

**HAZARDOUS LIQUIDS
PART 195****HAZARDOUS LIQUIDS TRANSMISSION
OPERATION AND MAINTENANCE
MANUAL**

Subpart A**General****§ 195.0** **Scope**

This part prescribes safety standards and reporting requirements for pipeline facilities used in the transportation of hazardous liquids, or carbon dioxide.

§ 195.1 **Applicability**

- (a) Except as provided in paragraph (b) of this section, this part applies to pipeline facilities and the transportation of hazardous liquids or carbon dioxide associated with those facilities in or affecting interstate or foreign commerce, including pipeline facilities on the Outer Continental Shelf.
- (b) This part does not apply to --
 - (1) Transportation of a hazardous liquid that is transported in a gaseous state;
 - (2) Transportation of a hazardous liquid through a pipeline by gravity;
 - (3) Transportation of a non-HVL through low-stress pipelines, except for any pipeline or pipeline segment that is located--
 - (i) In an onshore area other than a rural area;

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Manager, Safety, Health, and Environmental

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Environmental Manager

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- (ii) Offshore; or
- (iii) In a waterway that is navigable in fact and currently used for commercial navigation;
- (4) Transportation of petroleum in onshore gathering lines in rural areas except gathering lines in the inlets of the Gulf of Mexico subject to § 195.413.
- (5) Transportation of a hazardous liquid or carbon dioxide in offshore pipelines which are located upstream from the outlet flange of each facility where hydrocarbons or carbon dioxide are produced or where produced hydrocarbons or carbon dioxide are first separated, dehydrated, or otherwise processed whichever facility is farther downstream;
- (6) Transportation of a hazardous liquid or carbon dioxide through onshore production (including flow lines), refining, or manufacturing facilities or storage or inplant piping systems associated with such facilities;
- (7) Transportation of a hazardous liquid or carbon dioxide-
 - (i) By vessel, aircraft, tank truck, tank car, or other non-pipeline mode of transportation.
 - (ii) Through facilities located on the grounds of a materials transportation terminal that are used exclusively to transfer hazardous liquid or carbon dioxide between non-pipeline modes of transportation or between a non-pipeline mode and a pipeline, not including any device and associated piping that are necessary to control pressure in the pipeline under § 195.406 (b); and
- (8) Transportation of carbon dioxide downstream from the following point, as applicable:
 - (i) The inlet of a compressor used in the injection of carbon dioxide for oil recovery operations, or the point where recycled carbon dioxide enters the injection system, whichever is farther upstream; or

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- (ii) The connection of the first branch pipeline in the production field that transports carbon dioxide to injection wells or to headers or manifolds from which pipelines branch to injection wells.
- (c) A low-stress pipeline to which this part applies that exists on July 12, 1994 need not comply with this part or part 199 of this chapter until July 12, 1996 except as follows:
- (1) Subpart B of this part applies beginning on October 10, 1994; and
- (2) Any replacement, relocation, or other change made to existing pipelines after October 9, 1994 must comply with subparts A and C through E of this part.

DocumentationLocation Filed

RKGP

DOT Determination Study for Liquids/Gas F-1DOT Files**§ 195.2** **Definitions**

As used in this part--

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

"Barrel" means a unit of measurement equal to 42 U.S. standard gallons.

"Breakout tank" means a tank used to (a) relieve surges in a hazardous liquid pipeline system or (b) receive and store hazardous liquid transported by a pipeline for reinjection and continued transportation by pipeline.

"Carbon dioxide" means a fluid consisting of more than 90 percent carbon dioxide molecules compressed to a supercritical state.

"Component" means any part of a pipeline which may be subjected to pump pressure including, but not limited to, pipe, valves, elbows, tees, flanges, and closures.

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“Corrosive product” means “corrosive material” as defined by § 173.136 Class 8-Definitions of this chapter.

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

“Flammable product” means “flammable liquid” as defined by § 173.120 Class 3-Definitions of this chapter.

“Gathering line” means a pipeline 219.1 mm (8 5/8 inches) or less nominal outside diameter that transports petroleum from a production facility.

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

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

“Hazardous liquid” means petroleum, petroleum products, or anhydrous ammonia.

“Highly volatile liquid” or **“HVL”** means a hazardous liquid which will form a vapor cloud when released to the atmosphere and which has a vapor pressure exceeding 276 kPa (40 psia) at 37.8° C (100° F).

“Inplant piping system” means piping that is located on the grounds of a plant and used to transfer hazardous liquid or carbon dioxide between plant facilities or between plant facilities and a pipeline or other mode of transportation, not including any device and associated piping that are necessary to control pressure in the pipeline under § 195.406 (b).

“Interstate pipeline” means a pipeline or that part of a pipeline that is used in the transportation of hazardous liquids or carbon dioxide in interstate or foreign commerce.

“Intrastate pipeline” means a pipeline or that part of a pipeline to which this part applies that is not an interstate pipeline.

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"Line section" means a continuous run of pipe between adjacent pressure pump stations, between a pressure pump station and terminal or breakout tanks, between a pressure pump station and a block valve, or between adjacent block valves.

"Low-stress pipeline" means a hazardous liquid pipeline that is operated in its entirety at a stress level of 20 percent or less of the specified minimum yield strength of the line pipe.

"Nominal wall thickness" means the wall thickness listed in the pipe specifications.

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

"Operator" means a person who owns or operates pipeline facilities.

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

"Petroleum" means crude oil, condensate, natural gasoline, natural gas liquids, and liquefied petroleum gas.

"Petroleum product" means flammable, toxic, or corrosive products obtained from distilling and processing of crude oil, unfinished oils, natural gas liquids, blend stocks and other miscellaneous hydrocarbon compounds.

"Pipe" or **"line pipe"** means a tube, usually cylindrical, through which a hazardous liquid or carbon dioxide flows from one point to another.

"Pipeline" or **"pipeline system"** means all parts of a pipeline facility through which a hazardous liquid or carbon dioxide moves in transportation, including, but not limited to, line pipe, valves and other appurtenances connected to line pipe, pumping units, fabricated assemblies associated with pumping units, metering and delivery stations and fabricated assemblies therein, and breakout tanks.

"Pipeline facility" means new and existing pipe, rights-of-way, and any equipment, facility, or building used in the transportation of hazardous liquids or carbon dioxide.

"Production facility" means piping or equipment used in the production, extraction, recovery, lifting, stabilization, separation or treating of petroleum or carbon dioxide, or

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associated storage or measurement. (To be a production facility under this definition, piping or equipment must be used in the process of extracting petroleum or carbon dioxide from the ground or from facilities where CO₂ is produced, and preparing it for transportation by pipeline. This includes piping between treatment plants which extract carbon dioxide, and facilities utilized for the injection of carbon dioxide for recovery operations.)

"Rural area" means outside the limits of any incorporated or unincorporated city, town, village, or any other designated residential or commercial area such as a subdivision, a business or shopping center, or community development.

"Specified minimum yield strength" means the minimum yield strength, expressed in pounds per square inch, prescribed by the specification under which the material is purchased from the manufacturer.

"Stress level" means the level of tangential or hoop stress, usually expressed as a percentage of specified minimum yield strength.

"Surge pressure" means pressure produced by a change in velocity of the moving stream that results from shutting down a pump station or pumping unit, closure of a valve, or any other blockage of the moving stream.

"Toxic product" means "poisonous material" as defined by § 173.132 Class 6, Division 6.1-Definitions of this chapter.

§ 195.3 **Matter Incorporated by Reference**

(a) Any document or portion thereof incorporated by reference in this part is included in this part as though it were printed in full. When only a portion of a document is referenced, then this part incorporates only that referenced portion of the document and the remainder is not incorporated. Applicable editions are listed in paragraph (c) of this section in parentheses following the title of the referenced material. Earlier editions listed in previous editions of this section may be used for 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 for a listing of the earlier listed editions.

(b) All incorporated materials are available for inspection in the Research and Special Programs Administration, 400 Seventh Street, SW, Washington, D.C., and at the Office of the Federal Register, 800 North Capitol Street, suite 700, N.W.,

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Washington, D.C. These materials have been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR 51. In addition, materials incorporated by reference are available as follows:

- (1) American Gas Association (AGA), 1515 Wilson Boulevard, Arlington, VA 22209.
 - (2) American Petroleum Institute (API), 1220 L Street, N.W., Washington, DC 20005.
 - (3) The American Society of Mechanical Engineers (ASME), United Engineering Center, 345 East 47th Street, New York, N.Y. 10017.
 - (4) Manufacturers Standardization Society of the Valve and Fittings Industry (MSS), 127 Park Street, NE., Vienna, VA 22180.
 - (5) American National Standards Institute (ANSI), 11 West 42nd Street, New York, N.Y. 10036.
 - (6) American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Conshohocken, PA 19428.
- (c) The full title for the publications incorporated by reference in this part are as follows. Numbers in parenthesis indicate applicable editions:
- (1) American Gas Association (AGA): AGA Pipeline Research Committee, Project PR-3-805, "A Modified Criterion for Evaluating the Remaining Strength of Corroded Pipe" (December 1989). The RSTRENG program may be used for calculating remaining strength.
 - (2) American Petroleum Institute (API):
 - (i) API Specification 5L "Specification for Line Pipe," (41st edition, 1995).
 - (ii) API Specification 6D "Specification for Pipeline Valves (Gate, Plug, Ball, and Check Valves)" (21st Edition, 1994).
 - (iii) API Specification 1104 "Welding of Pipelines and Related Facilities" (18th edition, 1994).

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- (3) American Society of Mechanical Engineers (ASME):
- (i) ASME/ANSI B16.9 Factory-Made Wrought Steel Buttwelding Fittings (1993)
 - (ii) ASME/ANSI B31.4 "Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols" (1992 edition with ASME B31.4a-1994 Addenda).
 - (iii) ASME/ANSI B31.8 "Gas Transmission and Distribution Piping Systems" (1993).
 - (iv) ASME/ANSI B31G, "Manual for Determining the Remaining Strength of Corroded Pipelines" (1991).
 - (v) ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 "Pressure Vessels" (1995 edition with 1995 Addenda).
 - (vi) ASME Boiler and Pressure Vessel Code, Section IX "Welding and Brazing Qualifications" (1995 edition with 1995 Addenda).
- (4) Manufacturers Standardization Society of the Valve and Fitting Industry, Inc. (MSS):
- (i) MSS SP-75 "Specification for High Test Wrought Butt Welding Fittings" (1993).
- (5) American Society for Testing and Materials (ASTM):
- (i) ASTM Designation: A 53 "Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless"; (A 53-95a).
 - (ii) ASTM Designation: A 106 "Standard Specification for Seamless Carbon Steel Pipe for High Temperature Service" (a 106-94a).
 - (iii) ASTM Designation: A 333/A 333M "Standard Specification for Seamless and Welded Steel Pipe for Low-Temperature Service" (A 333/A 333M-94).

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- (iv) ASTM Designation: A 381 "Standard Specification for Metal-Arc-Welded Steel Pipe for Use with High-Pressure Transmission Systems" (A 381-93).
- (v) ASTM Designation: A 671 "Standard Specification for Electric-Fusion-Welded Steel Pipe for Atmospheric and Lower Temperatures" (A 671-89a).
- (vi) ASTM Designation: A 672 "Standard Specification for Electric-Fusion-Welded Steel Pipe for High-Pressure Service at Moderate Temperatures" (A 672-94).
- (vii) ASTM Designation: A 691 "Standard Specification for Carbon and Alloy Steel Pipe Electric-Fusion-Welded for High-Pressure Service at High Temperatures" (A 691-93).

§ 195.4 Compatibility Necessary for Transportation of Hazardous Liquids or Carbon Dioxide

No person may transport any hazardous liquid or carbon dioxide unless the hazardous liquid is chemically compatible with both the pipeline, including all components, and any other commodity that it may come into contact with while in the pipeline.

ESI RESPONSE to § 195.4:

ESI will not transport any hazardous liquid that is not compatible with the pipeline, including all components, and any other commodity that it may come into contact with while in the pipeline.

§ 195.5 Conversion to Service Subject to This Part

- (a) A steel pipeline previously used in service not subject to this part qualifies for use under this part if the operator prepares and follows a written procedure to accomplish the following:
 - (1) The design, construction operation, and maintenance history of the pipeline must be reviewed and, where sufficient historical records are not available, appropriate tests must be performed to determine if the pipeline is in a satisfactory condition for safe operation. If one or more of the variables necessary to verify the design pressure under § 195.106 or to perform the testing under paragraph (a)(4) of this section is unknown,

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the design pressure may be verified and the maximum operating pressure determined by-

- (i) Testing the pipeline in accordance with ASME B31.8, Appendix N, to produce a stress equal to the yield strength; and
 - (ii) Applying, to not more than 80 percent of the first pressure that produces a yielding, the design factor F in § 195.106(a) and the appropriate factors in § 195.106(e).
- (2) The pipeline right-of-way, all above ground segments of the pipeline, and appropriately selected underground segments must be visually inspected for physical defects and operating conditions which reasonably could be expected to impair the strength or tightness of the pipeline.
 - (3) All known unsafe defects and conditions must be corrected in accordance with this part.
 - (4) The pipeline must be tested in accordance with the subpart E of this part to substantiate the maximum allowable operating pressure permitted by § 195.406.
- (b) A pipeline which qualifies for use under this section need not comply with the corrosion control requirements of this part until 12 months after it is placed in service, notwithstanding any earlier deadlines for compliance. In addition to the requirements of subpart F of this part, the corrosion control requirements of subpart D apply to each pipeline which substantially meets those requirements before it is placed in service or which is a segment that is replaced, relocated, or substantially altered.
 - (c) Each operator must keep for the life of the pipeline a record of the investigations, tests, repairs, replacements, and alterations made under the requirements of paragraph (a) of this section.

ESI RESPONSE to § 195.5:

For detailed information reference section 5.6 Conditions for the Reuse of Pipe, section 7.8 Used Piping Components and Equipment in ESI's "Hazardous Liquid Pipelines Plant Engineering Specification".

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1. Used piping components such as pipe, fittings, elbows, bends, intersections, couplings, reducers, closures, flanges, valves, and equipment may be reused. Pipe, piping components, and equipment intended for reuse shall be cleaned, inspected, and reconditioned, if necessary, to insure that all requirements are met for the intended service and that the equipment is sound and free from defects.
2. Reuse of piping components shall be contingent on identification of the specification under which the item was originally produced. If the specification cannot be identified, reuse shall be restricted to a maximum allowable operating pressure based on a yield strength of 24,000 psi (165 Mpa) or less.

New or used pipe of unknown or ASTM A120 specification may be used to design and construct Company pipelines when:

The allowable stress value is unknown and the testing requirements in ASME/ANSI B31.4 paragraphs 437.4.1 (Hydrostatic Testing After Construction), 437.4.3 (Leak Testing After Construction), 437.6.1 (Visual Examination), 437.6.3 (Determination of Wall Thickness), 437.6.4 (Determination of Weld Joint Factor), and 437.6.5 (Weldability) are used to establish a 24,000 psi (165 MPa) yield strength.

If a yield strength above 24,000 psi (165 Mpa) is used to establish an allowable stress value, the testing requirements in paragraphs 437.4.1 (Hydrostatic Testing After Construction) and paragraphs 437.6.1 (Visual Examination), 437.6.2 (Bending Properties), 437.6.3 (Determination of Wall Thickness), 437.6.4 (Determination of Weld Joint Factor), 437.6.5 (Weldability), 437.6.6 (Determination of Yield Strength), and 437.6.7 (Minimum Yield Strength Value) of ASME/ANSI B31.4 must be met.

**§ 195.8 Transportation of Hazardous Liquids or Carbon Dioxide in Pipelines
Constructed With Other Than Steel Pipe**

NOT APPLICABLE. ESI'S REGULATED PIPELINES ARE STEEL PIPE. ESIDOEES NOT HAVE CARBON DIOXIDE PIPELINES.

§ 195.10 Responsibility of Operator for Compliance with this Part

An operator may make arrangements with another person for the performance of any action required by this part. However, the operator is not thereby relieved from the responsibility for compliance with any requirement of this part.

Engineering Services, LP