

PHMSA REGULATORY REQUIREMENTS FOR PIPELINE OPERATORS IN MARINE ENVIRONMENTS

(NOT INCLUSIVE OF ALL REQUIREMENTS)

Scope and Definitions - Gas Pipelines

49 CFR 192.1 (Full Text) What is the scope of this Part?

- (a) This part prescribes minimum safety requirements for pipeline facilities and the transportation of gas, including pipeline facilities and the transportation of gas within the limits of the outer continental shelf as that term is defined in the Outer Continental Shelf Lands Act (43 U.S.C. 1331).
- (b) This part does not apply to—
- (1) Offshore gathering of gas in State waters upstream from the outlet flange of each facility where hydrocarbons are produced or where produced hydrocarbons are first separated, dehydrated, or otherwise processed, whichever facility is farther downstream;
 - (2) Pipelines on the Outer Continental Shelf (OCS) that are producer-operated and cross into State waters without first connecting to a transporting operator's facility on the OCS, upstream (generally seaward) of the last valve on the last production facility on the OCS. Safety equipment protecting PHMSA-regulated pipeline segments is not excluded. Producing operators for those pipeline segments upstream of the last valve of the last production facility on the OCS may petition the Administrator, or designee, for approval to operate under PHMSA regulations governing pipeline design, construction, operation, and maintenance under 49 CFR 190.9;
 - (3) Pipelines on the Outer Continental Shelf upstream of the point at which operating responsibility transfers from a producing operator to a transporting operator;
 - (4) Onshore gathering of gas—
 - (i) Through a pipeline that operates at less than 0 psig (0 kPa);
 - (ii) Through a pipeline that is not a regulated onshore gathering line (as determined in §192.8); and
 - (iii) Within inlets of the Gulf of Mexico, except for the requirements in §192.612; or
 - (5) Any pipeline system that transports only petroleum gas or petroleum gas/air mixtures to —
 - (i) Fewer than 10 customers, if no portion of the system is located in a public place; or
 - (ii) A single customer, if the system is located entirely on the customer's premises (no matter if a portion of the system is located in a public place).

49 CFR 192.3 Definitions (Applicable Parts)

Exposed underwater pipeline means an underwater pipeline where the top of the pipe protrudes above the underwater natural bottom (as determined by recognized and generally accepted practices) in waters less than 15 feet (4.6 meters) deep, as measured from mean low water.

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

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

Hazard to navigation means, for the purposes of this part, a pipeline where the top of the pipe is less than 12 inches (305 millimeters) below the underwater natural bottom (as determined by recognized and generally accepted practices) in waters less than 15 feet (4.6 meters) deep, as measured from the mean low water.

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.

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

Summary: Class locations (49 CFR 192.5)

- Regulations for natural gas pipelines incorporate Class locations. These Class locations use population and other factors to determine regulatory requirements for different pipeline systems.

Full Text: 49 CFR 192.5 Class locations.

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

- (1) A “class location unit” is an onshore area that extends 220 yards (200 meters) on either side of the centerline of any continuous 1- mile (1.6 kilometers) length of pipeline.
- (2) Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

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

(1) A Class 1 location is:

(i) An offshore area; or

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

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

(3) A Class 3 location is:

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

(ii) An area where the pipeline lies within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. (The days and weeks need not be consecutive.)

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

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

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

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

SUMMARY: Cover at time of burial (PHMSA 49 CFR 192.327 -- applicable provisions):

- All pipe installed in a navigable river, stream, or harbor must be installed with a minimum cover of 48” in soil between the top of the pipe and the underwater natural bottom (as determined by recognized and generally accepted practices).
- All pipe installed offshore, except the Gulf of Mexico and its inlets, under water not more than 200’ deep, as measured from mean low tide, must be installed as follows:
 - Pipe under water less than 12’ deep must be installed with a minimum of 36”
 - Pipe under water at least 12’ deep must be installed so that the top of the pipe is below the natural water bottom, unless the pipe is supported by stanchions, held in place by anchors or heavy concrete coating, or protected by equivalent means
- All pipelines installed under water in the Gulf of Mexico and its inlets, as defined in 192.3, must be installed in accordance with 192.612(b)(3). (Note: There is no 192.612(b)(3)! However, 192.612(c)(3) requires reburial of pipe which is exposed or a hazard to navigation to 36”. In general, refer to 192.612.)

Full Text: 49 CFR 192.327 Cover (Applicable sections highlighted)

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

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

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

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

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

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

(e) Except as provided in paragraph (c) of this section, all pipe installed in a navigable river, stream, or harbor must be installed with a minimum cover of 48 inches (1,219 millimeters) in soil or 24 inches (610 millimeters) in consolidated rock between the top of the pipe and the underwater natural bottom (as determined by recognized and generally accepted practices).

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

- (1) Except as provided in paragraph (c) of this section, pipe under water less than 12 feet (3.66 meters) deep, must be installed with a minimum cover of 36 inches (914 millimeters) in soil or 18 inches (457 millimeters) in consolidated rock between the top of the pipe and the natural bottom.
- (2) Pipe under water at least 12 feet (3.66 meters) deep must be installed so that the top of the pipe is below the natural bottom, unless the pipe is supported by stanchions, held in place by anchors or heavy concrete coating, or protected by an equivalent means.

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

SUMMARY: Underwater inspection and reburial of pipelines in the Gulf of Mexico and its inlets (PHMSA 49 CFR 192.612)

- Operators are required to identify their pipelines located in the Gulf of Mexico and its inlets, where the water is less than 15 feet deep as measured from mean low water. Rivers, tidal

marshes, lakes, and canals are excluded. Operators may determine where the water depth of the Gulf of Mexico and its inlets is 15 feet or less by referencing USGS maps or depth charts, USCG water depth maps or tables, or their own construction and maintenance records.

- Operators should assess the risk of such pipelines being exposed or being a hazard to navigation. Using this information, operators must establish the frequency for inspecting each pipeline, based on risk, any suitable method, or a combination of methods, for underwater pipeline inspection based upon conditions required by a pipeline's specific environment.
- If an operator discovers that its pipeline is an exposed underwater pipeline or poses a hazard to navigation, report to the NRC within 24 hours, mark the location of the pipeline within 7 days after discovery. Within 6 months, bury the pipeline with 36" of cover from underwater natural bottom.

Full Text: 49 CFR 192.612 Underwater inspection and reburial of pipelines in the Gulf of Mexico and its inlets.

- (a) Each operator shall prepare and follow a procedure to identify its pipelines in the Gulf of Mexico and its inlets in waters less than 15 feet (4.6 meters) deep as measured from mean low water that are at risk of being an exposed underwater pipeline or a hazard to navigation. The procedures must be in effect August 10, 2005.
- (b) Each operator shall conduct appropriate periodic underwater inspections of its pipelines in the Gulf of Mexico and its inlets in waters less than 15 feet (4.6 meters) deep as measured from mean low water based on the identified risk.
- (c) If an operator discovers that its pipeline is an exposed underwater pipeline or poses a hazard to navigation, the operator shall—
 - (1) Promptly, but not later than 24 hours after discovery, notify the National Response Center, telephone: 1-800-424-8802, of the location and, if available, the geographic coordinates of that pipeline.
 - (2) Promptly, but not later than 7 days after discovery, mark the location of the pipeline in accordance with 33 CFR part 64 at the ends of the pipeline segment and at intervals of not over 500 yards (457 meters) long, except that a pipeline segment less than 200 yards (183 meters) long need only be marked at the center; and
 - (3) Within 6 months after discovery, or not later than November 1 of the following year if the 6 month period is later than November 1 of the year of discovery, bury the pipeline so that the top of the pipe is 36 inches (914 millimeters) below the underwater natural bottom (as determined by recognized and generally accepted practices) for normal excavation or 18 inches (457 millimeters) for rock excavation.
 - (i) An operator may employ engineered alternatives to burial that meet or exceed the level of protection provided by burial.
 - (ii) If an operator cannot obtain required state or Federal permits in time to comply with this section, it must notify OPS; specify whether the required permit is State or Federal; and, justify the delay.

Summary: Continuing Surveillance (49 CFR 192.613)

- Pipeline operators must have procedures for identifying and addressing unusual operating conditions

Full Text: 49 CFR 192.613 Continuing surveillance.

- (a) Each operator shall have a procedure for continuing surveillance of its facilities to determine and take appropriate action concerning changes in class location, failures, leakage history, corrosion, substantial changes in cathodic protection requirements, and other unusual operating and maintenance conditions.
- (b) If a segment of pipeline is determined to be in unsatisfactory condition but no immediate hazard exists, the operator shall initiate a program to recondition or phase out the segment involved, or, if the segment cannot be reconditioned or phased out, reduce the maximum allowable operating pressure in accordance with §192.619 (a) and (b).

Summary: Patrolling Transmission Lines (49 CFR 192.705)

- Pipeline operators are required to patrol their transmission lines at periodic intervals. The intervals are based on the Class location.

Full Text: 192.705 Transmission lines: Patrolling.

- (a) Each operator shall have a patrol program to observe surface conditions on and adjacent to the transmission line right-of-way for indications of leaks, construction activity, and other factors affecting safety and operation.
- (b) The frequency of patrols is determined by the size of the line, the operating pressures, the class location, terrain, weather, and other relevant factors, but intervals between patrols may not be longer than prescribed in the following table:

Class location of line	Maximum interval between patrols	
	At highway and railroad crossings	At all other places
1, 2	7½ months; but at least twice each calendar year	15 months; but at least once each calendar year.
3	4½ months; but at least four times each calendar year	7½ months; but at least twice each calendar year.
4	4½ months; but at least four times each calendar year	4½ months; but at least four times each calendar year.

- (c) Methods of patrolling include walking, driving, flying or other appropriate means of traversing the right-of-way.

Full Text: 192.727 Abandonment or deactivation of facilities.

- (a) Each operator shall conduct abandonment or deactivation of pipelines in accordance with the requirements of this section.
- (b) Each pipeline abandoned in place must be disconnected from all sources and supplies of gas; purged of gas; in the case of offshore pipelines, filled with water or inert materials; and sealed at the ends. However, the pipeline need not be purged when the volume of gas is so small that there is no potential hazard.
- (c) Except for service lines, each inactive pipeline that is not being maintained under this part must be disconnected from all sources and supplies of gas; purged of gas; in the case of offshore pipelines, filled with water or inert materials; and sealed at the ends. However, the pipeline need not be purged when the volume of gas is so small that there is no potential hazard.
- (d) Whenever service to a customer is discontinued, one of the following must be complied with:
 - (1) The valve that is closed to prevent the flow of gas to the customer must be provided with a locking device or other means designed to prevent the opening of the valve by persons other than those authorized by the operator.
 - (2) A mechanical device or fitting that will prevent the flow of gas must be installed in the service line or in the meter assembly.
 - (3) The customer's piping must be physically disconnected from the gas supply and the open pipe ends sealed.
- (e) If air is used for purging, the operator shall insure that a combustible mixture is not present after purging.
- (f) Each abandoned vault must be filled with a suitable compacted material.
- (g) For each abandoned offshore pipeline facility or each abandoned onshore pipeline facility that crosses over, under or through a commercially navigable waterway, the last operator of that facility must file a report upon abandonment of that facility.
 - (1) The preferred method to submit data on pipeline facilities abandoned after October 10, 2000 is to the National Pipeline Mapping System (NPMS) in accordance with the NPMS "Standards for Pipeline and Liquefied Natural Gas Operator Submissions." To obtain a copy of the NPMS Standards, please refer to the NPMS homepage at <http://www.npms.phmsa.dot.gov> or contact the NPMS National Repository at 703-317-3073. A digital data format is preferred, but hard copy submissions are acceptable if they comply with the NPMS Standards. In addition to the NPMS-required attributes, operators must submit the date of abandonment, diameter, method of abandonment, and certification that, to the best of the operator's knowledge, all of the reasonably available information requested was provided and, to the best of the operator's knowledge, the abandonment was completed in accordance with applicable laws. Refer to the NPMS Standards for details in preparing your data for submission. The NPMS Standards also include details of how to submit data. Alternatively, operators may submit reports by mail, fax or e-mail to the Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Information Resources Manager, PHP-

10, 1200 New Jersey Avenue, SE., Washington, DC 20590-0001; fax (202) 366-4566; e-mail InformationResourcesManager@phmsa.dot.gov. The information in the report must contain all reasonably available information related to the facility, including information in the possession of a third party. The report must contain the location, size, date, method of abandonment, and a certification that the facility has been abandoned in accordance with all applicable laws.

SUMMARY: National Pipeline Mapping System (49 CFR 191.29)

- Gas Transmission operators must submit annual updates to the National Pipeline Mapping system by March 15, annually.
- Information includes geospatial attributes of pipelines, contact information.
- NOTE: Offshore information is not currently displayed in the NPMS but is scheduled to be included and viewable to the public by March 31, 2020.

Full Text: 49 CFR 191.29 National Pipeline Mapping System.

(a) Each operator of a gas transmission pipeline or liquefied natural gas facility must provide the following geospatial data to PHMSA for that pipeline or facility:

- (1) Geospatial data, attributes, metadata and transmittal letter appropriate for use in the National Pipeline Mapping System. Acceptable formats and additional information are specified in the NPMS Operator Standards Manual available at www.npms.phmsa.dot.gov or by contacting the PHMSA Geographic Information Systems Manager at (202) 366-4595.
- (2) The name of and address for the operator.
- (3) The name and contact information of a pipeline company employee, to be displayed on a public Web site, who will serve as a contact for questions from the general public about the operator's NPMS data.

(b) The information required in paragraph (a) of this section must be submitted each year, on or before March 15, representing assets as of December 31 of the previous year. If no changes have occurred since the previous year's submission, the operator must comply with the guidance provided in the NPMS Operator Standards manual available at www.npms.phmsa.dot.gov or contact the PHMSA Geographic Information Systems Manager at (202) 366-4595.