may not exceed the maximum allowable operating pressure plus ten percent (10%) or the pressure that produces a hoop stress of seventy-five percent (75%) of SMYS, whichever is lower;

(II) If the maximum allowable operating pressure is twelve (12) psi (83 kPa) gauge or more, but less than sixty (60) psi (414 kPa) gauge, the pressure may not exceed the maximum allowable operating pressure plus six (6) psi (41 kPa) gauge; or

(III) If the maximum allowable operating pressure is less than twelve (12) psi (83 kPa) gauge, the pressure may not exceed the maximum allowable operating pressure plus fifty percent (50%).

2. When more than one (1) 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.

3. 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.

(GG) Instrument, Control and Sampling Pipe and Components. (192.203)

1. Applicability. This subsection 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.

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

A. 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;

B. 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;

C. Brass or copper material may not be used for metal temperatures greater than four hundred degrees Fahrenheit (400°F) (204°C);

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

E. Pipe or components in which liquids may accumulate must have drains or drips;

F. Pipe or components subject to clogging from solids or deposits must have suitable connections for cleaning;

G. The arrangement of pipe, components and supports must provide safety under anticipated operating stresses;

H. 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; and

I. Each control line must be protected from anticipated causes of damage and must be designed and installed to prevent damage to any one (1) control line from making both the regulator and the overpressure protective device inoperative.

(HH) Passage of Internal Inspection Devices. (192.150)

1. Except as provided in paragraphs (4)(HH)2. and 3., each new or replacement segment of a transmission line must be designed and constructed to accommodate the passage of instrumented internal inspection devices. For the purposes of this subsection, replacement segment means the actual replaced line pipe, valve, fitting, or other line component.

2. This subsection does not apply to—

A. Manifolds;

B. Station piping such as at compressor stations, meter stations, or regulator stations;

C. Piping associated with storage facilities, other than a continuous run of transmission line between a compressor station and storage facilities;

D. Cross-overs;

E. Sizes of pipe for which an instrumented internal inspection device is not commercially available;

F. Transmission lines, operated in conjunction with a distribution system which are installed in Class 4 locations; and

G. Other piping that, under section 190.9 of 49 CFR part 190, the administrator finds in a particular case would be impracticable to design and construct to accommodate the passage of instrumented internal inspection devices.

3. 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 (4)(HH)1., if the operator determines and documents why an impracticability prohibits compliance with paragraph (4)(HH)1. Within thirty (30) days of discovering the emergency or construction problem the operator must petition, under section 190.9 of 49 CFR part 190, for approval that design and