

<b>TR Number</b>	2021-42
<b>Primary Reference</b>	192.14; 192.707
<b>Secondary Reference</b>	GM where natural gas is used
<b>Purpose</b>	To incorporate letter ballot comments received on TR 14-24 into GM per IMP/Corr TG notes
<b>Origin/Rationale</b>	From LB 2-2021 on TR 14-24 Mary Friend – Approved with Comment: 192.14(4) At the end of the sentence we use the phrase "...compliance to Part 192 prior to placing the converted line into natural gas service". However, the line could be placed into other gas service, not specifically natural gas. Would suggest changing the sentence "...compliance prior to placing the converted line into Part 192 service." Part 192.707(1)(a)-same issue with using natural gas. Would suggest simply removing natural, and simply stating "...list the type of gas as the product being transported." GM needs to be examined to see where other locations specifically reference natural gas that might need to be changed to “gas or flammable gas”
<b>Assigned to</b>	O&M/OQ Task Group

**Front of Guide, page xxii**

**Committee Scope**

The Gas Piping Technology Committee (GPTC) is an independent technical group of individuals with expertise in, and concern for, ~~natural~~ gas pipeline safety and is responsible for:

- Developing and maintaining the Guide for Gas Transmission, Distribution, and Gathering Piping Systems (Guide), an American National Standards Institute (ANSI) Standard, that contains information and methods to assist a ~~natural~~ gas pipeline operator (operator) in complying with the Code of Federal Regulations "Transportation of Natural and Other Gas by Pipeline: Title 49, Subchapter D - Pipeline Safety - Part 191 - Annual Reports, Incident Reports, and Safety-Related Condition Reports; and Part 192 - Minimum Federal Safety Standards" by providing "how to" information related to the standards. Guide material is advisory in nature. Operators may use the guide material or other equally acceptable methods of compliance with the Federal Regulations.
- Developing and maintaining ANSI Technical Reports regarding the application of ~~natural~~ gas pipeline technology and operating or maintenance practices.
- Promoting the use of voluntary consensus standards.
- Petitioning the United States Department of Transportation (DOT) for changes in Federal ~~Natural~~ Gas Pipeline Safety Regulations based on the technical expertise of the GPTC.
- When deemed appropriate by the Main Body, commenting on Advanced Notice of Proposed Rulemakings, Notice of Proposed Rulemakings, Final Rules, and other regulatory notices issued by DOT involving such regulations.
- Reviewing applicable National Transportation Safety Board (NTSB) reports, DOT and State Pipeline Safety Agency incident reports, and taking appropriate action including that of responding to recommendations issued to the GPTC.
- Taking such actions that are necessary and proper to further the safe application of ~~natural~~ gas pipeline technology

**Section 192.8**

1 DEFINITION

...

- (c) The ending of gathering is the furthestmost downstream endpoint as follows.
  - (1) The inlet of the first ~~natural~~-gas processing plant that is not located on a transmission line, unless the operator can demonstrate through sound engineering principles that gathering extends to a plant farther downstream.
  - (2) The outlet of the farthest downstream gas treatment facility.
- ...
- (d) A gathering line does not include a ~~natural~~-gas processing plant.

2 TYPE OF GATHERING LINE

...

Section 192.14

*[Editorial note: TR 21-32 also includes proposed deletion of “a natural” in GM 4.]*

1 TYPES

The following are some of the types of steel pipelines that might be converted to gas service under this part.

- (a) Gas pipelines abandoned prior to effective date of Part 192.

...

4 REGULATORY DOCUMENTS

For pipelines being converted under this section, the operator should review it’s procedural manual for operations, maintenance, and emergencies and its public education program for compliance to Part 192 prior to placing the converted line into ~~a natural~~-gas service.

Section 192.121

*[Editorial note: TR 19-02 is proposing to change this GM heading from NATURAL GAS to HYDROSTATIC DESIGN BASIS (HDB). That change would remove the reason for this change.]*

1 NATURAL AND OTHER GAS

Section 192.605

2.8 Taking precautions in excavated trenches to protect personnel.

Personnel working in or near a trench should be aware of the potential for an oxygen-deficient environment and of potential dangers from accumulations of gas or vapor, particularly those associated with liquid petroleum gases. When determining the likelihood of gas or vapors presenting such a hazard to personnel, the operator should consider the depth and configuration of the trench, the product transported, and the diameter, pressure, type of piping material, condition, and configuration of the pipeline facilities. Although natural gas is lighter than air and non-toxic, some ~~natural~~-gas pipelines contain constituents such as hydrogen sulfide, heavier-than-air hydrocarbons, and hydrocarbon liquids that may present a hazard to personnel working in or near the trench. The operator should establish criteria for what constitutes a hazardous condition, taking into consideration the LEL of the

gas involved. Escaping gas may present an added hazard because of the displacement of oxygen. An atmosphere containing less than 19.5% oxygen should be considered oxygen-deficient for respiration. When it is necessary for personnel to enter an excavated trench where hazards could reasonably be expected, the operator should consider taking the following actions, as appropriate.

**Section 192.615**

1.6 *Emergency shutdown and pressure reduction.*

- (a) Provisions for shutdown or pressure reduction in the pipeline system as may be necessary to minimize hazards should be described. The plans should include the following.
  - (1) ...
  - (2) Circumstances under which ~~natural~~ gas might be allowed to safely escape to the atmosphere (i.e., vent) until shutdown or repair.

**Section 192.616**

**1 GENERAL**

...  
Operators of petroleum gas distribution systems or smaller ~~natural~~ gas systems (e.g., master meter operators) subject to §192.616 should review the “Guidance Manual for Operators of LP Gas Systems” or the “Guidance Manual for Operators of Small Natural Gas Systems” available at <https://www.phmsa.dot.gov/training/pipeline/guidance-manuals> in addition to other references noted below.

**Section 192.631**

**6 MANAGEMENT OF CHANGE (§192.631(f))**

- (a) Changes are regular occurrences during the course of .... Operators should consider controller involvement when implementing the following changes to pipeline facilities.
  - (1) ...
  - ...
  - (9) Converting an existing liquid pipeline to ~~natural~~ gas service.
  - ...

*{Editorial note: The existing guide material under §192.707 has a GM 1 only and there is no GM 2, so it is proposed to delete the GM 1 heading. Also revised to match proposed changes that are separately approved to letter ballot in TR 23-10.}*

**Section 192.707**

~~1. GENERAL~~

- (a) If an existing pipeline has undergone a conversion, its ~~pipeline~~ markers should be updated to accurately list ~~natural gas as~~ the product being transported.
- (b) See Guide Material Appendix G-192-13, Section 3.

**Section 192.713**

**5 SPLIT SLEEVE REPAIR (§192.713(a)(2))**

5.1 General.

- (a) ...
- ...
- (d) A wide variety of repair methods have been used successfully in the ~~natural~~-gas pipeline industry. Sleeves may be used to reduce the stress in, or reinforce, a pipe defect that is not leaking, or to repair a leaking defect. It is important that any repair method or sleeve be designed and tested to ensure its reliability for the conditions of installation.

5.2 Fillet welds.

...

**Section 192.727**

*[LB notes: 1) TR 16-22 was in the April 2023 Public Review and is scheduled to be published in Addendum 3. The changes to existing GM are shown in green font.  
2) This TR 21-42 proposed to delete “natural” in existing GM 2.2 and 2.3, which are being deleted by TR 16-22. Instead, it is proposed to delete “natural” in new GM 1(d) as shown below.]*

**1 GENERAL**

- (a) The following procedural guidance ...
- (b) For planned shutdown in connection with abandonment or deactivation, see Guide Material Appendix G-192-12.
- (c) Abandonment should not be considered complete until the gas or liquid hydrocarbons contained within the abandoned section poses no potential hazard. An operator should consider diameter, length, location, or other parameters when identifying piping to be abandoned that needs to be purged.
- (d) Pipelines may be purged using air, inert gas, or water. If air is used as the purging agent, precautions should be taken to ensure that no liquid hydrocarbons are present. See §192.629 and AGA XK1801, "Purging Manual" for purging of ~~natural~~-gas and liquid hydrocarbons.

**2 ABANDONMENT OF TRANSMISSION PIPELINES AND DISTRIBUTION MAINS**

2.1 Check prior to abandonment.

...

~~2.2 Residual gas or hydrocarbons.~~

~~Abandonment should not be completed until it has been determined that the volume of natural gas or liquid hydrocarbons contained within the abandoned section poses no potential hazard. Generally, it is advisable to purge 8-inch and larger pipe and long segments of smaller diameter pipe.~~

~~2.3 Purging.~~

~~Pipelines or mains may be purged using air, inert gas, or water. If air is used as the purging agent, precautions should be taken to ensure that no liquid hydrocarbons are present. See §192.629 and AGA XK1801, "Purging Manual" for purging of natural gas and liquid hydrocarbons.~~

2.2 Sealing.

...

Section 192.751

1 GENERAL

...

1.2 Accidental electric arcing.

To prevent accidental ignition by electric arcing, the following should be considered.

(a) ...

...

(c) Bonding to provide electrical continuity should be considered around all-cuts separating metallic pipes that may have natural-gas present. This bond should be installed prior to cutting and maintained until all-reconnections are completed or a gas free environment exists. Bond cables should be installed in a manner to ensure that they do not become detached during construction and that they provide minimal electrical resistance between pipe sections.

1.3 Static electricity on plastic pipe.

...

Section 192.801

1 GENERAL

Guide material under this subpart provides direction for compliance with Subpart N, which covers operator qualification (OQ) of individuals who perform overed tasks on a pipeline facility. Operators of petroleum gas distribution systems or small natural-gas systems (e.g., master meter operators) should review the “Small LP Gas Operator Guide” or the “Small Natural Gas Operator Guide” available at <https://www.phmsa.dot.gov/training/pipeline/guidance-manuals>.

2 CONTRACTORS

...

Section 192.901

2 APPLICABILITY OF THIS SUBPART

Table 192.901i identifies the applicability of each section of Subpart O to plastic line pipe, steel line pipe and pipeline components. In the table, "Components" refers to gas-carrying components other than line pipe that are typically above ground, such as compressor stations, meter stations, and regulator stations.

APPLICABILITY OF SUBPART O

Regulation Section	Natural Gas Transmission Pipeline System					
	Covered Segment (see §192.903)			Non-Covered Segment		
	Plastic Line Pipe	Steel Line Pipe	Components	Plastic Line Pipe	Steel Line Pipe	Components
192.901	R	R	R	R	R	R
...	...	...	...	...	...	...

**Legend:** R = Required; C = Consider; NA = Not Applicable

TABLE 192.901i

Section 192.917

- ...
- 4.7 *Gas, liquid, and solid sampling analysis.*  
 Analysis of gas, liquid, and solid samples can be used to help determine the probability of internal corrosion and help identify the cause of corrosion. Data should be trended to determine if values are increasing or decreasing.
- (a) Gas. When analyzing for internal corrosion, partial pressures (see 4.10 below) and gas chemistry are important considerations. Typical gas analysis should include the determination of the following constituents.
    - (1) ...
    - (2) *Hydrogen sulfide (H<sub>2</sub>S).*
      - (i) H<sub>2</sub>S may be a normal constituent in natural gas, and can also be formed due to MIC. H<sub>2</sub>S will combine with water to form a weak sulfuric acid which is corrosive to steel. The presence of H<sub>2</sub>S may also cause hydrogen blistering and sulfide stress cracking.
      - (ii) ...
      - (iii) ...
    - (3) *Oxygen (O<sub>2</sub>).* O<sub>2</sub> is often present in small amounts in natural gas and, when present in a gas stream containing water, can act as a catalyst to speed up general and pitting corrosion. O<sub>2</sub> can be measured with a stain tube or by gas chromatography. If O<sub>2</sub> is indicated, the dissolved O<sub>2</sub> concentration in water should be calculated. A dissolved O<sub>2</sub> concentration above 10 to 50 ppm is considered corrosive to steel pipelines.
    - (4) ...
  - (b) Liquid. ...
    - (1) *pH.* ...
    - (2) *Iron or manganese.*
      - (i) Iron might exist naturally in liquids in small amounts. Manganese is not normally present in liquids produced from natural gas sources, but is present in steel.
- ...
- ...
- 4.10 *Operating parameters.*  
 Operating parameters include the following.
- (a) Temperature. ...
- ...

- (d) Changes in source of ~~natural~~ gas. Source and location changes of ~~natural~~ gas entering a transmission line might change the composition of the gas stream.

...

### GUIDE MATERIAL APPENDIX G-192-3

...

#### 13 SAMPLE PERFORMANCE MEASURES

Table 13.1 provides some potential performance measures for various programs common to ~~natural~~ gas systems. They are not all-inclusive nor should they be considered mandatory for performing a program effectiveness evaluation. The operator should choose only those measures (either suggested in the table or others applicable to the specific program) that are appropriate for the operator, ~~the~~ system, and ~~the~~ program being evaluated.

...

### GUIDE MATERIAL APPENDIX G-192-8

...

#### 4.1 Primary threats.

The primary threats to a ~~natural~~ gas distribution system are as follows and are generally described in the instructions for the DOT Annual Report, PHMSA Form F7100-1.1.

...

...

#### 6.2 Leak Management Program.

- (a) Leak management is an important risk management technique used by ~~natural~~ gas distribution operators to maintain the integrity of their distribution systems. ...

### GUIDE MATERIAL APPENDIX G-192-14

...

#### 5 METHODS OF PROPULSION

Methods and mediums for propelling ILLI tools include the following.

- (a) Natural gas ~~or other gas~~.
- (b) Air or ~~nitrogen inert gas~~.
- (c) Tethered.
- (d) Self-propelled.
- (e) Liquid medium.

5.1 *Natural gas ~~or other gas~~.*

Natural ~~or other~~ gas is typically used to propel ILI tools. The advantage of ~~natural~~-gas is that the tool can be run without taking the pipeline out of service, depending on the product being transported. Running the tool in ~~natural~~-gas may not be feasible if the line pressure or flow rates are too low or too high to control speed and gather accurate data.

5.2 *Air or ~~nitrogen inert gas~~.*

Air or nitrogen can be used to propel ILI tools if the existing gas pressure or flow rates do not permit running ILI tools using ~~natural~~-gas. The disadvantages of air or ~~nitrogen inert gas~~ are that the pipeline must be taken out of service, additional costs might be incurred, and equipment is necessary for pumping and venting.

...

**12 RUNNING ILI TOOLS**

(a) ...

(b) If ~~natural~~-gas is being used to propel the ILI tool, communication with gas control is important. Flow rates and pressures should be monitored and compared with the target range. The movement of the tool should be tracked and compared with the predicted speed.

...

*End of TR document regarding GM revisions.*

*TG notes are shown below in gray for Main Body voter information.*

TG notes:

The GM, in its entirety, was reviewed to determine if these two instances and others needed to be changed from “natural gas” to more inclusive wording to ensure that all regulated gases were addressed in the *Guide*. Upon review, there were 231 occurrences of “natural gas” contained in the guidance. Out of the 231 total occurrences:

- 32 instances are recommended to remove “natural”.
- 1 instance of adding “depending on the product being transported”.
- 1 instance of adding “the type of”.
- 1 instance of deleting a comma for punctuation correction.
- 1 instance of adding “and other”.
- 1 instance of adding “or other” for a total of 37 changes.

There is also two pages number 322 in the GM. This needs to be re-numbered to 321 and 322. The remainder of the references in the 2022 edition of the *Guide* for “natural gas” is recommended to leave as is with no changes due to being specific to natural gas, it is code language, or it is a specific named reference material or document.

A breakdown of each occurrence, where the occurrence is located and recommended language change is detailed in the attached Xcel spreadsheet. The green highlighted rows are the occurrences for recommended changes, the white rows are the occurrences for no change recommendations. {Spreadsheet is posted to GPTC community site in All Members folder.}